Challenges & Opportunities









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Ethiopia is one of the few countries known for its ample livestock resources that are attributed to abundant water, vast land, and favorable climate conditions among others. The country ranks first in Africa and sixth in the world in cattle population.

Statistical reports also show that Ethiopia owns ample livestock resource that could supply raw material for the dairy industry. More importantly the growing population and per capita in income, level of economic development, advancing urbanization, and increasing awareness of dairy production are believed to provide ideal opportunities for the development of the dairy business in Ethiopia. Moreover, the dairy business in Ethiopia is a very attractive and profitable sector for existing and prospective investors. With fast growing in demand, the dairy sector is expected to be lucrative. Feed production, improved cow breeding, as well as dairy production and processing are some of the business areas conducive for investment.

Yet for various reasons, the country has not so far benefitted from these assets as expected. The dairy sector in Ethiopia suffers from low level of productivity, high production cost, input constraints, and low per capita consumption as compared to other countries. The prevailing poor husbandry practices, limited utilization of modern technology, and inadequate access to veterinary services, feed, finance, land and markets are also considered to be major factors adversely affecting the dairy sector.

The existing weak value chain in the sector primarily affects industries and factories, which are investing in milk, and milk products. Due to these constraining factors, many businesses involved in the agro- industrial sector in Ethiopia are getting inadequate milk to be processed and distributed to consumers. The low volume of milk coming from farmers are produced and supplied in traditional ways. This has in turn magnified the absence of a modern and reliable commercial dairy farm in Ethiopia that can supply, milk, which is the main or basic input for the growing number of milk processing industries.

The Addis Ababa Chamber of Commerce and Sectoral Associations (AACCSA) which is defending and protecting the interests of the business community, is relentlessly working towards creating a vibrant dairy sector in Ethiopia. Thus, AACCSA in collaboration with the Confederation of Danish Industry (DI) has set out to give more attention to this marginalized sector by bringing the issues and alternative solutions to the attention of all the stakeholders that are working to promote economic growth, agro-processing, export, and employment creation.

Hence, we look forward to all participants in the value chain, including farmers, traders, processors, unions and cooperatives, governmental as well as non-governmental organizations to cooperate and work jointly to realize the objective of creating a vibrant dairy sector that would support the national economy as well as contribute to the emergence of a robust private business in the sector.

AACCSA therefore calls on the government to take a closer look at the opportunities and challenges and work harder to alleviate the serious challenges related to customs, infrastructure, policies and regulations and make proper revision as soon as possible. The dairy sector is not only about business; it is also about children, about the future generation, it also about the future of our country too. This special issue of our magazine is therefore dedicated to the creation of a vibrant diary sector in Ethiopia that will live up to the short and long-term expectations of all the stakeholders.

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A BIRD'S EYE VIEW OF AACCSA'S

PAST ACTIVITY IN RELATION TO THE DAIRY SECTOR

BY: Seyoum Chane



The Addis Ababa Chamber of Commerce and Sectoral Associations (AACCSA) is the oldest and largest chamber in Ethiopia. As a vibrant business membership organization, it strives to promote trade and investment, provide demand-driven services to its members and stakeholders, and advocate for favorable business environment conducive to the development of a vibrant and dynamic private sector. AACCSA has currently around 17,000 business and individual members.

Recognizing the huge potential of the diary sector in Ethiopia that is yet to be unleashed on the one hand, and the complex problems and challenges existing along the value chain, the Addis Ababa Chamber of Commerce & Sectoral Associations, in partnership with the Confederation of the Danish Industry, has designed a project entitled, "Access to Better Dairy Products" to create enabling environment for the sector.

The Chamber's Policy Research and Advocacy Department is entrusted with the preparation of informative reports and position papers based on studies and policy analysis reports. As part of its program of creating awareness and advocating critical issues concerning the sector, therefore, we have published this **Special Edition under the theme "Dairy Sector: Challenges and Opportunities".**

Rationale for AACCSA's Emphasis on the Dairy Sector

In addition to the sector's potential and importance to Ethiopia's economy, AACCSA has a significant number of members engaged in the sector. As a result, members demand to negotiate and influence the enabling environment for better functioning of the value chain and providing an efficient and effective service. Moreover, there are various actors which need a clear understanding of the value chain in order to put in place the appropriate actions for better and sustainable development of the sector. To support this, AACCSA has been implementing a project entitled, "GAIN Access to Better Dairy" with the Confederation of Danish Industry (DI) in the last three years.

Major Activities of AACCSA and DI

In the past, AACCSA has produced various studies, prepared forums and workshops pertaining to the sector for creating value and contributing to the gradual improvement of the sector. These are briefly described here below.



Evidence-Based Researches

The first study on Dairy Sector Value Chain was conducted in December 2016. The study's focus areas were Addis Ababa and its surrounding areas where a large number of milk producers who are also AACCSA members are based and supply the city with dairy products. The study reflected key challenges existing in the areas of demand, production and supply, input, processing, distribution and governance.

Another study entitled "Analysis of Value Barriers for Fortified Dairy Products in Ethiopia" was completed in June 2018. The key outcomes as well as issues forwarded in the study were the existing low demand, low capacity of local food manufacturers, absence of mandatory standards and low awareness on fortified food products, high import tax rates for ingredients and huge capital requirements.

Multi Stakeholder Platform

One of the key engagements of AACCSA is the establishment of a stakeholders' platform. This is aimed at creating an avenue for government, private sector, civil society, academic and research institutions for coming together and deliberate on important policy and business matters pertaining to the sector. Accordingly, five diary value chain stakeholders' meetings have been conducted with the desired outcomes. The meeting which was held on January 31, 2019, for example, effected the establishment of four thematic working groups: input supply, production, processing and marketing. Each group had 5 members and one chairperson.

In general, the central objectives of the stakeholders' platforms were to,

- Provide a forum for exchange of knowledge, experience, technologies and best practices,
- Identification of common issues, challenges and solutions,
- Support the implementation of joint action plan to common problems
- Ensure stakeholders' views and interests are considered in various interventions, and
- Promote the growth and competitiveness of the dairy business.

Creation of an Enabling Environment

AACCSA's intervention towards the creation of an enabling environment mainly focuses on three major areas. These are:

- Developing a policy agenda and position paper for the dairy value chain
- Assisting local GAIN partners in the development of proposal for secondary scheme privilege to

- request the Ministry of Finance of the Federal Democratic Republic Ethiopia and
- Capacity building of actors in the dairy sector, more specifically women entrepreneurs on CRS, leadership and governance

Enhancing the Affordability of Fortified Dairy Products and Inputs

Different studies and platforms have identified various issues and challenges that affect the development of the dairy sector. Among these challenges, the impact of tariff and duties on imported milk and dairy products were one suggested for an in-depth investigation in a bid to understand its effects and suggest the necessary proposals to the government.

Production of dairy products such as pasteurized milk, yogurt, butter, cheese, cream, etc. require ingredients like sugar, flavors, whey constituents, yogurt cultures, packaging materials, technologies, and machinery spare parts to finalize the product line. In spite of this, however, customs duties and taxes on these inputs is high ranging from 18% to 68%. This apparently affects viability of dairy products including fortification. Thus, AACCSA in partnership with DI is currently carrying out a study entitled "the impact of Import Tariffs on dairy products and processing companies" to forward necessary remedial measures for actions.

Capacity Building for Business Actors

Our past studies in the dairy sector show the need for good business conduct. In view of this, building trust among actors in dairy value chain through awareness creation and customized trainings as well as introducing a code of conduct for milk processors, leaders, and entrepreneurs are some of the major issues given special attention.

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THE SITUATION IN THE DAIRY SECTOR IN ETHIOPIA

Compiled BY: Ashenafi Gebru and Seyoum Chane

Introduction

In Ethiopia, the livestock sector contributes 19% of the GDP, and 16–19% of the foreign exchange earnings of the country (MoA 2012). It contributes some 35% to agricultural GDP (ILRI 2011). The livestock sector can also be a major contributor to poverty reduction by improving the livelihoods of the rural population. In addition, roughly 80% of Ethiopia's population earn their livelihoods from the livestock sector (ILRI 2011).

