

Economic Analysis of Honey Production and Marketing in Baringo County, Kenya: An Application of the Institutional Analysis and Development Framework

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Abstract

This study analyzes honey production and operations of various honey product markets in Baringo County of Kenya using the Institutional analysis and Development framework. Honey production has been promoted as a pro-poor income generating activity because it is accessible to marginalized communities and requires little land. However, without value addition and access to market, this potential will hardly be achieved. Results showed that most beekeepers fetched very low prices in the market due to selling honey as raw, which in turn has a negative effect on their livelihoods. This perpetuates poverty and restricts the beekeepers to small scale-production because lack the necessary capital to expand their enterprises. Those who went a step further and refined their honey products got better prices, which contribute better to mitigation of the prevailing poverty. Additionally, membership in groups means lower transaction costs because search and bargaining costs are already catered for. It is clear from the current study that there is a lot that needs to be done pertaining to the honey market in Kenya and, particularly, in Baringo County. To mitigate market inefficiencies, public investments in the form of infrastructure, research and development are needed within the County.

Keywords: Honey, Markets, Transaction costs, value addition, Kenya

1. Introduction

Beekeeping is regarded as an agricultural venture that requires little or no land except a space to stand or hang a hive, very little labour, almost no capital, and most of the other inputs are considered to be locally available (Crane, 1985; FAO, 1986; Rubio, 2001). Apiculture does not depend directly on soil, and it can be a single means of living for families with very little or no soil. Moreover, it is viewed as one of the cheapest agricultural activities, and one that offers employment easily (FAO, 1986). Consequently, beekeeping is often promoted as being a pro-poor income-generating activity because it is accessible to marginalized members of local communities. However, major obstacles facing beekeepers in developing countries in the tropics are lack of capital as well as shortage of appropriate technical assistance for beekeepers (Lim, 1994). Other constraints facing beekeepers in developing countries are inadequate information on suitable internal or external markets, and relevant processing technologies for product diversification. Under these circumstances, development partners have often come in to assist with projects aimed at improving traditional techniques or at introducing apiculture in new areas (Jones, 1999).

In Kenya, beekeeping is prevalent in the rangelands under circumstances where crop agriculture is limited and where the natural vegetation comprises many plant species suitable for bee forage. Honey is produced mostly following traditional approaches based on log hive technology (Nightingale, 1976). Beekeeping can be carried out successfully in 80% of the country (MLD, 2010), and is especially suitable in arid and semi-arid areas where crop agriculture is difficult unless under irrigation. Beekeeping contributes to income of households as well as food and nutrition security through provision of honey, beeswax, pollen, propolis, and bee venom and royal jelly used as medicine. The country's potential for apiculture development is estimated at, respectively, over 60,000 and 100,000 metric tones of honey and beeswax (Mbae, 2000).

In the rural semi-arid areas of Baringo County in Kenya, bee keeping is among the most important income generating activities, where it creates employment for people of all productive ages. It ranks second after livestock keeping. This shows that bee keeping is a viable option for diversification of economic activities in marginal areas. It is a means for generating much needed cash, especially for pastoral communities occupying lowland areas. When in season, hive products generate income that significantly boosts rural livelihoods. Honey in Baringo County is sold by the main roads, in the local producing areas, supermarkets and to traditional beer brewers. The main objective of the current study was, therefore, to analyze honey production and marketing in Baringo County using the Institutional Analysis and Development (IAD) approach.

