Dairy Investment Proposal

Gambia Investment & Export Promotion Agency

Business & Export Development Department

Contents

Country Brief

Background

- Gained independence in 1965
- Government type – Republic
- Capital – Banjul
- Mixed legal system of English common law, Islamic law, and customary law

Economy

- GDP in Purchasing Power Parity (PPP) is US$3.774 billion in 2011 (est.)
- GDP in real terms is US$1.1 billion (Official Exchange rate)
- GDP growth rate in 2011 is 5.5%
- GDP per capita in PPP terms is US$2,100
- Economy comprises of Agriculture, Industry, and Service sectors
- Agriculture accounts for 30% of GDP: Industry 15%; & Service 55%

Geography

- Situated in west Africa, bordering the North Atlantic Ocean and Senegal
- Total land area of 11,295 square kilometers
- 1,295 square kilometers of water bodies with 80 kilometers coastline
- Exclusive fishing zone of 200 nautical miles with continental shelf

People

- Population size of 1.8 million (est.)
- 0-14 year age group accounts for 405 of the population
- 15-64 year age group accounts for 56.9% of the population
- 56 years and over accounts for 3.1%
- Annual population growth rate is about 2.344%
- Literacy, defined as those of age 15 and over who can read and write
    - 40.1% of the population is literate
    - 47.8% literacy rate for males
    - 32.8% literacy rate for females

Global Dairy Overview

The global dairy market is vastly dominated by European, American, Australian, and New Zealand markets. It is easily one of the most distorted agricultural sectors because of the producer subsidies that are in place in many developed countries which encourage surplus production. Tariff and non-tariff barriers are erected both by developed and developing countries to protect their dairy sectors from competition. These distortions make it difficult for dairy farmers and businesses in developing countries to compete because of the imports of cheap subsidized EU dairy products.

Notwithstanding, the world's total milk production has increased by 32 percent, but world per capita milk production has declined by 9 percent, which indicates that production is not growing fast enough. Westernization trends in developing countries as well as increases in per capita income have led to increasing preferences for new value-added products which have generated market growth. Due to the limited growth opportunities in developed countries, large dairy companies in these areas are increasingly attracted to developing country markets where growth is strong. Local companies thus have to raise product quality and efficiency to be able to withstand foreign competition.

Local Value Chain

The dairy value chain in the Gambia holds tremendous value and has thus far been relatively under-developed. The market is flooded with cheap goods mainly from Europe and the Middle East which makes it difficult for local businesses to compete. However there exist opportunities in the local market which stand to be exploited.

Overview

The cattle population in 2009 was estimated at 432,000 heads by the Food and Agriculture Organization. About 20% of the cattle population can be found in the Greater Banjul Area and milk is the main product from cattle rearing.

The value chain can be classified into two systems:

- Traditional smallholder mixed farming system utilizing local N'dama breed which has low milk production potential.
- Commercial peri-urban production system based on crossbred cattle (local N'dama and exotic breeds – F1s) and imported pure breeds.

Traditional smallholder farming, which utilizes the local N'dama breed is relatively unproductive. A project relying on this methodology has its pros and cons:

Pros:

1. Animals are well suited to Gambian environment and can be let free to roam without fear of disease.
2. Investment costs are low.
3. Animals are cheap to acquire and breed.

Cons:

1. Farmer must rely on a large herd in order to realize profit due to slimmer margins per animal.
2. Large herd require large areas of land to be housed under.
3. Lower hygiene standards from hand-milking.

A larger mechanized farm with F1 or imported breeds:

Pros:

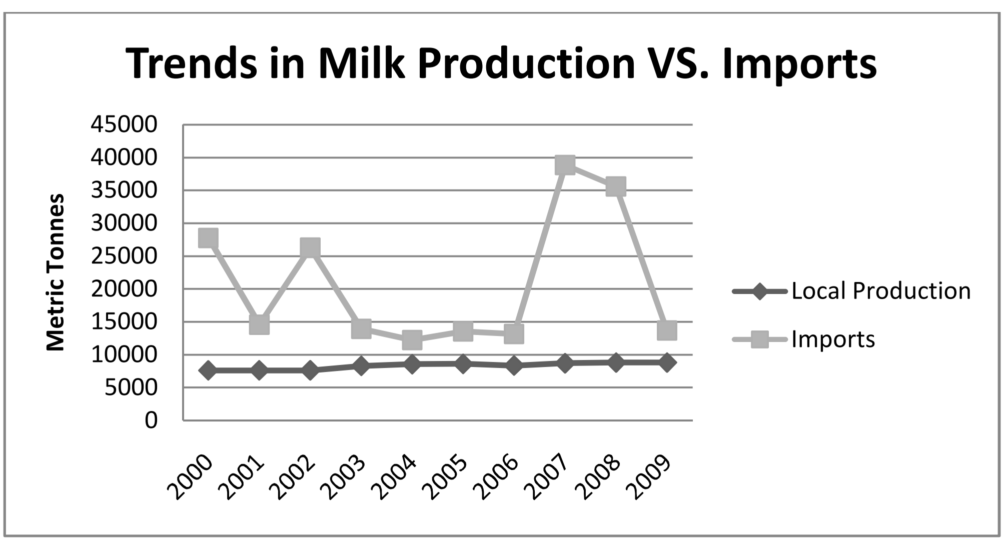
1. Larger margins per cow.
2. Mechanization translates to a more efficient and hygienic milking process.
3. Smaller farm size required due to higher yield per animal.