In spite of the fact that Ethiopia has a large number of cattle, the country remains a net importer of dairy products (Yilma *et al.*, 2011). This is attributed to the subsector's low productivity which is below the level of most developing countries (Melesse et al, 2013; Metaferia et al., 2011; EEA, 2006). Studies indicate that the average annual production of milk in Ethiopia is extremely low. It is only 1.85 liters per cow and per day (Dehinenet et al., 2014a; SNV, 2008).

Similarly, the average annual growth rate in milk production is found to be around one percent which is far behind the annual population growth rate of 3 percent. Moreover, the average annual consumption of milk

and milk products is also below the standards of most developing countries. Felleke et al. (2010). Per capita milk consumption in Ethiopia is only 20kg per annum.

Different studies indicate that per capita milk consumption in Ethiopia is also below the average for sub-Saharan Africa which is 25kg liters as well as below the average for neighbor Kenya which is 90kg. It is by far lower than the FAO/WHO recommended amount, which is 200 kg per capita per annum.

Last but not least, the milk production system is classified as urban, peri-urban and rural. Both the urban and the peri-urban systems are located around Addis Ababa and regional towns and take advantage of the urban markets. On the other hand, the rural dairy production system is part of the subsistence farming system composed of pastoralists, agro-pastoralists and mixed crop/livestock producers; predominantly in the highlands.



DAIRY SECTOR IN ETHIOPIA

Trends in Net Milk Production

Table 1: Total-Net Milk Production Per / LitersPer Year in Ethiopia

Year	2011/12	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18
Total Net Milk Production / litters / year	3,329,854,796	3,804,991,102.0	2,903,247,759	3,071,977,015	3,055,903,834	3,134,181,317	3,317,786,694

Sources: Agriculture Sample Survey, CSA

The national trend of net daily production is demonstrated by cyclical patterns and the implication is that there are possible explanations behind it, such as diseases, death of animals, loss of weight, slow growth, as well as poor fertility.

Table 1: Milk production and Consumption (In million Liters)

	Milk						
Intervention activity results	Base year (2014/15)	2015/16	2016/17	2017/18	2018/19	2019/20	
Projected cow milk production	4132	5081	5588	6404	7006	7967	
Projected cow milk consumption	4132	4373	4627	4894	5173	5466	
Projected cow milk surplus	-	708	961	1510	1833	2501	

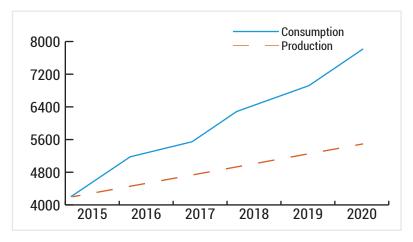
Sources: Livestock Master Plan

Production and Consumption

The demand for dairy products in Ethiopia is met through domestic production and imports. In addition, the key factors responsible for milk demands are: consumer preference, consumer's income, population size, price of the product, price of substitutes and other factors.

Based on LMP data, the production of milk in Ethiopia exceeds consumption over the periods of 2015-16 and 2019-20 with annual growth rate of surplus of 0.7 per year. In addition, the projected production for 2020 will be 7967 million litters while consumption will be 5466 million liters.

Figure 1: Production and consumption trend and production-consumption balance for cow milk over the GTP II period of 2014/15–2019/20 (in million liters).



Sources: Livestock Master Plan

According to figure 1, there are projected production —consumption gaps over the periods of GTP-II and the implication is that our milk consumption habit lags behind our production. In 2020, the projected surplus will be 2501 million liters.





Sources: Livestock Master Plan

Short-run and long-run potentials of the dairy industry

In the short-run, the milk industry encounters, technical, institutional and environmental challenges. This includes lower capacity together with a huge gap between consumption and production of milk and milk products by small holders, urban holders, semi urban holders, dairy processing industry and the government. And yet, the dairy industry is characterized by huge and untapped potentials for investment.

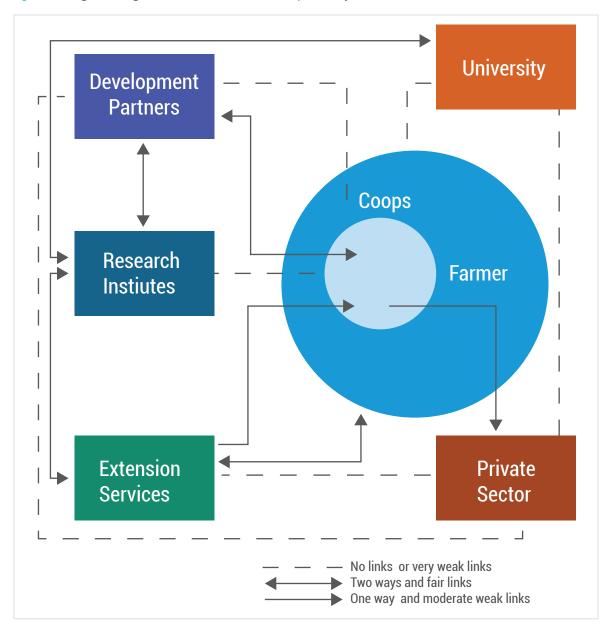
In the long-run, the dairy sector (which can be labeled as Ethiopia's white gold) has a big opportunity with rapid population growth rate, rampant fast urbanization, better infrastructural facilities and market linkages, conducive legal and policy frameworks, enabling investment climate and government support. Provided that an appropriate business climate is created, there will be a wider chance for enhancing the domestic supply, and decrease imports thereby saving foreign currency requirements.

The Industry Actors

The dairy industry in Ethiopia includes farm input suppliers, producers at different levels, cooperatives and unions, extension service providers, traders, processors, distributors, industry facilitators, development partners and consumers.

Studies (Lemma et al., 2008; Yilma et al., 2011), reported that weak linkages among the different actors in the dairy value chain have contributed to the weak performance of the dairy sector as exhibited in figure 1 below.

Figure1: Linkages among the various actors in the Ethiopian Dairy Value Chain

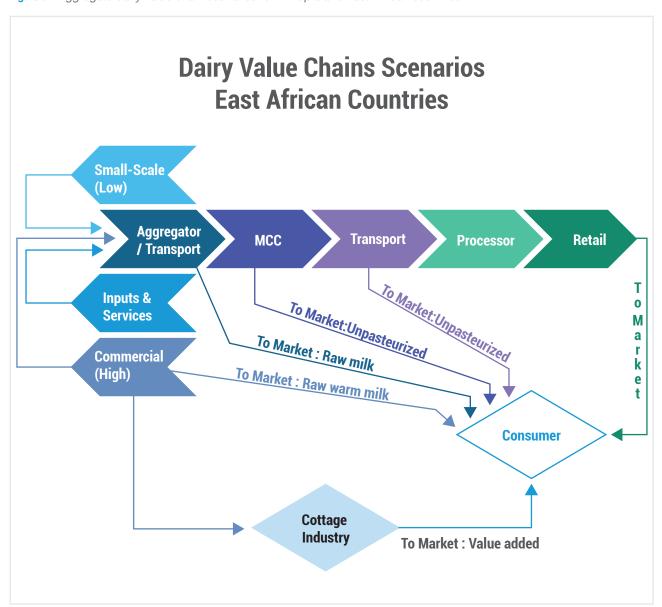


Sources: FAO, 2011

The Value Chain of the Dairy Sector

As discussed in most literatures, the two dairy value chain marketing channels in Ethiopia are formal and informal markets where the latter takes a significant share. The informal market is characterized by a shorter value chain, production and market operation inefficiencies, poor quality products, and unpredictable incomes to milk producers, as well as low investment and job creation opportunities. In addition, the study conducted in 2014 regarding the dairy sector development, the value chain showed that East African countries, including Ethiopia, have almost similar value chain structure as depicted in diagram2 below.

Figure 3: Aggregate dairy value chain scenarios for Ethiopia and East African countries



Source: White gold opportunities for Dairy sector Development in collaboration in East Africa, 2014

DAIRY SECTOR IN ETHIOPIA

Strength, Weakness/Limitations, Opportunities and Threats (SLOT) Analysis

The Ethiopian dairy sector can be analyzed using the approaches of SWOT as summarized in Table 2below.