2. Description of study area and markets

Baringo County falls under the category of the marginalized areas in Kenya. According to Oskam et al. (2004), these are places where physical conditions and/ or lack of infrastructure and service support allow only for low level incomes to be realized. Such areas are characterized by low levels of agricultural productivity, poor

infrastructures and poverty (Ruben & Pender, 2004; Ruben et al., 2004 & 2005). Regarding socio-economic constraints, poor or limited market access due to missing or low-quality farm-to-market roads comprise the bulk of marketing costs and losses for market participants Dalmo et al. (1994). Located in the Rift Valley region, Baringo County is characterized by high levels of poverty, with over 50% of the population living below the poverty line (Office of the President, 1999). Harsh arid conditions, land degradation, marginal productivity and sub-standard or missing infrastructure support are some of the problems faced by the County. Due to adverse natural conditions and inadequate development resources, this area is termed “less favoured” (Oskam et al., 2004). The few County Council markets are unable to handle harvest overflows of honey, especially during peak seasons. Apart from poor infrastructure and service support, there is neglect by policy makers, and agriculture research and extension services (Ruben & Pender, 2004).

Imperfect markets of “less-favoured” rural areas function with high transaction costs and inadequate information, restricting trade and growth (Kuyvenhoven, 2004). Nevertheless, market imperfection is a vague concept because there are many sources and effects of market failure. The problem of imperfect market transactions could stem from the actions of people that operate within the market because they follow social norms and traditions. Imperfection could also stem from the laws of society, the institutional environment or the structure of the agricultural sector. There are many reasons for market failure, but all lead to one thing, the poor performance of the market, and a reduction in the welfare of stakeholders.

Marketing of hive products in Kenya generally, and within Baringo County in particular, is still problematic despite efforts made by the Ministry of Livestock, Agriculture and Fisheries to resolve issue. A workshop held in 1997, for example, brought participants to debate how beekeepers could be assisted to market wholesome products (Ngurare, 1997). The papers presented touched on a range of subjects like quality control and economic analysis of hive production but there was no agenda set concerning the way forward (Gichora, 2003). With this premise, an institutional economic approach for the analysis of economic exchange in Baringo County is developed in the current study.

The institutional economic approach towards Baringo marketing system will provide answers on why the honey sector is the way it is by offering the framework for motivation and interaction among market participants. The institutional environment (IE) is composed of formal and informal rules. Formal rules of the marketing systems are represented by regulations and policies governing honey trade. They represent the general rules of society (Oskam et al., 2004). Informal rules are linked to intangible aspects of human relations with respect to honey exchange. These include norms, customs, habits, routines and, most importantly, the networks found in social capital.

3. Institutional analysis development framework approach

The institutional analysis development (IAD) approach (Ostrom et al., 1994) is used to identify key variables, and incorporates theories that explain socio-economic relations between the main structural variables. The basic structure of IAD constitutes an exogenous set of variables that influence actors in the exchange of goods and services. The behaviour of actors in those situations leads to outcomes that trigger feedbacks to modify both the exogenous variables in those situations, and the actors and their situations. The IAD can be used to develop predictions about behavior of actors and outcomes from changes in the exogenous variable, assuming that the variables specifying the situations and the motivational and cognitive structure do not change. An analyst can, therefore, investigate factors affecting the structure of the action arena in terms of interrelationships between situations, actors, and their activities and resources.

It is important to note that the IAD framework has roots in two branches of new institution economics. First, is the emphasis on understanding collective action in natural resource management, where the exogenous variables are broken down into community attributes, action situations, and the feedback of the outcomes to the exogenous variables and action arena. Secondly, is the transaction cost economics school (TCE); the focus here is primarily on the analysis of institutions for the exchange of goods and services. The TCE is based on the two assumptions; bounded rationality and opportunism. Bounded rationality refers to the fact that people have limited memories and limited cognitive processing power while opportunism refers to the possibility that people will act in a self-interest way “with guile” (Williamson, 1998). The variables involved are, accordingly, uncertainty, asset specificity and frequency of exchange. The current analysis will, therefore, take into account both schools of thought and try to unpack the way each of them influences the behaviour of actors, interactions and, subsequently, the exchange process that prevailed in the local production and exchange of honey.

