



REVIEW OF STRATEGIC MARKETING OPTIONS TO BE EMPLOYED IN THE IMPLEMENTATION OF DAIRY VALUE CHAIN FOR SUSTAINABLE DEVELOPMENT

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ABSTRACT

Dairy farming is ranked highly among the agricultural enterprises due to its potential to enhance food security and alleviate poverty. Various technologies have been adopted in breeding, feeding and disease control which has enhanced both production and productivity in the dairy value chain. However, market returns have remained unattractive to small-scale farmers thereby hindering the development of sustainable dairy farming industry. This paper brought into context various strategic marketing options to be implemented for increased dairy returns and sustainability. This was borne out of overconcentration of strategies on productivity at the expense of milk returns from sales, which to some extent was realized. A number of strategic options were identified with details on actors involved, their activities and expected outcomes if implemented successfully. At focal point strategic options, are policies that drive other dairy marketing strategies including capacity building, infrastructural development, policies, coordination and product diversification. Capacity building entails training and market potential identification which will require coordination in form of informal market integration as well as integration of all actors in the dairy value chain. With proper policies on coordination, development of infrastructure such as road networks, milk collection centers and cooling equipment would enhance quantity and quality of milk available in the market. This would drive product diversification through value addition; branding, packaging and pasteurization hence increase in returns from dairy value chain. Finally, the study recommended an overall strategic marketing option showing interrelationship among the options.

Key Words: *Strategic Marketing Options, Capacity Building, Coordination, Policies, Product Diversification, Infrastructural Development, Dairy Value Chain*

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INTRODUCTION

Agriculture in developing countries has been struggling with the problem of low returns from dairy farming arising from the lack of concern about agro-product marketing (Nguyen et al., 2013). At this point, the production and marketing have to be focused on several phases, from a commodity (agricultural products) through institutional (producers, marketing intermediaries), functional (buying, selling, promoting, distributing, pricing) managerial (analysis, planning, organizing, controlling) and social phase (market efficiency, product quality, social impact) (Kotler, 2007).

Farmers usually consider possible profit from the new agro-products that largely depend on marketing operations. In the absence of an efficient system, farmers are deprived of satisfactory income, eventually discouraging them from venturing into commercial production of products. Besides, the poor production and marketing information and knowledge on small-scale farming, lack of cold storage facilities, inadequate capital investment, weak bargaining power, and low social status on the one side cause the farmers to be easily exploited by the traders and middlemen while on the other side it leads to a monopsony or oligopsony types of market system (Musa et al., 2014). Combined with seasonality trend, shocks, and transforming structures and processes of the farmer's vulnerability context, these have further driven them away from efficiently producing and marketing their products.

In the context of developing countries, the potential advantages of market-oriented smallholder dairying in improving the welfare of farm households and its multiplier effects on other sectors of the economy are well known (Negassa *et al.*, 2015). First, it generates income for the farm households on regular basis which can be used for different purposes, e.g. purchase of goods for household consumption, school fees and medical expenses. Income generated from the sale of milk can also be used for productive

investment in other farm or non-farm sectors. Second, milk from dairy production provides a highly nutritious food diet for people of all age groups and particularly for infants and lactating mothers thus reducing the problem of malnutrition among rural households. Third, the value adding activities such as the processing, packaging and distribution of milk and milk products also create employment opportunities in the rural and urban sectors.

However, the small-scale nature of smallholder dairy production could also be one of the factors limiting dairy producers' entry into, and level of their participation in, the emerging milk markets. It is argued that in many developing countries, milk production remains small-scale, scattered and poorly integrated into the market chain. The implication of this observation is that smallholder dairy producers face higher transaction costs for production and marketing limits, market participation by asset and information-poor households (Mdlalose, 2016).

Kenya's dairy industry, the single largest livestock production sub-sector contributes 14% of the agricultural gross domestic product (GDP) and 3.5% of the total GDP. Dairy production is dominated by smallholders who own about 98% of the total dairy herd. The smallholder dairying households, estimated to number over 1.5 million households, account for more than 85% of the annual total milk production and 80% of milk marketed annually (Changara, 2018). Over the years, significant changes in the traditional dairying have occurred resulting in a major shift towards market-oriented smallholder production. This has been possible mainly due to the significantly improved fodder technology, high urban population, household incomes and the high consumption of milk and dairy products (Aleri, 2012). It is clear that with proper marketing, the milk industry can contribute far much more than it is contributing to the economy of Kenya if some of the challenges are addressed.