Table 2: SLOT/SWOT - Analysis of Ethiopian Dairy Sector Analysis

INTERNAL ENVIRONMENT ANALYSIS

Strength

- Huge Cattle Potential
- Large number of informal milk collectors and producers
- Large number of processors and private companies engaged in the sector
- More improvements than before in access to water, electricity, health centers, schools and roads in rural areas
- · Availability of organizations supporting the sector

Limitations

- · Limited participation of the private sector
- Poor financial and business management skills of dairy cooperatives/groups
- Deficient and even absence of veterinary services
- · Limited availability of feed resources
- Poor genetic composition that exists in the current livestock population
- Poor udder health, hygiene and milk quality standards.
- · Lack of cooling facilities in MCCs
- Shortage of raw milk supply as a result of low cow productivity
- Poor market linkages across dairy value chain actors.

EXTERNAL ENVIRONMENT ANALYSIS

Opportunity

- Population and economic growth: increasing demand for dairy products
- Existing large market due to regional AU & other international meetings, business conferences and exhibitions.
- Growing Commercial interest by investors to engage in dairy sector development.
- · Growing urbanization and expanding awareness
- High demand for dairy business development services
- Huge potential to initiate new distribution channel such as school milk program
- Availability of demand for camel dairy products and opportunities for export
- Suitable climate and environmental conditions to expand dairy farming in the highland areas

Threat

- Increase in imported dairy products
- High input and distribution costs & government taxes
- Frequent electricity power cuts that lead to milk spoilage
- · Serious Shortage of feed and land
- Limited access to financial and credit services
- · Lack of quality assurance mechanism for milk
- Absence of responsible body to coordinate dialogue about dairy sector at government level

Key issues in

Ethiopia's dairy sector

Based on the reviews and discussions made in preceding sections, the major policy issue in the Ethiopian diary sector consists of the following:

- Weak regulatory frameworks and policies especially in the areas of duties and taxes, long-term financing, etc., and promoting private —public partnership in the sector.
- Weak involvement of the private sector in dairy development (the informal milk market comprises about 80% of marketed milk)
- Capacity utilization and economies of scale, limited milk supply to the processing plant
- Limited availability of feed resources mainly due to land holding issues as a major production constraint
- Deficient and even absent veterinary services
- Lack of dairy knowledge
- Poor infrastructure which resulted in limited value addition
- Quality control

Reviewing Best Practices

The dairy industry needs to learn how other countries improved the sector and how they addressed the challenges they faced. To become competitive at domestic and international markets, the industry needs to address factors like productivity, scale of operation, cost of production, product and brand development and other issues.

Kenya

According to FAO (2011), the strength of the sector in Kenya comes from the private sector-driven processing industry built in only 20 years, nation-wide availability, increasing variety of dairy products for all consumer groups, on-going investments in value-added products including long-life milk and milk powder, an emerging dairy export sector, high demand for processed milk and milk products due to a growing urban (lower-) middle class.

The processing industry is a pull factor for higher milk production, year round milk collection by traders, dairy societies and processors in all main dairy production areas from hundreds to thousands of small scale farms, emerging segment of commercial dairy farmers with ability to invest and being innova-

tive, a wide distribution network and good access to commercial input suppliers and service providers, conducive government policies such as zero rating, import duties on dairy products, basic dairy genetics, etc.

The lesson for Ethiopia is that the development of the dairy sector cannot be one-sided and supply heavy. A multi-pronged approach is needed to increase consumer awareness of the nutritional benefits of milk, thus creating demand for milk and dairy products.



The key strengths of New Zealand's dairy industry include a grass farming system, large-scale processing and high levels of investment in research and development, which have increased the efficiency while maintaining the quality of dairy production. The industry has become more successful through the industry actors' and support organizations' committed engagement. According to research findings from the Agribusiness and Economics Research Unit, of Lincoln University, the eight critical success factors identified by the industry stakeholders for success in the sector are:

- Successful development of international markets: The successful sale of dairy products around the globe has been critical to industry success. The development of brands and relationships has been especially important.
- Political support in international markets:
 The dairy industry had to cope with subsidized competitors. In doing this, the government has played an important role in trade negotiations with the EU, the WTO and other governments and agencies.
- Political support: The dairy industry has relied on political support to ensure legislative sup-

- of research funds and the establishment of Fonterra.
- The evolution of industry structure to facilitate growth: The dairy industry has evolved to establish family-owned companies, dominant and large integrated cooperatives, and specialized and sophisticated support industry.
- Farmers engagement in the development of industry policy, strategy, structure and operations: Farmers' participation has been critical in the testing of industry proposals and building industry loyalty.
- Continuing technological advance: Technological progress has enabled the industry to grow through increased productivity. This has been realized on the farm, in processing and along the supply chain.
- Major disease-free status of national herd:
 Disease free status has reduced barriers for international trade and compliance cost
- Development of economies of scale: Economies of scale has resulted in improved management and progress in cost reduction.



India

India ranks number one in the world in terms of milk production and milk consumption. The program called, "Operation Flood" adopted by Indian government in 1970 made India the largest milk producing nation in the World. India also has the distinction to be the lowest cost milk producer in the world. The country has been able to provide on an average 302 gm of milk per person per day, which is more than the minimum quantity recommended by the World Health Organization (WHO). Most of milk production in India is by farmers through the cooperative societies that are assisted by many private players and multinational companies to tap the dairy potential of the country. Dairy business provides livelihood to 600 million people in India. The activity of the private companies consists of converting the unorganized dairy sector into an organized industry¹⁰. In the organized dairy industry and the cooperative milk processors have a 60% market share. The cooperative dairies process 90% of the collected milk as liquid milk whereas the private dairies process and sell only 20% of the milk collected as liquid milk and 80% for other dairy products with a focus on value-added products.(Ashrafet al, 2011).

India reveals an exceptional success story as the milk production increased remarkably from 17 million tons in 1950-51 to an estimated 140 million tons in 2013-14 and emerged as the largest milk producer in the world far ahead of the US which is the second largest producer. Moreover, India's milk production is expected to grow to 176 million tons by 2022 far exceeding the total milk production of the entire European Union. This has been achieved through ingenious organizations of a large number of small milk producers spread across the rural areas of the country. Operation Flood, one of the world's largest dairy development programs, played a crucial role in achieving the transformation of the dairy industry in India. In addition to being the largest milk producer, India also has the distinction of being the lowest cost milk producer. This phenomenal growth in milk production has been due to demand side development on one hand and supply side promotions on the other. The per capita availability has also increased from 112 gram/day in 1970-71 to 297 gm/day in 2012-13(Rakesh Mohan).



OPPORTUNITIES OF THE DAIRY SECTOR POLICY ISSUES

Ethiopian Meat and Milk Industry Development Institute

BY: Ashenafi Mitiku

Ethiopia owns an enormous livestock population in Africa. Yet for numerous reasons, the country has not benefitted from this asset as intended and expected. According to Mekonnen Gashu, senior market expert from the Ethiopian Meat and Milk Industry Development Institute (EMMDII), the dairy sector faces serious challenges that strongly affect agro-industries that produce milk and milk products.

Based on the findings of the institute, many of the agro-industries in Ethiopia are getting inadequate supply of milk to be processed and distributed to consumers. Also, the small quantity of milk coming from farmers is produced in traditional ways.

Mekonnen Gashu

Ethiopian Meat and Milk Industry Dv't Institute

The Director suggest for the need to have backward and forward linkage strategy in order to create effective dairy sector in Ethiopia. Agro industries should scrutinize or look backward to examine the loophole in the farming communities. "If you find out that milk producers obtain maximum profit margin, you have to rethink about your business", says Mekonnen.

If there is an interest to satisfy the milk demand at home, farmers need to obtain at least 40 percent of milk products by themselves, or they need to have ranching or dairy farm that can supply the rest of milk, explains the marketing expert. He, however, noted that many of the milk processing industries are not willing to have their own milk-producing facilities and choose to collect from farmers who are unable to produce much for various reasons.

The EMMDII has taken the initiative to promote beef export and encourage private abattoirs to export more meat products, says Mekonnen and the experience should be scaled- up to the dairy sector which suffers from this shortcoming. "The way out for the dairy industry should be to work from the source by implementing an integrated backward linkage. If that happens we can bring change in the dairy industry and demand can be satisfied", reiterates Mekonnen.

Apart from the low supply of milk, the dairy industry is unable to receive quality milk that will be processed and supplied to consumers. There should be a need for strong regulation for the dairy industry that can mitigate or discourage adulteration, says Mekonnen.