4. The action domain

Ostrom et al. (1994) defined the action domain or action arena as the social space where actors (individual people and organizations) interact in social and economic exchange. It entails the institutions involved, activities and the actors. In this context action domain in the current study will be the local honey market in Baringo County. Both formal and informal institutions define the way exchange is conducted, ranging from honey quality

standards by the Kenya Bureau of Standards, license fee requirement for the markets by the local County Council, to the societal norms of trust, taboos relating to production of honey, habits and routines as well as customs arising from community culture. Collective action and social capital play a key role as far as producer groups are concerned. The actors include the beekeepers, retailers, middlemen, supermarkets, and organizations like Honey Care Africa and Baraka Agricultural College that are engaged in training beekeepers on improved beekeeping. There are various activities involved once an investment has been made, and these include harvesting, value addition or processing, packaging and labeling, and transportation to the ultimate market.

Although the focus in the current study was primarily on the market as the action domain, certain aspects of production played a key role in shaping the exchange process. The way honey is extracted or harvested, for instance, has a way of informing the quality, and this will in turn reflect on the price that the honey fetches in the market.

5. Structure of the market for honey in Baringo County

It is essential to discuss the economic characteristics and attributes of the beekeeping sector to help define the distribution of responsibilities between the public, collective action and private sectors since certain activities can be undertaken by government, farmer groups or by individual farmers. Above all is the marketing aspect that determines access of the farmers' products to various markets and, consequently, determines the final revenue that farmers got for their products. This directly influences the farmers' livelihoods and their poverty situations.

5.1. Institutions and their attributes

Institutions are formal and informal rules ("rules of the game") that provide a frame of incentive that govern social, political and economic behaviour. In an economic context, institutions exist to ensure compliance (i.e., enforcement) and to encourage parties to take common or complementary actions necessary to achieve individual goals (Kirsten & Vink, 2005). Institutions are considered as mechanisms used to structure human interactions in the face of uncertainty, and are formed to reduce uncertainty and risk in human exchange. Consequently, in economic exchange of goods and services, institutions act as a set of constraints that govern the relations between individuals or groups in the exchange process.

5.2. Formal institutions in production and marketing of honey

In Baringo County, some land is demarcated into individually owned parcels with restricted user rights while the rest of the land is held in communal trust. Beekeepers consider the most important benefit derived from such land tenure arrangements to be unrestricted access to forage and water resources on common land. In uplands where human population is higher, common land is limited, and when beekeepers need to expand their enterprises; they do so in lowlands where land is more available. The other benefit of access to common land is that aggressive local bees are kept in isolated apiary sites away from homesteads or places frequented by people. There is positive interactions among members of the community as beekeepers from distant locations meet and share resources in common apiary sites (Gichora, 2003).

Beekeepers in the County face limitations that are influenced by the type of land ownership. Those interviewed expressed general concern over the condition of the vegetation on the common land because certain plant species were open to over-exploitation by competing users in the community (Gichora, 2003; Berem, 2009). Tall trees were the preferred apiary sites for reasons of shade and security, but were reported to be becoming increasingly scarce. In isolated public areas, beekeepers also lost hive products to Honey Badgers or thieves and, therefore, increased costs to the beekeepers because of the initial investment in beehives and the period taken awaiting honey to ripen.

5.3. Quality standards

The Kenya Bureau of Standards plays a key role in ensuring that honey that is packaged and taken to supermarkets was of the right quality and fit for human consumption. This is based on criteria like water content, impurities, colour and level of inverted sugars. Essentially, good quality honey has low water content. For most consumers, good quality honey is expected to be visually free of defect, i.e., clean and clear. Honey with very high pollen content appears cloudy, and the presence of many other contaminations like particles of wax, bees, splinters of wood and dust certainly makes it unappetizing and unappealing for anyone to buy and consume, which makes it of very low value. Generally, the darker the color of the honey the higher its mineral content and aroma/ flavour (Meda et al., 2005).

5.4. Formal contracts between producer groups and supermarkets

Because of high asset specificity and large scale production, beekeepers in producer groups require an assurance that their produce will always have a market before they invest in large processors and a large number of hives. This necessitates vertical integration and, consequently, the need to sign contracts with specific supermarkets.