Most of the milk and dairy products in Bungoma County are marketed through informal market as

compared to formal market channels. The informal market comprises of a multiplicity of actors key among them being the small scale dairy farmers, milk transporters, milk vendors, automatic milk dispensing machines among other actors. The motivating factors for informal marketing are competitive pricing and prompt payment unlike formal marketing where producers lack robust bargaining power due to rigid contracts. However, Koyi and Siamba (2017) indicated that there is a significant relationship between marketing strategies and dairy value chain returns and food and nutrition security. Returns from informal marketing were not sustainable in the long term as compared to formal marketing implying that there is vicious circle of poverty that is inherent in informal marketing. The only main product that is sold from dairy farming is milk and during dry seasons when the milk production is low, the income from milk declines and during wet seasons when supply is high, the price goes down also resulting in low returns. Despite prompt payment from informal marketing, the quick cash fails to meet the requirement of accumulative capital for re-investments in dairy and financing of sustainable development.

In developing marketing framework in the dairy value chain, Nabiswa and Wakhungu (2018) established that there are five marketing channels utilized by small scale dairy farmers in Bungoma County. The dominant channel which accounted for 48.0% of milk and dairy products marketing was through the informal marketing comprising milk vendors, learning institutions, retailers, milk bars and hotels and restaurants. The study also established that 15.0% of the milk and dairy products were sold directly from farmers to consumers. However, the longest channel which involved farmers, milk collection centers, dairy cooperatives, processors, wholesalers/retailers and consumers, accounted for just 33.0% of the total milk and dairy products marketed in Bungoma County.

Some of the factors that influenced the choice of marketing channel included access to market as dairy farmers near the cooperative societies easily delivered their produce and products to these facilities. Further, the study noted that those farmers near urban centres preferred to sell their milk to milk bars, hotels and restaurants while those closer to institutions like schools and colleges prefer selling their milk to these institutions due to ease of access to their nearest market or point of sale. Inadequate access to credit also affected marketing channel choice, as most farmers prefer channels that promise maximum and prompt returns. This is closely related to the price of the milk and dairy products which subsequently determines the returns. Socio-demographic characteristics also influenced the choice of marketing channels especially education, age and gender. Another significant factor was information which impacted on extension, production and marketing.

Milk production and market opportunities represent exciting challenges for smallholders in the country and better exploitation of these potentials, will require expansion of value addition in the dairy value chain and enhanced market linkages for milk sales. In this regard, this paper presents strategic marketing options that would enhance returns within the dairy value chain. The strategic options emanate from studies conducted by Nabiswa and Wakhungu (2018) on marketing framework in the dairy value chain as well as Koyi and Siamba (2017) on the effect of marketing strategies on the dairy value chain returns and food and nutrition security. The two studies have revealed that there is inadequate capacity building in value addition, market identification and standardization of products. The paper also presents strategic options on coordination of actors in marketing as dairy value chain comprises a multiplicity of actors that influence returns. It highlights various policy options that are needed in marketing of dairy products to harmonize dairy value

chain products marketing activities. Lastly, there is need for infrastructural development such as roads, milk collection centers and cooling equipment. These options are presented in schematic manner in which actors and their roles are identified with expected outcomes if implemented to the fullest.

Capacity Building

Previous studies have indicated that most of the small scale dairy farmers not only lack capacity in production but also in marketing of milk and dairy products. Most of the small scale dairy farmers sold their milk in raw form without undertaking value addition and this affects their returns. Milk intake by the formal sector went down due to unpredictable prices and delayed payment by some processors. This led to farmers selling milk through the informal milk market channel. Informal milk market is one which handles mostly raw milk and other dairy products and may not conform to milk market regulations. Assessment of the quality of traded milk and milk products has shown that value addition through small-scale processing is important for income generation and reduction of post-harvest losses. Lack of training contributes to poor hygiene and low

microbial quality of raw milk and processed dairy products. Nabiswa and Wakhungu (2018) indicated the need to improve milk handling and processing through training of various cadres of milk traders, producer groups, transporters, milk bar operators and small-scale processors in order to meet quality and regulatory requirements.