Sources from the institute reveal that there is no such action taken against adulterated milk suppliers. Agro-industries should encourage genuine milk producers by providing incentives or better payment. Even a law should be put in place to further prohibit low quality milk products from entering the market. It is also better to work towards enhancing the awareness of the entire stakeholders and society about the

dairy sector, suggests Mekonnen.

"If you find out that milk producers obtain maximum profit margin, you have to rethink about your business"

Market chain is yet another obstacle facing the sector, according to the institute. Along the entire value chain, the price of milk is steadily increasing, making it unaffordable for the end users, says Mekonnen. Failure to control the dairy market eventually affects both producers and consumers, calling for strong measures to be implemented before the sector collapses. There is therefore an urgent need to save the sector from the impending crisis. Implementing an integrated dairy strategy that includes all the actors along the dairy value chain, is highly recommended. Moreover, establishing commercial dairy farms in Ethiopia afterwards would help realize the anticipated change.

Interview:

Wondyrad Abraham,

Chairman, the Ethiopian Commercial Milk Association.

BY: Yidenekachew Alemayeh

We find the old town of Sululta some 25km northwest of Addis Ababa. The highland town is located some 2500-600 meters above sea level. The town is a favorable place for milk producers and processors. There are over 20 milk farms in the town. We had a chance to talk to Wondyrad Abraham and discuss how he runs a milk farm called Amerti. He has a long track record of careers with the Ministry of Agriculture, at the Agricultural Research Institute and also taught at Addis Ababa University. He is currently the chairman of the Ethiopian Commercial Milk Association. He had time to discuss with Addis Chamber newspaper a range of topics involving the Ethiopian dairy sector.

"...we need to overhaul the dairy sector altogether.
We need a comprehensive reform involving all actors and institutions in the business."

says Wondyrad Abraham, Chairman, the Ethiopian Commercial Milk Association.



Wondyrad *Abraham*, *Chairman*, *the Ethiopian Commercial Milk Association*.

Addis Chamber: Can you tell us about the nature of the Ethiopian dairy sector?

Wondyrad: The Ethiopian dairy sector suffers from a paradox. On the one hand, Ethiopia is a country with the largest livestock population in Africa. On the other

hand, it has an underdeveloped or poor dairy sector. So, we live and work within this paradox because we have an underdeveloped dairy production system. So far, we have not been able to produce dairy products that could even satisfy the local demand. The demand for milk products is growing rapidly and the price for milk is getting higher every time. The price increase has reached such a point that the poor can no more afford to buy or consume these products. The sector needs quick and immediate policy intervention so that it can be reformed and overhauled to the benefit of children in particular so that they can afford and enjoy milk and milk products that are indispensable for their physical and mental growth and development.

Addis Chamber: Why are you focusing on children in the dairy business?

Wondyrad: I mean that children need these dairy products to stay healthy. It is on health grounds that we focus on them in particular. Milk is a must food for children. Cow milk is a nutritious liquid. It is also used to make a large number of products, including cheese, cream, butter, yogurt, liquid milk, ice cream, and protein. In a raw state, the milk from cows is more than 87 percent water, while the other 13% consists of such dietary components as butterfat, protein, lactose (milk carbohydrates/sugars), and ash (vitamins and minerals). Therefore, children need to take milk from their infancy until they reach adulthood.

Addis Chamber: How much milk does one need to consume daily?

Wondyrad: The modern day standard is 33mm(1/3 of a liter) of milk per day. For example, Children between 4-8 years need to consume this amount of milk 3 times a day. When we come to school children, their ability to learn is limited because their parents cannot afford to buy milk and feed them. In the case of Ethiopia, schoolchildren's articulating capacity is between 30-40% per lesson.

Addis Chamber: What are then the challenges in this regard?

Wondyrad: The challenges are numerous and inter-

related. Firstly, we believe that the research-farmer operational linkage is poor. In other words, colleges that are providing trainings in cattle and milk production ought to craft their curriculums on the basis of the farmers' actual problems. In most cases, we find out that the studies that are conducted are outside of the major challenges encountered by farmers. Secondly, the challenge is on the supply side. The government has the lion's share in the process of developing the dairy sector. The government has to provide medicines, dairy accessories, skilled manpower and support fodder production. Especially, the government should reinforce the capacity of extension workers that are the closest partners of farmers. But of course, we understand there is progress among some farmers' households. We need a comprehensive policy revision that interconnects farmers, government agencies, professionals such as inseminators, research institute, financial institutions, medicine suppliers, processors and all other stakeholders in our dairy production value chain.

Addis Chamber: So it looks a bit cumbersome as a task, isn't it?

Wondyrad: No, absolutely not. We need only to focus and a short-time engagement to improve and modernize our day sector. One of the features of the dairy business is that it can easily be revived and can accelerate should the entire necessary inputs are made readily available.

Addis Chamber: What is the most important issue in all this?

Wondyrad: The most important issue for us is a strong policy commitment from the government side with the intent to promote the dairy sector at any possible cost. That is the most important component, and then others follow.

Addis Chamber: As an association, did you engage policy makers, if so, what do they say?

Wondyrad: We have been raising issues and concerns pertinent to the farmers, processors, medical suppliers and challenges involving animal feed and health on several occasions. We are not asking the government to lend us money. No, we need all the

POLICY ISSUES

red tape to be removed in the dairy value chain from the farm gate to international wholesalers and retailers. The sector should be overhauled.

Addis Chamber: What do you mean by overhauling?

Wondyrad: We mean that the paradox has to end at some point now. We in the dairy sector cannot go on like this under the unfavorable conditions. Ethiopia's dairy sector is very weak but has the potential to grow very fast through intense engagement over a short period of time. Therefore, we need to overhaul the dairy sector altogether. We need a comprehensive reform involving all actors and intuitions in the business

Addis Chamber: Are you calling for some kind of campaign?

Wondyrad: Yes, why not? We (all stakeholders and the government) can campaign for some time and champion the sector once and for all.

Addis Chamber: Is the sector enticing for newcomers to the business?

Wondyrad: Oh yes, we need more investors in the dairy sector. We also call on prospective business people to come and join us. Our dairy business is not yet fully exploited. The potential is untouched and what has so far been exploited is only the tip of an iceberg. It is all about making a complete paradigm shift from existing practices to transform our day sector. As the result of many dialogues and discourses, policy makers are now getting optimistic about our concerns and the issues we have been advocating. That may be used as input while revising dairy policy and strategy.

Addis Chamber: What is the dairy sector like in advanced countries?

Wondyrad: In Europe, the dairy sector is one of the major export sectors and contributes greatly to their GDP. In countries like New Zealand, Germany, the USA, the Netherlands, Russia and others, total export was USD 27 billion in 2018. Over 55% of global milk production comes from Europe. New Zealand, which is a small country, is responsible for some 20% of world dairy exports and its dairy

sector accounts for 20% of its total exports (goods and services). No other country has managed its dairy resources through modern technology and motivating policy and business environment. From my experience, in large parts of US cities, the least paid persons (with minimum wage USD13/day) can afford milk daily. Because they can pick a gallon of milk (3.75 liter) for less than USD 2 and 50 Cents. Milk, egg and meat are the cheapest foods anyone can afford in the modern world. As it stands now, people in Ethiopia need extra Birr 1000 to get a liter of milk per month after covering their basic expenses. Recent reports suggest the Ethiopia's annual gross milk production stands at 5 billion liters. This is insignificant when compared to USA 91.3 billion and that of China 36 billion.

Addis Chamber: How about animal feed?

Wondyrad: The price for milk is increasing at an alarming rate because of the sharp increase in the price of animal feed. Our farmers are not used to producing animal feed as source of revenue. If they were given training for a few days they could supply animal feed and help themselves and that would lead to the gradual fall in the price of milk at least for now.

Addis Chamber: The Addis Ababa Chamber of Commerce and the Confederation of Danish Industry are supporting the sector. What do you say about this?

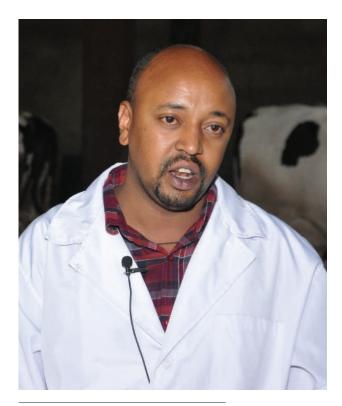
Wondyrad: Yes they are helping us, the private actors. They organize forums where we can raise and articulate our issues and concerns so that we can influence policymakers. The Chamber is closely working with us facilitating researches and symposiums. The Chamber has established a separate forum called the Dairy Platform, where we get together and discus our issues. It is a privilege for us. We are grateful for the facilitation by the Chamber and the Confederation of Danish Industry (DI). But as to the project, we prefer that the project idea in the future should come from us —the actors, farmers, processors but not from donors.