Such contracts stipulate the quantities, packaging requirements and specific times for delivery of the honey to the supermarkets, failure to which a transaction flop occurs.

5.5. Group membership rules

To belong to a group, members were required to pay a membership fees and an annual subscription. Furthermore, these groups were formally registered under the local government. There are rules that stipulate how an organization is supposed to be run with key features like a formal structure. This calls upon the members to elect office bearers every three years. Within the groups, there are rules that need to be followed and failure by any member warrants a fine. Members were supposed to observe delivery dates of honey as this affects the contracts signed with supermarkets. Failure of a large proportion of members to deliver the produce in good time would mean late deliveries to the supermarkets, and this might lead to transaction failure.

5.6. Informal institutions

These are unwritten and informally sanctioned rules that are vital in structuring social conduct. These include conventions like habits, customs, routines and standard practices. According to North (1990), formal rules make up a small part of the sum of constraints that shape choices; the governing structure is overwhelmingly defined by codes of conduct, norms of behavior and conventions. In Baringo County, informal institutions are vital in defining the daily interactions and exchanges that go on. Most of the honey exchange was not defined by formal, written down contracts but by informal norms that result from the community culture and shared beliefs.

5.7. Production rules of honey

Among the Tugen people who are the predominant inhabitants of Baringo County, beekeeping is culturally regarded as a man's activity. Although there have been some changing trends over the past few years, with women owning hives and producing honey, honey harvesting requires climbing of trees and, therefore, the need for a man to do the harvesting. It is considered a taboo for women to climb trees or even construct hives, and this is seen as a bad omen not only to herself, but also to her family. These beliefs mean that women face higher production costs as they have to employ a man to construct hives for them, even if they were able to do it themselves. Simultaneously, they have to pay for the services of their male colleagues during harvest time.

It is considered a standard practice for women to be the ones involved in selling of honey. Men are rarely found hawking honey by the roadside or even at the market place. This is because trading and negotiating is culturally perceived to be a woman's activity. Most of the men involved in exchange of honey are mostly middlemen from outside the region. This implies that women are faced with the extra duty of walking long distances to the market place in search of buyers and the cost of transporting bulk quantities of honey falls on them.

5.8. Honey exchange at the farm gate and at the market

The exchange that occurs at the farm gate between beekeepers and retailers is based on personal trust and clienteleism, where the same individuals engage in business over a long period of time and, therefore, it becomes a routine to go to the same person. Accordingly, traders are able to obtain honey on credit from the beekeepers and pay at a future date when business is flourishing. At the same time, when beekeepers are short of cash, they are able to go to their client traders and borrow cash to be paid in terms of honey when harvest time approaches. Community norms make it quite difficult to find people cheating. It is considered bad to take another's property and refuse to pay back, and could cost one their reputation. In a bid to protect their name, most people comply, leading to few cases of opportunism. Furthermore, there is a strong belief that clinging to other people's property can annoy the ancestors and bring poverty to an entire clan, which acts to curb opportunism.

5.8.1. Reciprocal exchange

Reciprocal exchange or gift exchanges arise in situations where beekeepers exchange honey for other commodities from their fellow farmers. For instance, when a beekeeper does not have maize and a colleague has, it becomes important to exchange honey for maize. The same case applies for milk, beans and other basic commodities that are not grown by the beekeepers.

5.8.2. Exchange with middlemen

Exchange scenarios apply mostly when beekeepers and traders belong to the same ethnicity and, therefore, share the same culture. However, middlemen from outside the region were treated warily because beekeepers are never certain they will always come back. The kind of exchange here is mostly on the spot and middlemen pay cash on delivery. Because few beekeepers are aware of current developments and prices in the market, middlemen exhibit high levels of opportunism by offering lower prices than what actually exists in the central markets.

It is important to note that not all middlemen are treated similarly. Those who have done business with beekeepers in the region for a long time are trusted individuals. This results from repeated interactions, which call for relational contracting. The prospects for future trade with the same individual acts as an incentive for

good moral behaviour and, in such cases, middlemen tend to be less exploitative.