Another aspect that requires capacity building is market identification for milk and dairy products. There is evidence that small scale dairy farmers hugely depend on five marketing channels to market their products yet there have been sharp differences in terms of returns and sustainability of the practice. Koyi and Siamba (2017) indicated that most milk is marketed informally implying that brokers, traders/hawkers, transporters, co-operatives and farmer groups play an important role in the promotion of milk and milk products in Kenya. Therefore, bringing these actors on board during capacity building would enhance market identification for small scale farmers to realize increased returns. The detailed schematic presentation is as shown in Table 1 below:

Table 1: Capacity Building

Activities	Actors Involved	Activities	Expected Outcome
Market identification	<ul style="list-style-type: none"> ▪ Farmer leaders ▪ Non-state actors e.g. NGO ▪ Processing firms/companies ▪ County Governments ▪ KDB 	<ul style="list-style-type: none"> ▪ Segmentation of market according to demand ▪ Segmentation of market according to products 	<ul style="list-style-type: none"> ▪ Available market for farmers milk deliveries ▪ Better returns ▪ Organized delivery of milk
Training	<ul style="list-style-type: none"> ▪ Farmers ▪ Non-state actors e.g. NGO ▪ Devt partners ▪ Processing firms/companies ▪ County Governments ▪ KDB ▪ KALRO 	<ul style="list-style-type: none"> ▪ Training on bulking ▪ Training of quality training ▪ Training on value addition 	<ul style="list-style-type: none"> ▪ i. Farmers practicing the acquired skills ▪ ii. Bulking ▪ Quality milk ▪ Different products

Infrastructural Development

Enhancing the ability of smallholder dairy farmers to reach markets and actively engage in them posed a pressing dairy development challenge. Infrastructural

development is significant not only for dairy marketing but other aspects of dairy production. These include road infrastructure, transportation facilities such as tankers, coolers and milk collection

centers. Milk is highly perishable and sometimes the poor road network may lead to delays in the collection of milk thus a faster reduction in quality which may result in losses if the milk is rejected by the processors due to spoilage. Poor road network may also lead to spillages which if added up could lead to losses in income to the farmer. Poor road network often results in high transactional costs and inaccessibility to input and output markets in the sector. In terms of marketing, this may lead to uncompetitive pricing since the high transport costs will be factored in the high prices. Poor infrastructure has also contributed to the poor market integration in the county.

Apart from roads, there was evidence of few milk collection centers (MCCs) especially for cooperatives and processors. This implies that farmers have to incur extra cost through transportation to access the centers and the problem is worsening during rainy seasons as most roads are impassable. The importance of MCCs lies in the marketing of the farmers' milk, in the supplying of raw milk to the processing facilities and in the integration of potential actors in the dairy value chain. From the food safety perspective, MCCs shorten the distance between the

farmers and the dairy processing point in the milk supply chain to facilitate quality milk supply since, as the number of dealers increases, the safety and quality of raw milk decreases.

Stainless steel (seamless) milk cans, and occasionally plastic cans, are used for bulking milk from individual suppliers and delivering it to processors' collection, bulking and cooling centres, from where it is transported in cans or by refrigerated tanks to the main processing plants. In some areas, powerful milk intermediaries (traders) have positioned themselves between the market and the milk producers. Their presence complicates the traceability of milk and brings a risk of cross-contamination and microbial overload.

It is assumed that provision of cooling facilities will draw forth the evening milk and where the general assumption is that if evening milk could be collected, total marketed milk could rise by 40 to 50 percent. Apart from poor road infrastructure there was also the issue of water supply. Farmers complained of poor water supplies during the dry season. Therefore, the following strategic option with regard to infrastructural development that when implemented would enhance market returns.

Table 2: Infrastructural Development

Strategic Option	Actors Involved	Activities	Expected Outcome
Roads	<ul style="list-style-type: none"> ▪ Farmers ▪ County Government ▪ National Government ▪ Processors 	<ul style="list-style-type: none"> ▪ Proper use of road networks ▪ Improve road networks ▪ Opening up of milk producing areas 	<ul style="list-style-type: none"> ▪ Easier and safer transportation ▪ Reduce spoilage and loss
Milk collection centers	<ul style="list-style-type: none"> ▪ Farmers ▪ Cooperative ▪ Processors ▪ County Government 	<ul style="list-style-type: none"> ▪ Identification of milk collection centers ▪ Acquisition of the needed facilities ▪ Installation of facilities ▪ Coordination of actors involved 	<ul style="list-style-type: none"> ▪ Farmers deliver milk easily for onward marketing ▪ Economies of scale through bulking as it cut cost and increased returns ▪ Milk safety as it reduces number of actors
Cooling Equipment	<ul style="list-style-type: none"> ▪ Farmers ▪ Cooperatives ▪ Processors ▪ County Governments ▪ Non-state actors 	<ul style="list-style-type: none"> ▪ Procurement of equipment ▪ Installation of equipment 	<ul style="list-style-type: none"> ▪ Improved shelves life ▪ Improved quality in the market