Addis Chamber: Thank you for your time.

Wondyrad: Thank you very much.

The Unheared Voices of Dairy Farmers

Berta Dairy Farm



BY: Ashenafi Mitiku

Ato Zelalem, who is the deputy manager of the Berta dairy farm, says that the long fasting season is affecting their business as well as the dairy industries operating in Ethiopia at large, adding that after the fasting season the agro-industry processes up to 8000 liters of milk per day.

He also says that the Ethiopian dairy sector currently faces numerous challenges that encumber the dairy business mentioning shortage of feed as leading challenges. Currently, farmers cannot get enough milk due to lack of feed for their cows. And unless animals get proper feeds, it is difficult get the expected milk supply.

On the other hand, the dairy industry during the long fasting season distorts the market and this further diminishes the demand for milk in addition to interferences from brokers who have adverse effects on dairy value chain. Quality as well as the issue of

adulteration in particular needs closed monitoring and practical measures have to be taken to curb it. The prevailing gap in qualified skilled manpower in the dairy sector, more specifically the shortage of laboratory technologists, and the inadequate supply of spare parts for agro- industries and the low level of milk consumption need to be urgently overcome.

As a way forward he suggested the need for carrying out researches in the sector and practically implementing the study findings. He also stressed the need for establishing a more vibrant and unified agro industries while strong cooperative unions should be created so that they that can serve the flourishing agro-industries.

Correspondingly, dairy farmers should receive appropriate training on how to store manure and feed the cattle properly. Actors along the entire value chain need appropriate communication, promotion of technologies and supply of spare parts. In conclusion, since the dairy sector is at its infancy, more attention should be given to it so that it can grow and flourish in order to meet consumers' needs and those of the country at large.



Workers Operating at Berta Dairy

Loni PLC.

Loni plc has started milk processing in 2013. It used to collect milk from the local farmers and supply to its sister company in Addis. Currently Loni is producing between 5,000 to 6,000 liters of milk daily. The major suppliers are individual farmers who are also engaged in crop production. In addition many dairy businesses prefer the town of Sululta for it altitudinal benefit that is 2500-2600 meters above sea level, which is an ideal location for cattle rearing and milk processing business.

'Loni' looks at the problems faced by the milk processing industries, as difficulty to import modern machineries, accessories and spare parts. Modern machineries are indispensable for quality milk products such as quality cheese, yoghurt, butter with a range of varieties and flavors. And vet. diary machineries and chemical manufacturers are globally few in number. The company, therefore, have to wait for a month or more to secure foreign currency need for importing these technological inputs. On the other hand, explained difficulties in securing spare parts after it had imported for milk processing industries as a result of which a number of its milk processing machineries were left idle. Therefore, recommends for government to play a greater role in alleviating these bottlenecks.

When it comes to relations with local farmers, "we do have a positive relationship as we are also involved in discharging our corporate social responsibility in areas where diary producers are engaged. For instance, our social responsibility activities consist of not only in sharing the water wells among dairy producers but also developing and encouraging the saving habits of local framers whenever payment is made". Loni further explains the main challenges of the sector as described in the following pargraphs:

There is absence of a legal framework for regulating production up to the state of delivery as the key challenge of the dairy sector. Similarly, there is no rule for milk safety management system. Most of the local farmer are producing in line with tra-

ditional practices due to inadequate level of skills. There are about 30 companies engaged in diary business, some of them involved in the supply of chemical inputs for processors like us. We produce a range of creams and cheeses such as Mozzarella. Our packaging materials are of the best quality, but we cannot import them easily due to foreign currency shortages. The dairy sector suffers from inadequate skilled manpower and professionals like micro -biologist.

If we look it at the neighboring Kenya, the situation in the dairy sector is very different from ours. In rural Kenya, farmers are trained to produce and supply inputs for milk processing industries. Secondly, Kenya's dairy sector is more advanced than ours. This is particularly true for modern machineries and processing lines. The consumption pattern of milk in Kenya is more diversified and innovative.

As far as logistic support is concerned, the government has a lot to contribute in terms of access to the roads, creation of market opportunities in addition to awareness creation among local framers mainly in milk safety and management which are key to modernizing the sector.

Family Milk



Established in 2005 in Addis Ababa Lafto area, Family Milk is at the forefront of developing dairy business in Ethiopia that envisions being competitive in supplying milk and milking products to the local and international markets.

The untapped cattle resource of Ethiopia, combined with ample market have allowed owners of family milk to run their business, says Hailu Eshetu, general manager at Family Milk.

With the current production capacity of 48,000 liters per day, the company created job opportunities for more than 50 people, predominantly professionals in the agro-processing sector.

By Producing variety of products, including milk, yogurt, butter and cheese, the company provides trainings to farmers in dairy management that intend to boost milk production and productivity. However, things did not proceed as anticipated, says Hailu Eshetu, general manager from Family Milk.

Recently, the company unveiled the Ultra-High Temperature (UHT) technology, a state- of- the- art technology in the dairy sector that allows the company to sterilize raw-milk heating it up to 135 degree centigrade. This in turn lengthens the shelf life of milk to last up to six months.

Hailu also outlines the ensuing challenges facing the dairy industry in Ethiopia; some of which includes lack of foreign currency to import qualified tagging materials that are essential to label the export milk items

According to Hailu Eshetu, Ethiopia is categorized among the last in terms of milk products. Compared to Kenya, where a person on average gets 109 liter of milk per year, Ethiopia's figure with only 19 liters per year and per person is very low. This calls for an urgent need to create a more vibrant dairy industry in Ethiopia.

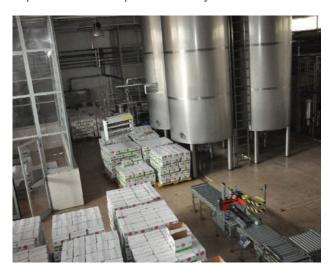
As far as Family Milk is concerned, the company

BUSINESS CASE ISSUES

obtains its milk supplies from Amhara and Oromia regions as well as from Addis Ababa. Unions that collect milk from the rural areas are the major sources of supply for our company, says Abraham Mechal from family milk.

In order to mitigate the hygienic problems, Family Milk, in collaboration with SNV, has distributed milk cans to farmers in milk producing areas of Ethiopia so that farmers can distribute milk safely, says Abraham Mechal, deputy manager of Family Milk. However, there is inconsistency among milk farmers in using the distributed milk cans as many prefer to use plastic jars, further explains Abraham.

Recently, Family Milk has launched a new product known as long shelf, a kind of milk product that stays fresh for up to six months. This is found out to be an ideal solution for countries like Ethiopia where there exists a long fasting season. However, the production and distribution of the new product has stopped due to absence of foreign currency to buy the labeling material from abroad, says the general manager. "We don't have competitive labeling producing companies in Ethiopia and that makes the export business unpleasant." Says hailu.



Other challenges of the dairy sector businesses like ours include power outage and fluctuation that damages our machineries for which we cannot find spare parts locally, said Hailu, adding that shortage of water and road infrastructure as still the major challenges to be address by the government.

Abraham Mechal, a deputy manager at Family Milk went on to say that milk suppliers are not assisted by professionals who can support them to undertake their job effectively, adding that many of milk suppliers collect milk in unsafe ways.

Ethiopia should learn from Kenya says Abraham indicating that the Kenyan Dairy Board is doing its level best to support the Kenyan dairy farmers to be productive and effective in dairy production. He also said that the Kenyan Dairy Board collects money from milk producers that will be reinvested on dairy farmers so that they have access to cooling plants, animal hygiene facilities and other important facilities. More astounding in the case of Kenya, Abraham said, is the fact that the Kenyan ministry of education provides milk for Kenyan children to produce a healthy society that can serve the nation well, urging stakeholders in Ethiopia to learn from the Kenyan experience.

Hailu suggests the formulation and implementation of strong policies and regulations in Ethiopia if a competitive dairy sector is to emerge in the country. These policies and regulations will help the formal milk markets to do better in the future, says the general manager.