Cons:

1. Animals are more prone to disease since they are genetically unfit for tropical existence.
2. Much larger investment costs (milking parlor, pasteurization plant etc.).
3. F1 and pure breed animals are not available for sale in the Gambia and must be procured from Senegal.

The Market

The local production of milk and milk products has historically remained well below the imports of these items as depicted:



Local Preferences

There are three main dairy products that are sold in the Gambian market – raw milk, cream, and fermented milk, or soow (local dialect). Soow is the most popular dairy product in the Gambia and is the most widely consumed dairy product in urban areas – it can be produced either from fresh local milk or from imported milk powder.

Consumption of soow is highest during the rainy season when there is ample supply and prices are low. Consumer purchasing power is a determining factor of dairy product consumption – a liter of fresh pasteurized milk can cost 30-50 percent of a worker's daily wage, whereas a liter of reconstituted milk or soow costs half of this.

Soow is produced locally mostly by smallholder farmers and milk collectors who then transport it to the market. It is also imported from Senegal mainly. There is currently only one local competitor in the market that produces milk products on a large scale with appropriate packaging and hygiene standards. The other competitors are Senegalese companies that export to the Gambian market.

The competitive advantage of these local preferences is that this is one of the few places in the world with this preference. Thus, there is limited foreign competition at the moment.

Inputs

Labor

An important feature of a cattle farm is how the herd is managed. Workers in the commercial sector are generally remunerated in cash (or milk). The typical rate for a unit of labor is around D2,000 per month.

Feed

There are no feed mills that produce concentrate feeds and so commercial milk producers have to source all ingredients/crop by-products (mostly groundnut cake and rice bran) to supplement their animals. Mineral licks, mineral and vitamin feed additives and beer by-products are also used.

Artificial Insemination Services

Farmers requiring artificial insemination services must purchase their own semen and arrange the means of storage (liquid nitrogen). The key constraints are the inadequate access to and high cost of private services currently being offered.

Animal Health Services

The public services providers are the national Animal Health and Production Services and the Department of Agriculture staff at the regional level. The private services are generally provided by self-employed veterinarians and livestock assistants.

Institutional Linkages – Support to the Value Chain

Main Government Institutions:

- Ministry of Agriculture – this ministry is responsible for policy formulation, resource allocation, programming and overall coordination of the sector. It has oversight responsibility over the Department of Agriculture and donor funded agricultural development programs and projects.

- Department of Agriculture – The regional directorates of the DoA are responsible for the provision of extension and preventive health services to the producers.

- Animal Health & Production Services – this is a unit of the DoA serving as a technical advisory body to the regional directorates of agriculture in the areas of animal health and production. It has no responsibilities for direct service delivery to the actors of the dairy value chain.

- National Agricultural Research Institute (NARI) – this was established to conduct adaptive and applied research on crops, livestock, forestry, fisheries, and other natural resources to provide technological solutions for producers. The capacity of NARI to conduct livestock research, however, is limited.

- International Trypanotolerance Center – This was a center mandated to conduct research and development on trypanotolerant livestock and concentrated on the N'dama cattle. Although it ran out of funding, it is currently being overseen by NARI with the hopes of renewed funding.

- Private Veterinary Service and Input Suppliers – All the self-employed veterinarians are located in the Greater Banjul Area, and input suppliers lack outlets in rural areas. Village auxiliaries who are trained to handle basic animal health care issues at village level are also active in the field.

- Rice Mills – these are mainly located in CRR about 300km from Banjul. They are a source of rice bran which is a component of supplementary feeds for the intensive dairy production. There is competition between local and foreign buyers for the product.

- Groundnut Oil Processing Plants – There are two industrial plants located in the Greater Banjul Area. Farmers are able to source groundnut cake directly from the plants at about D5,300 per ton. Although availability is currently not an issue, quality is sometimes lacking.

Sample Turnover Table (Euros)

This is a scenario of a formal dairy UHT operation in which the one has implemented heavy investments such as housing for cows, milking parlors, storage tanks, pasteurization plants, etc.