Policies

In most countries in sub-Saharan Africa, smallholder dairy farmers, milk producers, milk traders and processors account for more than 80% of the production, marketing and value addition in the dairy industry. However, government policies have tended to discourage informal market players in favor of formal dairy marketing. Even though there are various policies with regard to marketing of milk and dairy products, most of these policies are unpopular with small scale dairy farmers and some of them have been suspended. For instance, The Dairy Industry Licensing Regulations 2018, among the 12 sets of rules published by KDB, provide that a person shall not sell, offer for sale or expose for consumption, any milk in raw form. In the absence of processors, farmers are required to take their milk to a cooling facility. Such policies appear retrogressive and the net effect is small-scale dairy farmers are likely to suffer due to restricted marketing space.

There is a need for policies that facilitate a sustainable increase in the productivity of dairy farms, promote the collection, transportation, processing and marketing of milk and enhance the participation of stakeholders in the formulation and implementation of policies, standards and regulations. Policy makers should consider the relative efficiency of alternative milk marketing systems in terms of costs and marketing margins, product safety and quality, range and stability of services offered; and stability of producer and consumer prices. To do so, policy makers, development organizations and private investors are in need of information of different aspects of the production system of the specific area, potentials and constraints of production and marketing conditions/systems.

The Government of Kenya through its regulatory organs like the Kenya Dairy Board should aim at stimulating dairy sector potential areas. It is believed that development of milk marketing structure will

create the incentive to improve production especially in the potential regions which are dominated by informal marketing systems. Favorable government laws, policies, and regulations as part of the economic liberalization program besides investment incentives are necessary for the smooth progress of easy entry in to and expansion of the investment opportunities in dairy marketing. Improved public-private dialogue is a must to ensure that existing and future regulations are vetted by the dairy industry players before being passed into law.

The revival of the East African Community has sparked discussions about inter-regional standards for milk (draft COMESA/East Africa Dairy Standards), but these standards have not been developed in coordination with the sector, nor have they been widely disseminated. Similarly, other agencies are passing national laws which have implications on the sector. The National Environmental Management Agency (NEMA) has outlawed plastic bags and sachets, and wishes to outlaw many other plastic containers. This ban inadvertently impacts the dairy sector as dairy processors have had to re-tool their processing facilities at their own expense to change their packaging to conform to the new regulations.

The dairy policy should explicitly recognize the role of informal dairy marketing, and include measures to facilitate the transformation of the informal milk trade towards formalization. These measures include development of appropriate technologies, training on safe milk handling, and provision of incentives for improved milk handling and establishment of a supportive milk dealer certification system. The Policy also should state that KDB functions of streamlined, self-regulation and transition towards a stakeholder-managed institution initiated. A KDB license is only one of many requirements traders need to fulfill before they can freely commercialize milk. Traders are confused by which licenses they need and when they need to renew them and often fail to see any positive return from having so many licenses. The

amount of red tape involved presents a significant burden for small-scale businesses to formalize and the need for multiple authorizations dilutes the importance of the KDB license.

Policymakers should encourage donors/development partners to engage with KDB to support the existing dairy marketing rather than duplicating efforts or implementing policies that may not be sustainable in the long term.