Abraham Mechal on his part recommends for more investment on farmers so that milk supply can be enhanced that eventually bring more production and more supply. The government too has the responsibility to look after the safety of milk products that are distributed to the communities, says Hailu, calling for practical actions to be taken against the factors that impede the growth of the informal market, and threaten the dairy industry in Ethiopia.

The provision of animal feed at affordable price, and decent working place must be created, says Abraham, adding that maintaining milk quality must be a prerequisite for entering the global market.

Concluding his remarks, Abraham said that there an urgent need for more partnership between the private sector and the government because they are working for the same objective, that is to say, for the development of the dairy sector.

THE DAIRY PLATFORM

Although Ethiopia is a country with the largest livestock population in Africa, the dairy sector is underdeveloped. Moreover, there is a huge gap in the supply side of milk production and processing which have multiplier effects on the demand side.

The key challenges faced by the dairy sector can be indicated as being weak link with the research institute, inadequate skilled manpower, poor fodder production, inadequate supply of animal, weak supply of accessories, fragile links between the stakeholders. In addition to that, the rising cost of animal feeds is one of the factors responsible for the presently escalation the price of milk.

On the other hand, the production of animal feeds could be additional source of income for farmers. There is therefore a need for comprehensive policy revision around this issue and dialogues between farmers, government agencies, professionals along the value chains so that the sector would be revamped.

In developed countries the dairy sector is one of the major contributors to their GDP. For instance, countries like New Zealand, Germany, USA, the Netherlands, Russia and others have generated USD 27 billion in 2018. In addition more than 55% of world milk supply comes from Europe. Similarly, New Zealand accounts 20% of world dairy exports. In case of the US, the minimum wage (13 USD /day) allows people to afford milk and milk products on a daily basis. Based on a recent report, Ethiopia's annual milk production which is 5 billion liters, is insignificant compared to those of the USA and China of 91.3 and 36 billion liters respectively

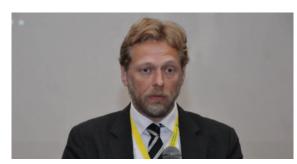
As far as support to the dairy sector is concerned, the Addis Ababa Chamber of Commerce and Sector Associations (AACCA), together with the Confederation of Danish Industry, have established a dairy platform where issues and concerns are upraised and the outcomes can be used as inputs for influencing policy makers. At the end of the day, the project ideas should initially emanate from actors in the dairy sector rather than from donors.



Confederation of Danish Industry (DI)

Interview:





Jacob Kjeldsen, Director, International Busi-

BY: Ashenafi Mitiku

At present, AACCSA is undertaking numerous activities to create a vibrant economy as well as promote private sector development in Ethiopia. Among the key issues entertained by AACCA, policy advocacy is the leading activity. As part of its strategic partnership, Addis Chamber has established ties with international organizations like the Confederation of Danish Industry (DI) since 2013.

Recently, Addis Chamber and DI have signed an agreement focusing on strategic partnership with the objective of alleviating the bottlenecks constraining private sector development in Ethiopia.

Director of the DI, Jacob Kjeldsen said that there is a huge potential for dairy production in Ethiopia, adding that the sector is facing numerous challenges across the entire value chain that affects farmers, agro-industries up to milk consumers.

Continued efforts are required from all stakeholders such as Addis Chamber, in order to improve the situation in this particular area, said Jacob adding that lack of finance, issues of taxation, and access to ingredients need to attract due attention and discussion by policy makers and other concerned bodies.

Currently, there are several Danish companies that have linkages with Ethiopian companies in supplying raw materials such as ingredients and equipment to develop the dairy industry in the country. "If we work diligently with Addis Chamber, we have a better chance to transform the dairy sector ." concludes Jacob.

This partnership primarily helps Addis Chamber and the

"We work with similar chambers of commerce like Addis Chamber that help the private sector have a strong voice in its dealings with policy makers and other stakeholders as well to create a conducive business environment in these countries."

Says Gry Saul, an advisor from the DI.

private sector in general to be vibrant and competitive as well as foreign companies like the Danish one, that will get business opportunities in agro- industries and other sectors, says Jacob.

The cooperation between Addis Chamber and the Confederation of Danish Industry is decisive in creating more jobs in Ethiopia as well as help attract FDI from Denmark, Gry Saul further explains. Gry Saul also noted that this kind of cooperation and partnership will support Ethiopia's journey to achieve the sustainable development goals (SDGs) of the country. The two institutions have shown great interest to work on innovative ideas and solutions that will alleviate the challenges and shortcomings of the private sector in the years to come.

Global Alliance for Improved Nutrition (GAIN)



Interview:

Hana Yemane,Senior Project Manager, GAIN

BY: Ashenafi Mitiku

Access to Better Dairy products involves in all dairy value chains, from production to consumption.

Addis Chamber: Tell us all bout GAIN projects

Hana: It is a Swiss-based international organization. GAIN is the abbreviation for Global Alliance for Improved Nutrition. GAIN is working in Africa, Asia, North America and Europe in nutrition and nutrition sensitive programs. We are implementing a project called GAIN Access to Better Dairy in Ethiopia with the Addis Ababa Chamber of Commerce and other partners. It is a three-year pilot project we started in Sululta Woreda, north of Addis Ababa.

Addis Chamber: What are you intending to achieve by implementing GAIN?

Hana: Our objective is to improve the culture of year –round consumption of dairy products in general and providing these products for children in particular.

Addis Chamber: Who are the target groups of this project?

Hana: Our main target groups under the pilot project are children aged between 3 to 7 years.

Addis Chamber: Why do you focus on that that age group?

Hana: Children in this age group are not expected to consume breast milk and need more attention to get milk products. In the Ethiopian context, demands for dairy products and prices are fluctuating during fasting

and non-fasting seasons. Since children under 7 years are not entitled to fast, this project will bring them suitable and nutritious dairy products into the market.

Addis Chamber: How are you going to achieve the objective of better access to dairy products and what does it look like at the end of the day?

Hana: We are trying to produce 80 mm vitamin and mineral fortified and affordable yogurt for children. How is that possible? GAIN and its partners are working with the local farmers and processors to achieve this objective. Capacity building training has been given on how to produce and manage milk at household level. We also work with milk processors or diary companies. We started working with a private dairy company called LONI Agro Industry to process the prototype yoghurt product.

Addis Chamber: Why did you choose LONI from among other dairy producers in Sululta?

Hana: LONI Agro Industry is selected on voluntary basis and according to their capacity. The fortified yoghurt product we are planning to produce needs investment, professionals and inputs. That is additional cost for any company willing to buy the project idea. So LONI Agro Industry was willing to make additional investment for the purpose of producing improved yoghurt at once. That is not all, the recipe, including ingredients of the new fortified yoghurt was designed by Arla Foods Ingredients, a company based in Denmark. One of the world's leading nutrient producers called DSM is supporting us in formulation of the micronutrients to

PARTNERS' VIEWS

be added to the yoghurt. Therefore, GAIN participated from the very conception of the project idea to capacity building, product customization, market surveys, and designing easy and affordable packaging, product branding and promotion.

Addis Chamber; But the quality of milk starts at household level for farmers.

Hana: It is true; all the stakeholders in the value chains had been taken care of. While designing the project, each and every component and activity was spelt out with corresponding budget source, implementing partners and monitoring and evaluating tools. Yes, Dan Church Aid and its partners are giving capacity building activities to the selected 400 farmers in productivity, quality and safety milk production at their homesteads and linking them with the market, Loni Agro Industry in this case.

Addis Chamber: What does capacity building for farmers consist of?

Hana: These partner organizations as are training those farmers as to how to produce improved animal feeds, cattle handling, hygienic milk handling starting from production all through to consumption/transportation and establishing milk collection center.

Addis Chamber: How about Addis Chamber and the Confederation of Danish Industry (DI)?

Hana: DI and the Addis Ababa Chamber of Commerce and Sector Association (AACCSA) are jointly organizing platforms, whereby dairy companies and streamlined public authorities make dialogues over policy issues surrounding the dairy sector. Addis Chamber is supporting the process through advocating challenges faced by private dairy companies and the legal and policy matters surrounding the sector as a whole. They advance our major concern of promoting Ethiopian dairy products that are to be accessible to children in particular and the public in general. This is because domestic policy and legal arrangements are very important to succeed and ensure sustainability for our project. In addition, CDI supports Loni Agro Industry in developing a business model for the fortified yoghurt.