5.9. *Actors and their attributes*

The actors involved in exchange of honey include beekeepers, retailers, middlemen, local brewers, producer groups, supermarkets and training organizations. Generally, honey is produced at household level by beekeepers that are often the poorest and most marginalized in society, and are highly disadvantaged in the market place. Poor roads, remote locations, lack of knowledge of the final market, lack of containers and infrequent interaction with traders mean the optimal potential of the honey trade to bring income benefits to producers remains unexploited. Beekeepers are often more remote, less literate, have less experience with traders and business, and willing to take fewer financial risks than other farmers. This presents challenges particular to the sector (UNCTAD, 2006).

Most beekeepers in Baringo County live in the remote areas and are disconnected from the market. Getting honey out of the villages into the towns is difficult and expensive, with high transport costs. According to UNCTAD (2006), many of the problems they face are generic to small producers, and include the high cost of transport, low volumes per household and erratic interaction with traders. One predominant feature of beekeepers in the County is that nearly all of them are small scale producers and are unable to individually influence prices in the market. Majority of them own less than 10 hives while very few have between 15 and 25 hives. This in turn informs the volumes of honey produced and, therefore, the costs involved. Because of their low volumes, beekeepers face high transaction costs as far as search for buyers was concerned, and once found the negotiation for a favorable price. This, furthermore, implies that if they are to do some value addition, these producers would face extremely high costs as the equipment require huge initial capital. Due to their remote locations and lack of knowledge of the market, the beekeepers are faced with high price uncertainty and are susceptible to opportunistic behavior of the traders. Both retailers and middlemen take advantage of either the lack of imperfect information to offer very low prices.

To mitigate the problems of low volumes and price uncertainty, some beekeepers have resorted to collective action. A small number of producer groups and cooperatives have been established with the view of large scale production, improvement in quality and bargaining for higher and better prices. Collectively, these beekeepers have been able to invest in processing equipment and are able to improve the quality of their product. These groups deal directly with supermarkets through vertical integration, consequently reducing the search and bargaining costs for most of its members. However, not all beekeepers belong to producer groups.

Currently, beekeeper groups operate as producers and retailers of hive products. Deimer (1998) has argued against such an approach to conducting business, especially when there is enough honey retailed to ruin the price on the whole crop. The current situation has arisen out of a bad history of mismanagement of cooperatives that has eroded the confidence of the beekeepers in such institutions, making them to prefer to operate individually than by a common front. According to Fernandez (1998), the poor should be assisted by development agents to mobilize and pool resources to enable them to achieve economies of scale or levels of knowledge or influence that are beyond the reach of an individual. To meet marketing requirements, all beekeepers would, for example, be comfortable selling their commodities through groups. As indicated, this is starting to happen in some parts of Baringo County, with groups dealing in large quantities of honey, processing, packaging and delivering them to supermarkets. This must be encouraged at the national level due to its potential additional benefits of creating a common front for beekeepers to press the government to create better economic conditions for advancement of the beekeeping industry. Groups can succeed if allowed to undertake their own activities without undue interference from their administrative or political leaders which was the case in the past Gichora (2003).

Bounded rationality and uncertainty defines most of the actors and exchange processes in honey. Bounded rationality refers to the fact that people have limited memories and limited cognitive processing power. The retailers and middlemen are not always sure that they are being sold the right quality of honey by the beekeepers and have no way of measuring each and every attribute of the commodity, e.g., flavour, colour, water content and level of inverted sugars in order to ascertain quality. In signing contracts, supermarkets do not have the capacities to process and cater for every little detail that might occur in the process of transacting. Conversely, it is quite difficult for the producers to tell if they are being underpaid by the middlemen and retailers, especially in situations where they are uncertain of the prices that exist in the markets. Most of these transactions are based on the trust that the other party is genuine and will not act opportunistically.