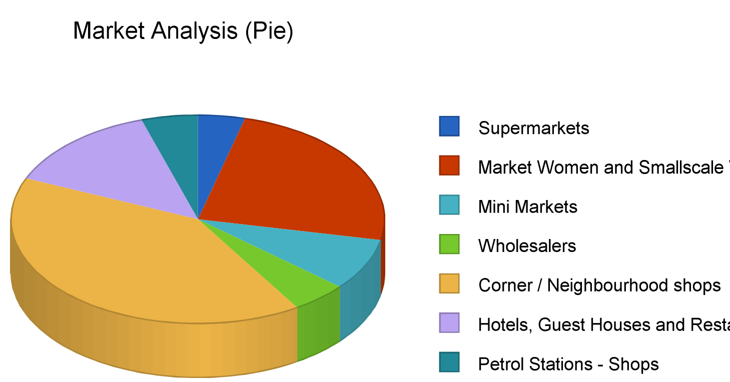
	Year 1	Year 2	Year 3	Year 4	Year 5
Turnover	1,417,500	1,677,375	2,227,849	3,197,893	4,310,420
Quantity UHT from milk from own cows Price per liter	657,000 0.90	675,000 0.95	1,046,250 0.99	992,250 1.04	1,395,055 1.09
Quantity UHT milk collected from local farms Price per liter	900,000 0.90	990,000 0.95	1,089,000 0.99	1,197,900 1.04	1,317,690 1.09
Quantity UHT flavored milk Price per liter	-	-	-	425,250 1.74	597,881 1.82
Cost of product/service Raw materials cost (feed etc.) Labor costs Technical Assistance Water and Electricity	1,392,688 947,638 78,300 95,300 70,875	1,400,018 1,042,270 82,215 29,700 83,869	1,848,199 1,435,150 88,041 111,392	2,638,294 2,081,836 95,443 159,895	3,540,600 2,822,285 100,215 215,521
EBITDA	87,812	277,357	379,650	569,599	769,820

For such a project, the calculated Internal Rate of Return (IRR) will be 27.3%. For the budget an annual increase of sales volumes of 5-10% will be expected in the first five years whilst a cow breeding program would be ongoing to enable the farm to produce enough milk to process into UHT. In the final years the quantity of cows on the farm would be up to the required level to have full production. Milk would be collected from local cattle farmers.

Market for Dairy Products

The list of targeted customer outlets:

1. Supermarkets – these are an established network of high end shopping platforms in the greater Banjul area that can be relied on to provide access to expatriates and high-paying customers.
2. Market Women and Small Scale Vendors – these vendors are already experienced at selling raw milk and soow to the general public. These vendors do not require sophisticated packaging and have good product-handling knowledge.
3. Mini Markets – this is a fast growing segment that provides access to the proliferating middle class economic community in the country. These are strategically located and have the facilities to carry delicate products.
4. Milk Wholesalers – these customers would be targeted as an import substitution strategy since they are generally responsible for the importation of UHT milk, powdered milk, and other dairy products and already have a market distribution network.
5. Corner Shops (Bitiki Narr) – Although these are challenging to supply due to the limited nature of their power supply, they are within reach of virtually every household in the Greater Banjul Area.
6. Hotels, Guest Houses and Restaurants – these are to be used to provide a meaningful linkage with the tourism sector since most of the products consumed in this sector are imported.
7. Petrol stations – just like supermarkets, these markets will be used for the traveling public, to purchase fresh milk products to and from work



Challenges and Opportunities within the Dairy Sector and Value Chain

The dairy sector is complex and presents a number of opportuntities for farmers and investors to take advantage of. Some of the current challenges in the Gambian dairy industry are:

1. Cold Storage: Refrigeration issues are a big challenge for such a sensitive and delicate product as milk. This is a particularly serious concern when one considers the need for milk to be kept at 4 degrees Celsius from the udder of the cow to the consumer's refrigerator – electricity is unreliable and expensive in the Gambia, this must be factored in.
2. Packaging: Packaging issues are of serious concern in the Gambia. Currently the only serious packaging that a commercial dairy producer could consider is located in Senegal. This is an added expense of transportation and customs duty fees.
3. Marketing challenges are very apparent, especially for small scale farmers in rural areas. There are no milk collection points, stationary or mobile, that they can sell their products too as is done in East Africa etc.
4. Like in several agri-business areas, there is inadequate financing for potential dairy projects. Virtually all financing in the Gambia is short-term, which is inappropriate for such a project that takes some time to see a return.
5. Inadequate veterinary services make it difficult for dairy farmers to invest in foreign breeds of cow that require special medical attention. The lack of appropriate medicines and expertise is a threat to the success of such a herd.
6. In many of the mini-markets and supermarkets where the majority of products would be sold, storage is mostly inadequate. Keeping dairy products at a 3-4 degree range is imperative and impinges on the shelf-life and quality of the product.
7. Prohibitive construction costs in the Gambia make it considerably expensive to build dairy factories for operation.
8. Dairy machinery and equipment is unavailable in the Gambia and must be imported from Europe or Asia.