Table 3: Policies

Policies	Actors Involved	Activities	Expected Outcome
Consolidation of informal marketing sectors	<ul style="list-style-type: none"> ▪ Transporters ▪ KDB, ▪ KEBS ▪ Milk Vendor ▪ Milk Producers 	<ul style="list-style-type: none"> ▪ Improvement of the marketing and control mechanisms ▪ Registration and unionization of the chain actors ▪ Licensing ▪ Conducting of inspections 	<ul style="list-style-type: none"> ▪ Stable marketplace ▪ Proper marketplace ▪ Access to loans ▪ Recognition by the authorities ▪ Certified milk quality
Policies on formalization of informal market	<ul style="list-style-type: none"> ▪ KDB ▪ KEBS 	<ul style="list-style-type: none"> ▪ Integration of informal marketing to formal marketing ▪ Enforcement of existing policies on informal dairy marketing 	<ul style="list-style-type: none"> ▪ Recognition by the authorities ▪ Certified milk quality ▪ Stable income
Policies to ensure a stable prices of milk and dairy products	<ul style="list-style-type: none"> ▪ KDB ▪ Farmers ▪ Processors ▪ Cooperative societies ▪ EAC 	<ul style="list-style-type: none"> ▪ Harmonizing of prices ▪ Control of milk and dairy products imports and export 	<ul style="list-style-type: none"> ▪ Stable Prices ▪ Unified prices
Policies on sharing of proceeds between processors and producers	<ul style="list-style-type: none"> ▪ KDB ▪ Farmers ▪ Processors ▪ Cooperative societies 		<ul style="list-style-type: none"> ▪ Stable income

Coordination

The Formal and informal dairy sectors are interdependent in Kenya, both on the supply and the demand level. There are important backward linkages between the two sectors, such as the dependence of the formal milk processing plants and collection centers on the production and marketing of the informal milk. Furthermore, the two sectors partially operate in the same market space and do have

common customers, since for instance the informal milk is not sold to and by supermarkets but it is sold to and by restaurants and guest houses. On the flipside, both have common actors in their dairy marketing channel. Therefore, this poses significant challenges on how the two can be integrated to realize increased returns.

One of the key challenges to milk marketing may not be the generally poor milk collection, transportation

and marketing infrastructure but lack of harmony between the formal and informal marketing channels. There is a need for policies to streamline the marketing of milk in the country through a structured coordination at all levels as marketing of dairy farmers comprises of many actors key among them farmers, consumers, processor, transporters, vendors, learning institutions, researchers, retailers/wholesalers, Kenya Dairy Board, County Government and financial institutions.

There has historically been little effort in linking dairy farmers and Milk Collection Centers with processors and formal milk markets. Many dairy farmers do not have formal relationships with processors, and therefore are subject to inconsistent demands. Little coordination between farmers and processors, and inadequate demand for pasteurized or value-added products, most dairy farmers have established relationships with fresh-milk kiosks, or have opened and run their own informal marketing channels, including operating AMDMs.

Access to affordable financing options and investment vehicles along the dairy value chain is not consistent; is uncoordinated and insufficient to keep pace with growth in production. Critical to the ongoing success of the sector is the affordable access to financing. Dairy farmers, cooperatives, transporters, and processors all have desires to upgrade equipment which improves quantities and the quality of milk, but very few have financing options which allow them to do so. With so little market information being shared, it is nearly impossible for the dairy value chain in Kenya to operate efficiently, profitably, or competitively.

There is need for polices that would compel various actors into action so that tangible results are realized. Besides, formation of steering committee for self-regulation is vital so that farmers can sell their milk either in formal or informal markets. The detailed coordination actions are as shown in Table 4 below:

Table 4: Coordination

Actions	Actors involved	Activities	Expected Outcome
Integration of informal market	<ul style="list-style-type: none"> ▪ Farmers ▪ Milk vendors ▪ Transporters ▪ Cooperative societies ▪ Financial Institutions ▪ County Government ▪ National Government 	Actors in the informal market to be organized into a group and form regulatory framework on how to performance their function	<ul style="list-style-type: none"> ▪ Increased revenue ▪ Increased income ▪ Market Information accessibility
Integration of actors	All actors(Farmers, Milk vendors, Transporters, Cooperative societies, Financial Institutions, County Government, National Government, Non-state actors, input suppliers etc)	<ul style="list-style-type: none"> ▪ Vertical integration in the value chain actors especially financial institutions ▪ Horizontal Integration of in the value chain actors ▪ Training 	<ul style="list-style-type: none"> ▪ Increased revenue ▪ Increased income ▪ Information accessibility ▪ Improve quality of milk ▪ Increased milk productivity

Product Differentiation/Diversification

Diversification via processing and direct marketing of packaged dairy products is one of the strategies available to farmers in order to maintain a competitive position in the market. There is good

market opportunity for different milk products due to expanding population and improved income within the region. In order to improve smallholder dairy production in the region, milk production must be accompanied by processing to produce a variety of

products to meet market opportunities. Further, milk is highly perishable thus there is need to process it into products that have a longer shelf-life, easier to handle and transport to long distance market outlets. Processed milk products can also be stored and offloaded into the market when demand arises.