Heterogeneity is prevalent among beekeepers in the County. Beekeeping is an activity that cuts across all age groups, educational levels as well as professions, including gender. A large number of beekeepers possess no reading or writing skills. Gichora (2003) observed that traditional beekeeping practices utilized informal skills and an individual's level of formal education did not matter. Those engaged in beekeeping are not only the farmers who do it exclusively but also individuals who have formal employment outside the region, as a way of seeking additional income. Heterogeneity might, therefore, explain why a majority of individual beekeepers do

not belong to groups. This arises from the elites self-selecting into groups, leaving out other producers who do not fit to the class. There is need, however, to encourage group membership as this guarantees better prices for beekeepers.

To enhance productivity and efficiency of farmers, supermarkets in conjunction with training institutes like Baraka Training College and Honey Care Africa, facilitate training programs for beekeepers as well as providing them with new recommended hives popularly known as the Kenya Top-Bar hive (KTBH). During such sessions, beekeepers are trained on better harvesting methods with minimal smoking to enhance quality of honey harvested. Unlike the traditional log hives, the KTBH ensures higher yields of honey and facilitates transportation of occupied hives without breaking the combs.

Activities and their attributes

The activities involved in beekeeping include production, harvesting, processing and exchange. Most of these activities are characterized by high asset specificity. At the initial stages, a beekeeper has to invest in a bee hive, and this cannot be used for any other income-generating activity in case of transaction failure. Harvesting requires specific equipment like smokers, wedges and harvesting bags and storage barrels. In Baringo County, farmers mostly employ traditional harvesting procedures, e.g., smoking and burning of bees on the comb, which reduces the quality of honey as it leaves unpleasant off-flavours in it. Processing equipment is costly and requires huge capital investment. This explains why very few farmers add value to the product but, instead, sell it as crude honey.

Due to asset specificity, and high uncertainty about the market, beekeepers need assurance of a continued market before they engage in large-scale production. This necessitates some form of vertical integration, which explains why producer groups in the County sign contracts with supermarkets before they get fully involved in beekeeping. Honey production in the area is based on traditional fixed comb hives and technical skills are informally passed from generation to generation. Gichora (2003) found that only a few beekeepers have invested in the movable KTBH, and even then do not place much value on their accessories. Contact with extension agents who are expected to train them in the use of such equipment is low and they, therefore, continue to follow traditional approaches. Traditional harvesting and processing methods yield honey that is contaminated with smoke particles, dead bees and pollen. This in turn negatively affects the quality of the honey and lowers the prices that honey can fetch in the market. This shows that there is need for training of the beekeepers in utilization of modern production and processing methods that preserve the quality of honey and yield high returns besides what they require for their survival.

The product honey and its attributes

Honey is harvested in the lowlands from September with a peak in December each year, making it a seasonal product. Majority of the farmers placed a high value on crude honey as a commodity for sale as well as food, especially during times of drought when vegetables are in short supply. According to Gichora (2003), 76% of beekeepers sold their produce to middlemen who were specialized traders mostly operating as general merchants in the larger trading centres of the County. These merchants paid cash on delivery of the honey, based on relational contracting because the transactions were on a repeated basis. Middlemen from outside the region also participated in spot markets during market days, set aside for each trading centre by the County Council. A fee is levied for operating in this market, which adds to the cost incurred by beekeepers.

During the peak seasons in December, honey floods the market and this is when beekeepers are most vulnerable to opportunistic behavior by the middlemen and retailers. Due to high demand for cash, most honey is sold at throw-away prices. Local brewers also exhibit opportunistic behavior and benefits from this surplus of honey by offering lower prices. Local middlemen stock between 20 and 30 buckets of crude honey (each weighing approximately 25 kg) per harvest but annual demand exceeds local supply. When honey is not available locally, middlemen obtain it from neighbouring areas like West Pokot County or from as far as Kitui County in the Eastern province of Kenya. Honey is sometimes imported from Miombo in Tanzania through a supply chain linking the suppliers in Baringo County to an International market. The gap in supply shows that beekeepers in Baringo would be assured of good profit if only they could exercise more control over the flow of honey into local markets rather than selling everything at once during harvest at throw away prices. Middlemen take advantage of lack of organization on the part of the beekeepers part to reap handsome profits (Gichora, 2003).