Investment Proposals

Based on the above challenges, the following are investment proposals that we feel addresses the opportunities inherent in the Gambian value chain.

Informal Collection and Processing

The traditional milk producers in the Gambia sell both unpasteurized and sour milk to individual customers or to milk collectors. Milk is also sold directly to the market vendors, but only if the distances to the markets are short. Milk collectors travel far distances to collect milk from smallholder farms to transport to local markets. The farm-gate price of raw milk and soow ranges from D20.00 to D27.00 per liter.

A proposed investment would be for a collection and processing company that could operate two different types of investments or a combination:

i. A mobile dairy milking unit – this would be in the form of a fleet of mobile milking refrigerated trucks that would establish a vast network of informal smallholder farmers to collect from. These would be transported to the market to be sold wholesale or retail.

ii. A strategically located dairy processing factory – this would rely on milk collected from surrounding farmers. The farmers would have a guaranteed buyer and the investor would add value by processing and supplying the local markets.

Formal Large Scale Dairy Farm

Another option for investment is a larger scale dairy farm with a herd of imported breeds (Jersey and Holstein) complete with milking and processing facilities. Senegal is the closest market for these breeds and transportation to the Gambia is possible.

The proposed investment would require the heavy initial cost of housing the cows, procuring storage tanks, milking machines, and a pasteurization plant. The running cost of feeding cows and electricity to operate machinery would also be a factor. However, the returns would soon grow to outweigh costs especially given the natural exponential growth of the herd.

A final phase that would be achieved in the long term would be UHT (Ultra High Temperature) milk production. This requires a vast quantity of milk per day to be produced or procured.

Refrigeration

Investment in refrigeration/cold storage services at sale points across the Greater Banjul Area could be a profitable endeavor given the current situation. The most productive milking season also happens to be the hottest season which means farmers and vendors are under time pressure to sell their product.

Charging a small fee to store sensitive products would allow vendors to buy time and get the best possible price for their product.

An option to explore would be solar refrigeration which would circumvent the problem of prohibitive electricity costs.

Packaging Outfit

A multi-purpose packaging outfit would be an ideal complement to the dairy industry. As mentioned above the only option for any company wanting to hygienically package its products must source packaging materials all the way in Senegal. This is an expensive, time-consuming process that discourages many entrepreneurs from ever beginning a venture.

A packaging outfit focusing on dairy products would be a great complement to all the other investment proposals and can be adapted to several other industries. The demand in the Gambia is high for such a venture, and the national policy support for it is apparent.

Available Investment Incentives

Investment incentives are offered by the Gambia Government and administered by the Gambia Investment and Export Promotion Agency (GIEPA). Minimum investment of two hundred and fifty thousand US Dollars (USD250, 000) in priority sectors (Agriculture is a priority sector) qualify for a Special Investment Certificate (SIC). Holders of a SIC qualify for the following:

- Tax Holiday on Corporate or Turnover Tax (32%)
- Exemption from Depreciation Allowance calculations for tax purposes.
- Exemption from Withholding Tax on Dividend Payments.
- Import Sales Tax Waiver on importation of manufacturing plant, construction materials, and spares for a period of 5 years from date of signing an investment agreement.
- Import Sales Tax Waiver on importation of raw and intermediate inputs for a period of 5 years from the date of commencement of operations.

Further to the above incentives, SIC holders who are designated as Economic Processing Zones (EPZ) qualify for the below incentives depending on the percentage of manufactured products exported. Those exporting a minimum of 80% of their manufactured products within designated EPZ qualify for the following waivers:

- Import or Excise Duty & Sales Tax
- Import Duty on Capital Equipment
- Corporate or Turnover Tax
- Withholding Tax on Dividends
- Municipal Tax
- Depreciation Allowance.

Those exporting 30% of their products but below 80% within designated EPZ qualify for the following:

- Ten percentage points concession on Corporate Tax Concession for Five Years
- Financial planning and advisory services
- Participation in training courses, symposia, seminars and workshops on export promotion.
- Export market research
- Advertisement & publicity campaigns in foreign markets
- Product design & consultancy services

Investments located within an EPZ, irrespective of percentage of manufactured products exported, enjoy these incentives and benefits over an eight year period. Licenses entitling investors to these benefits are, however, renewable on a yearly basis under circumstances of evidence of compliance with the agreed guidelines of employment creation, export thresholds, and general EPZ protocol and statutes.