Addis Chamber: What more is needed from government then?

Hana: We would like the government to revise tax and customer duties on imported equipment's, machineries and ingredients. That will encourage more diary companies to enter a fortified yoghurt business. That will also have a positive impact on overall price and affordability of dairy products. That will definitely help expand our prototype to target children from the rest of the country. So, the government is really important. Addis Chamber is also involved in this regard. For instance, if those equipment and ingredients are imported tax and customs free, poor children can get enriched yoghurt at low price.

Addis Chamber: Where are those children to test the first fortified yoghurt?

Hana: The pilot project is being implemented in Lideta and Kirkos sub-cities, to expand largely throughout the city when it is scaled up. Therefore Access to Better Dairy project involves all value chains, from production to consumption.

Addis Chamber: How many children can drink yoghurt and how much?

Hana: We are planning to provide every morning about 10,000 children with improved yoghurt when the project will be scaled up.

Addis Chamber: How is it going so far?

Hana: We have conducted test production with LONI Agro Industry and samples are tested by the consumers both children and mothers. The response was very good and positive. People liked it; and we all are encouraged by the feedback. The test product has come out with two flavors that mothers and children liked very much

Addis Chamber: And what is your plan B?

Hana: Now we are working on the standard setting and registration in order to push the product into the market. Once Loni Agro Industry ensure the licensing and registration process we are planning to scale up the production volume and distribute about 2000 servings to selected schoolchildren every week for one school year alongside the school feeding programs.

Addis Chamber: We wish you every success

Hana: Thank you.

THE WHITE GOLD SECTOR: MAJOR CHALLENGES AND THE WAY FORWARD

Ethiopia is well-endowed with a conducive environment for livestock production, such as abundant water, vast land, adequate human resource, and favorable climate. According to the 2016 report from the Central Statistical Agency (CSA), the country had a total livestock population of 57.83 million; while the female cattle constituted about 55.38 percent. It ranks 1st in Africa and 6th in the world in cattle population. Statistical reports also showed that, the country has ample livestock resource for a successful dairy industry. The aggregate value of the dairy industry in the country constituted 9.4 billion birr. There are a total of seven million households engaged in the industry at various levels.

The production volume of milk has been increasing steadily in the last decade, and has tripled in the last fifteen years. At this time, the annual production of milk has reached around 3.3 billion liters.

However, despite the availability of a conducive environment for an increasing population of livestock, the dairy sector is characterized

by low level of productivity, high production costs, input constraints, and low per capita consumption in comparison to other countries. Traditional animal husbandry practices; small scale livestock husbandry, inadequate access to quality and affordable feed, and limited technology have resulted in low levels of production and productivity. Only 3 percent of the dairy products available in the market are produced with modern technology. On the contrary, in the last 15 years, Kenya, has achieved a level of milk production sufficient not only to meet the requirements of the domestic market, but also for export.

Although there are many opportunities for farmers and entrepreneurs, the sector has been facing a number of challenges that have greatly constrained its growth. Thus, AACCSA has decided to bring the issues and alternative solutions to the attention of all the stakeholders with the aim of helping the sector make a significant contribution to poverty alleviation and nutrition, economic growth, agro-processing, export, and employment creation.

Synopsis of Issues and Challenges

The Ethiopian dairy sector is evolving but not to the level of its potential mainly due to various challenges. Major issues and challenges of the sector are as follow:

- Low production, productivity, and quality: the level of production, productivity, and quality of dairy products is low. It is obvious that, farmers in Ethiopia own a few cows, approximately three or four per household. Since their husbandry practices are traditional, they result in low production and poor standards. The quality and quantity of milk produced by each cow is highly deficient. Modern technology and practices for dairy cow hygiene, sterilization, chilling and standardizations of dairy products are not largely available. Milk from cows treated with antibiotics, is brought to the market for sale, thereby creating serious health hazards. Quality assurance for dairy products, such as packaging, laboratory testing, etc. are not available in local or traditional markets.
- High cost of production: The costs of production of dairy and dairy products are high compared to other countries such as New Zealand for instance. The cost of production is elevated due to the high price of inputs such as feed, dairy products packaging materials, and expensive imported ingredients. Traditional farming practices, small number of cow ownership, limited availability of affordable and improved dairy cow breeds, inefficient veterinary services, and limited entrepreneurship skills have also contributed to the high cost of production.
- Limited access to quality and affordable feed:
 Limited availability of feed is one of the major constraints facing the dairy farmer. The supply of quality feed is not satisfactory. The shortage of feed can be a result of drought or inadequate bi-products. Other than green fodder, feed comes from bi-products such as sugar. Moreover, feed shortage results from discontinued or inadequate production of feed, as it is difficult to import premix of feed due to shortage of foreign exchange.

With regard to feed, its quality is compromised due to antibiotic medication for parasites that is also present in feed and dairy products.

The increasing prices of feed and poor marketing system are also major challenges of feed supply. Sometimes, the price of byproducts for feed is higher than agricultural products. The hoarding of feed also contributes to its high price by creating shortages. The price of feed usually increases due to unnecessary costs that imposed by illegal brokers or feed traders.

- Limited access to land: Shortage of adequate land for husbandry, dairy cow breeding, production of feed, and investment and business expansion in the sector is also a serious constraint. Unavailability of land for rent, which is prohibited by government legislation, and limited availability of technology needed for a more efficient dairy farming practices are among the challenges entrepreneurs usually face.
- Limited access to finance: Limited access to credit for producers and processors in the sector is another critical shortcoming. Dairy farmers find it difficult to secure working capital for buying dairy cows, fodder, or to invest in housing facilities for cow rearing. Dairy processors also face challenges to get adequate credit for investment and business expansion.
- Problems in relation to input supply: Limited and high-priced improved dairy cow breeds are provided by government and private suppliers. The price of milk containers is high and the packaging of milk products is not up to the standards. Sometimes pesticide packages are used as milk containers. This is obviously very dangerous for public health. There are also limited professionals in the input supply sector.
- Limited utilities provision: Dairy farmers and processors find it difficult to properly preserve dairy products due to limited power supply and frequent outages. In addition, limited electrifica-

tion in rural and urban areas, access to clean water is also challenging.

- Need-based policy, capacity building and research: It is essential at this stage, to work out a clear policy for enhancing the performance of the sector by addressing the key challenges. Capacity building and specific training for stakeholders in the value chain, such as dairy farmers, traders, processors, and professionals are essential. Professionals should have to be trained in accordance with the specific needs of the sector. Moreover, the sector research programs and undertakings should be undertaken in response to the needs of dairy farmers and to unravel the sector problems.
- Limited enforcement of quality products and standards: Due to traditional collection of milk from different producers, the quality of milk is low as there is frequent adulteration with different substances especially among small farmers. There is limited preservation mechanism or method for dairy products. Limited enforcement of quality and standard assurance and monitoring by concerned organs has been observed.
- Inadequate supports and incentives: There is limited support or incentive to enhance the scale of production per dairy cow and this has obviously made it impossible to compete with subsidized imported dairy products.
- **Taxation:** The practice of double taxation, inappropriate Value Added Tax (VAT) on inputs and products of dairy such as, packaging, yoghurt etc. is the rule rather than the exception. There is no VAT for flour, but there is one for animal feed bi-products and this is not a rationale practice. In the absence of legal traders and formal marketing, feed sellers do not issue receipts and this creates problem for buyers during audit. This situation is further aggravated by the audit practices of the Ethiopian Revenue and Customs Authority (ERCA), which requires feed producers to pay tax including penalty and interest in every five year of auditing while they are not issuing receipts. What makes the issue more unfair or inconvenient is the fact that ERCA does not accept the financial statement reports of external auditors.

Thus, finding a solution to the receipt as well as for the audit is essential.