Some beekeepers employ particular strategies to cope with the honey glut in the market at harvest time. The most common approach is to sell their produce as early as possible in the harvesting season, which tempts them to sell unripened honey because of the product is non-perishable; those who are not in urgent need of cash store it for several months after harvests awaiting better market prices. In such cases, they either store honey in sealed modern plastic or metal containers or in traditional wooden barrels. On normal days, honey is sold in independent sections of regular markets where trading lasts for only a few hours on each trading day, starting mid-morning and ending mid-day. The kind of exchange that takes place here is mostly spot as there is high frequency of exchange. Most of the buyers pay on cash basis.

Trading centres in this sparsely populated County are normally a long way from homesteads and coupled with poor road networks, bee keepers deliver only limited volumes/ quantities of honey at a time, mostly on foot. Honey is, therefore, usually packed and sold in recycled four litre paint 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. Additional costs are, then, incurred by the beekeepers because they have to hire people (popularly known as ‘boda boda’) to carry their honey to the market. However, the low volumes traded leads to persistence of the spot market where cash is paid on delivery (Gichora, 2003).

The price that is offered on a particular trading day depends on the number of middlemen participating in the market and the volume of crude honey coming in (demand/ supply basis). When pricing crude honey, the only quality consideration is its wax content. Higher prices are offered for lower wax content. It is important to note that there are no grading or quality checks on honey in the local markets. Colour, water content, level of inverted sugars and flavour are only considered by the Kenya Bureau of Standards when dealing with producer groups that package the product for sale in the supermarkets.

6. Outcomes and challenges

Most beekeepers fetch very low prices in the market because they sell honey as raw, which in turn has a negative effect on their livelihoods. This perpetuates poverty and restricts the beekeepers to small scale production as they lack the necessary capital to expand their enterprises. Those who go a step further and refine their products get better prices, which contribute better to mitigation of poverty. Additionally, membership in groups means lower transaction costs because search and bargaining costs are already catered for. This implies that they have better returns to their products and, subsequently, improved socio-economic conditions. Conversely, non-membership means beekeepers encounter high transaction costs because they produce low volumes yet have to search for buyers.

It is clear from the current study that there is a lot that needs to be done pertaining to the honey market in Kenya and, particularly, in Baringo County. It is inherent that for any transaction to be successful there must be clear-cut quality requirements. However, quality specifications like colour and water content are not applied in the conduct of business. This perhaps explains why Kenyan honey is still to a large degree localized and very little reaches the international market. There is a huge potential for production of honey in the country that could be harnessed to improve livelihoods of majority of the rural poor.

Another key challenge that is clear from the present study is the need for organization of beekeepers. New institution economics emphasizes the need for collective action in natural resources management, which also applies to marketing. If producers were to sell their products as a group, they could be sure of benefiting more unlike on individual basis. In most instances, middlemen took advantage of the lack of organization among producers to offer exploitative prices. This requires the intervention of the Ministry of Agriculture to regulate activities and their products as a group, right environment for the formation of farmer cooperatives and facilitate the marketing of products as a group.

Infrastructure plays a key role in every economy and Kenya is not an exception. To mitigate market inefficiencies, public investments in the form of roads, research and development are needed within Baringo County. The distance from the market and transportation costs can be reduced if efficient roads are established within the region.

7. Conclusion

The current study has demonstrated how the institutional analysis and development framework is useful in understanding the operations of various honey product markets. In considering the socio-economic and institutional economic attributes, not only is the conduct of exchange identified and examined, but the rules determining this exchange, and how those rules come about, are better understood. By an understanding of the institutions, actors, activities and their attributes, practical problems that exist in the market can be seen, and changes recommended mitigating them.

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