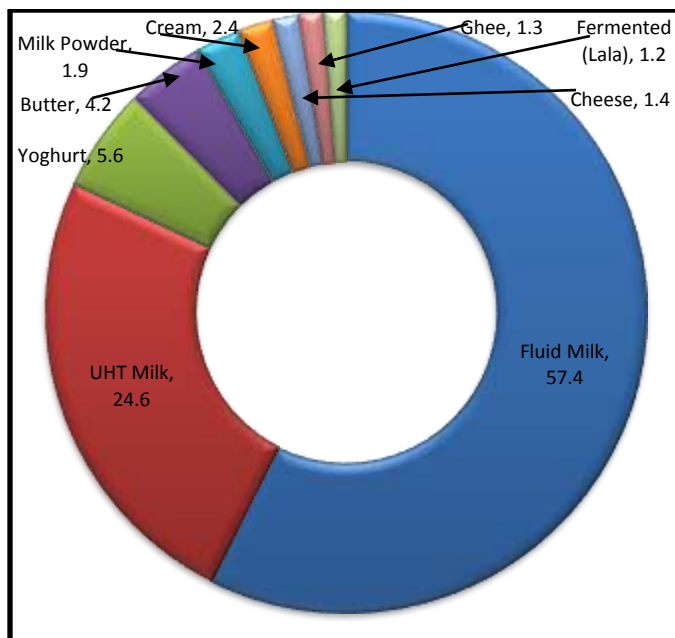


Figure 1: Milk and Dairy Products diversification

Value addition, in fact, is the place where the bulk of the innovations and new product launches are taking place in dairy industry. There are still limited takers for value-added dairy products such as cheese, yogurts or flavored milk, but this is where much of the action is taking place today simply because of its higher margins, and the ability to differentiate and introduce new products. However, most farmers and milk cooperatives did not tap into this market save for few established processors. The key to the success of value-added products is to market a high quality product that is reasonably priced and available in a convenient location for the consumer to purchase. This implies that actors in the market should ensure that there is product diversification and differentiation through branding, packaging,

pasteurization and processing. Value-added products can be a good way to increase farm income, give farmers more visibility and help to expand to new markets. Thus the key to the success of value-added products is to

- Market a high quality product that is reasonably priced and available in a convenient location for the consumer to purchase.
- Products must be delivered consistently and have sufficient supplies to meet the demand.
- A certification for food quality and safety.

The purpose of pasteurization is to increase milk safety for the consumer by destroying disease causing microorganisms (pathogens) that may be present in milk and also reduces the natural occurring fermentation. Pasteurization increases the shelf life and standardizes quality of milk products by destroying spoilage microorganisms and enzymes. The aim is to cause minimum change in composition, flavour and acceptability of the milk. Pasteurization makes the milk safer but has an effect on milk quality which can certainly modify the characteristics of the cheese made with it, especially those which are matured for a longer period.

Milk packaging is a critical component in milk marketing and quality control. Packaging and packaging design is a key factor that drives the development of modern distribution systems of dairy products (Rundh 2009). Packaging of dairy products develops continuously along with advances in material technologies, which are in turn a response to demands of consumers. A product's package represents its characteristics and communicates the product information. In case of milk and dairy product package, it is crucial to have an attractive design in order to gain consumers' attention and to stimulate purchase decisions. It is generally required for packaging material to be inert and not to react with the packed dairy product, with current trends being focused on development of packaging that include certain interactions in order to extend the shelf life.

The conventional milk packaging materials are costly resulting in high and unaffordable prices of packaged milk. As a result, there is a tendency to package milk in non-food grade materials that are unhygienic and environmentally unfriendly. To address the milk packaging problem, priority areas of emphasis should be on promotion of the development and adoption of cost effective milk packaging that is of acceptable standards. The government should explore ways and means of encouraging local initiatives and use of locally available materials in milk packaging mainly through industrial research.