- Lack of a responsible organ: The absence of a responsible body to advise the sector on policy matters, avoid double taxation, promote veterinary services, ensure quality and standard, and deal with input and marketing issues is also one of the major hurdles.
- Absence of modern marketing system: There is lack of modern marketing for dairy to ensure quality and standards.
- Limited veterinary services, vaccination and related regulations: Veterinary services are mostly provided by government agencies with limited quality and efficiency and the role of the private sector is not satisfactory. The absence of effective regulations for the administration of vaccines has sometimes led to dairy cows being injected with unknown or expired drugs; as a result of which they either die or transmit the diseases to other cows. Moreover, there are no rules regulating the role of the public and private agencies in quality control, veterinary services, medication, and vaccine administration.
- Low consumption: The demand for milk and other dairy products in Ethiopia is very low compared to other countries. The per capita consumption of milk in the country is less than the average consumption level in Africa. Religious fasting seasons, low awareness of the health benefits of milk, and unaffordable prices of milk and dairy products by low-income communities have contributed to low consumption. These factors in turn contributed to wastage, as dairy products are perishable by nature.

Recommendations

Taking stock of the above challenges in the dairy sector, the following are the major recommendations:

- Increasing production and minimize the cost of production of dairy products through modernizing livestock husbandry practices, using improved dairy cow breeds, providing better veterinary services, supplying affordable inputs such as feed and minimizing costs at each stages of the value chain. This can be achieved partly through coordinated actions, monitoring and evaluation of the sector. Modernizing the agriculture sector to deliver more feeds at lower market prices and increasing supply of inputs for feed processors is also advisable. Here, the private sector shall be part of the solutions and would play a significant role in the growth of the sector.
- Addressing quality constraints by enforcing standardization, including acceptable levels of aflatoxin, quality control, safety of feedings, vaccine, etc... through quality control government agencies and non-government partners. Combating quality constraints such as aflatoxin and implementing effective regulation on vaccines, pre-mix etc...is also recommended.
- Producers and processors need to build capacity and take responsibility to ensure the quality and safety of their products. They also need to have their own laboratories for their respective functions or establish a central laboratory for the entire sector. The Ethiopian Standards Agency will have to implement enforcement mechanisms to control and keep the level of aflatoxin in dairy products within acceptable levels. It will have to put in place rules to regulate quality control of dairy products. For this purpose, involving the private sector in animal health care is of critical importance. Private sector operators need to be competent enough to introduce new technologies, skills and techniques with a view to modernizing the diary sector in general.

- Ensuring access to credit for all operators in the sector is of crucial importance. This would be achieved by mobilizing financial resources and introducing a sector-specific commercial bank for investment or the availability of working capital for the purchase of improved dairy cow breeds and for other related purposes. On the other hand, the Development Bank of Ethiopia (DBE) will have to widen lease financing or project financing for actors in the dairy sector as well as ensure access to foreign currency to import feeding ingredients and pre-mix.
- Providing sustainable solutions, like the establishment of an integrated agro-industry park to overcome problems such as the availability land will have to be considered. This will be a critical input for improving access to land or ranch through lease or other means for husbandry, cow breeding, the production of animal feeds and the processing of dairy products
- Although, electricity production is increasing, grind electricity distribution must improve. Based on feasibility studies, producers and/or processors need to have their own power supply lines from the national grid.
- Addressing supply side constraints of the sector, through privatization of ranch, by addressing breeding policy issues, ensuring access to affordable packaging and ingredients, introducing hybrid and improved veterinary services for better productivity or output.
- Resorting to import substitution alternatives and duty free privileges so that imported equipment for dairy production can be produced locally. Duty free privilege shall be instrumental for inputs such as feed ingredients and pre-mix.
- Ensuring support and incentive for private sector operators engaged in the production of feed whether for expansion or for new investment. Improve the capacity of production and productivity

of feed producers by addressing their challenges. Provide incentives to involve the private sector in improved breeding to overcome the shortage of better breeds. Guarantee sustainable support for associations in the sector, in the form of capacity building, finance, and working premises.

- Ensuring supports and awareness creation for entrepreneurs, on the availability of duty free hold track, soliciting financing, and availability of the seven proposals in Ethiopian Meat and Dairy Association website etc.
- Providing capacity building to actors in the value chain: training and capacity building to experts and entrepreneurs. Technical and Vocational Education and Training (TVET) and universities specialized in dairy processing technology, like the Mekele University, shall provide technological solutions and undertake problem solving researches. Provide demand-driven training on production of dairy products, processing and marketing. Thus, stakeholders' involvement, including academicians to solve the sector problems is decisive.
- Introducing modern commodity exchange market for feed and livestock products. This will help address the quality and quantity constraints. Here, less government intervention is important as some problems will arise as a result of market failure. Legalizing the activities of brokers is important, as they can help overcome information asymmetry.

- Eliminating double taxation, VAT payment and excessive customs duties on feed mill ingredients.
- Establishing cooperatives of farmers and associations and ensure sector-based legal and institutional integration. The introduction of an integrated legal and institutional framework from agriculture to consumption and the establishment of a task force committee to address problems collaboratively is highly recommended. Ensuring integration among government regulatory and supporting bodies, non-governmental agencies, sector supporting institutions, and sector associations is also important. Furthermore, building the institutional structure and outlining its duties and responsibilities would prove decisive for the development of the sector.
- Establishing and running a functional dairy platform, a dairy board or steering committee: the task of establishing and running a functional stakeholders platform for networking, policy deliberations on strategic matters, issue identification, the exchange knowledge and experience, to avoid duplications of efforts, and to coordinate efforts to address the prevailing constraints in the sector is a must.



References

AfDB. (2012). African Economic Outlook.

http://doi.org/10.1017/UP09781846157769.009

Ahmed, M. A. M., Ehui, S., & Assefa, Y. (2004).

Dairy Development in Ethiopia. Washington, D.C.: IFPRI- EPTD

Analysis of value and barriers for fortified Dairy Products in Ethiopia",

2018 , Addis Ababa Chamber of Commerce secretariat Association .

Ashraf et.al , Imam, M N Zadeh, and Laxmi Rani Dubey, Dairy Marketing Strategies in the Context of Globalization:

Issues and Challenges, International Journal of Trade, Economics and Finance, Vol. 2, No. 2, April 2011

Agriculture Samplesurvey, 2011/12-2017/18

Challenges, Opportunities and Prospects of Dairy Farming in Ethiopia:

A Review, Tadesseet al , 2016.

Dehinenet, G., Mekonnen, H., Kidoido, M., Ashenafi, M., &Bleich, E. G. (2014a).

.....

Factors influencing adoption of dairy technology on small holder dairy farmers in selected zones of Amhara and Oromia National Regional States, Ethiopia. Discourse Jouranl of Agriculture and Food Sciences, 2(5), 126–135.

Ethiopia livestock master plan. ILRI Project Report,2015 , Nairobi, Kenya:

International Livestock Research Institute (ILRI).

Ethiopian Second Growth and Transformation Plan (GTP-II), 2015/16-2019/20

.....

Felleke, G., Woldearegay, M., & Haile, G. (2010).

Inventory of Dairy Policy - Ethiopia.

FAO, Review of the Ethiopian Dairy Sector, September 2011

GAIN Access to Better Dairy project document,

Addis Ababa Chamber of Commerce secretariat Association.

Impact of Global Economic Crisis on LDC's:

production capacity and tread potential: Treats and Opportunity , Case study Ethiopian dairy sector, 2019, Viena.

Melesse, K., Jemal, J., & Melesse, A. (2013).

Factors affecting the level of adoption of dairy technologies in Ada ' a and Lume Districts , East Shoa- Ethiopia. Agricultural Science Research Journals, 3(8)(August), 237–243.

Value chin study on " Dairy Industry in Ethiopia", 2016,

Addis Ababa Chamber of Commerce secretariat Association .

Yu, B., Nin-pratt, A., &Funes, J. (2011).

Cereal Production and Technology Adoption in Ethiopia (ESSP 2 No. 31).

Dairy Sector Platform Meeting, Intercontinental Addis Hotel, July, 2018

Multi Stakeholders Dairy Platform Meeting, ElillyHotel, December, 2018

Nathaniel Makonin, et al, 2014, White Gold:

Opportunities for Dairy Sector Development Collaboration in East Africa,

Public Private Consultative Meeting on Poultry and Animal Feeds, Hilton Hotel, 2018

Rakesh Mohan Joshi, India's Dairy Exports:

Opportunities, Challenges and Strategies, Research and International Collaborations, Indian Institute of Foreign Trade.

Value Chain Study on Dairy Sector in Ethiopia, AACCSA, 2016

SNV.(2008). Dairy Investment Opportunities in Ethiopia,

TAM Consult, Netherlands Development Organization (SNV), Addis Ababa, Ethiopia.