Branding of dairy product is increasingly being used as a strategy for managing markets in developed

countries while developing countries still lag behind. The choice of a given dairy product or brand can be explained in terms of four factors namely promotion, price and availability, packaging and product quality. There is need for marketers to take these factors into consideration when crafting product innovations in the dairy market. In terms of priorities, there is need to increase brand visibility through promotion and ensuring that brands are priced competitively. Promotional vehicles that could be used in this respect include radios, TVs, newspapers, road shows and also e-commerce.

Table 5: Product Diversification/Differentiation

Action	Target Actors	Activities	Expected Outcome
Value addition	<ul style="list-style-type: none"> ▪ Kenya Dairy Board ▪ Processors ▪ Kenya Bureau of Standards ▪ Research organisations 	<ul style="list-style-type: none"> ▪ Diversification of raw milk into variety of products ▪ Ensuring quality of products ▪ Ensuring safety of products 	<ul style="list-style-type: none"> ▪ Increase of the milk value ▪ Increase of the actors' income ▪ Production of other dairy
Branding	<ul style="list-style-type: none"> ▪ Processors ▪ Consumers ▪ Cooperatives ▪ Kenya Dairy Board 	<ul style="list-style-type: none"> ▪ Conceptualization of brands ▪ Brand visibility 	<ul style="list-style-type: none"> ▪ Increased returns ▪ Increased product visibility
Packaging	<ul style="list-style-type: none"> ▪ KDB ▪ KEBS ▪ Processors ▪ Consumers ▪ Packagers ▪ Research organization 	<ul style="list-style-type: none"> ▪ Designing of package ▪ Setting standards on packaging ▪ Enforcing packaging standards 	<ul style="list-style-type: none"> ▪ Increased shelf lives ▪ Increased returns
Pasteurization	<ul style="list-style-type: none"> ▪ KDB ▪ Processors, ▪ KEBS ▪ Research organisations 	<ul style="list-style-type: none"> ▪ Setting standards for pasteurization ▪ Ensuring standards are followed ▪ Undertaking pasteurization 	<ul style="list-style-type: none"> ▪ Increased shelf lives ▪ Increased returns

CONCLUSION AND RECOMMENDATION

Dairy marketing has received inert attention in dairy science as compared to breeding technologies. Adoption of other technologies such as breeding, feeding and disease control has resulted in increase in milk production yet returns from sales to producers

have remained insignificant. However, there is significantly huge unexploited market for milk and dairy products in Kenya hence the need to examine on how existing capabilities can be utilized to increase returns for various actors in the dairy value chain. The study has examined five strategic marketing

intervention options with specific focus on capacity building, infrastructural development, policies, coordination and product diversification as well as differentiation of dairy products. Even though the five strategic intervention options are equally essential in the marketing of dairy products, policies on capacity building, coordination, product diversification/differentiation and infrastructural development are inevitable. There is also a significant overlap with regard to specific strategic options, implying that the strategy cannot be implemented in isolation. To conclude, there are indications that the direction of the current policy initiatives, such as the integration of informal market dynamics and coordination of actors in dairy sectors offers exotic possibilities in marketing of dairy products. However, there will be realized increased returns in dairy sectors once policies on capacity building, infrastructural development, product diversification and coordination are all inclusive, non-discriminatory and enforced as planned. From the conclusion, the study recommends an implementable schematic approach with the four identified marketing strategic options.

Based on the five marketing strategic options identified in this study, the study proposed integration of the following overall strategic options.

From Figure 2, the four strategic options depend on various policies to ensure their successful implementation. For instance, there is need for policies on capacity building to build human, functional and institutional capabilities in dairy value chain. These capabilities would enhance coordination between various actors in the dairy value chain. Therefore, it will be easy to undertake training and market identification as there are laid down policies. Further, policies on coordination would enhance integration of both informal dairy market and all actors in the dairy value chain. With better coordination, capacity building and policies, infrastructural development is inevitable. Adequate capacity and coordination coupled with policies would ensure that there is improvement in road network, availability of well-established milk collection centers with required equipment such as cooling equipment. This will allow milk to reach processors for further diversification into various products. However, policies will play greater role as they will ensure that milk and dairy products conform to market standards. On the other hand, capacity building would inform product diversification while at the same time product diversification would inform production hence Figure 2, which dictates the ultimate high income targeted by the actors, especially the farmers.



Figure 2: Overall Dairy Marketing Strategic Options

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