



# **The Small Ruminant Industry in CARICOM countries with particular reference to Jamaica and Trinidad & Tobago**

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**Prepared by**

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## **Table of Contents**

1.0 Introduction.....	3
2.0 The small ruminant situation in Trinidad and Tobago.....	5
2.1 Elements of the Government of Trinidad and Tobago’s Small Ruminant Development Strategy .....	11
3.0 The small ruminant situation in Jamaica.....	12
3.1 Elements of the Government of Jamaica’s Small Ruminant Development Strategy ....	15
4.0 Conclusion .....	19
5.0 Bibliography consulted .....	19

## LIST OF TABLES

<b>Table</b>	<b>Title</b>
1	CARICOM goat and sheep meat production, imports and consumption (kg) 2004.
2	Quantity of mutton and lamb – imports (MT) and value (US\$ M), production (MT) (2006 – 2010)- Jamaica.
3	Sheep population in Jamaica (2009/2010 & 2010/2011).
4	Goat production in Jamaica over the period 2006 – 2010.
5	Volume (kg) and value (US\$) of goat meat imported into Jamaica.

## LIST OF FIGURES

<b>Figure</b>	<b>Title</b>
1	Import value of small ruminant meat into Trinidad and Tobago (US\$ thousand).
2	Average population of goats and sheep in Trinidad, 2009 – 2011.
3	Cuts of lamb.
4	A proposed sheep/lamb industry value chain for Jamaica.

## **The Small Ruminant Industry in CARICOM countries with particular reference to Jamaica and Trinidad & Tobago**

[Paper presented at the Workshop on “Achievement of outputs on information collection, access and dissemination in the three CFC-funded projects on Protected Agriculture (PA), Roots & Tubers (RT) and, Small Ruminants (SR) held 17-20 September 2012, Crowne Plaza Hotel, Port of Spain, Trinidad]

### **1.0 Introduction**

Priority focus has been placed on the development of the local small ruminants industry by the Ministry of Agriculture and Fisheries, Jamaica and the Ministry of Food Production in Trinidad and Tobago because of the potential significant contribution to employment generation, foreign exchange earnings and or foreign exchange savings through import substitution, poverty alleviation and food and nutrition security. Towards this end, several development initiatives have been implemented to bolster local production. This discussion paper outlines the status and development of the Jamaica and Trinidad and Tobago small ruminants sector including recommendations for advancement. The content is a synthesis of presentations made at the Workshop on “Achievement of outputs on information collection, access and dissemination in the three CFC-funded projects on Protected Agriculture (PA), Roots & Tubers (RT) and, Small Ruminants (SR)” held 17-20 September 2012, Crowne Plaza Hotel, Port of Spain, Trinidad. The synthesis also includes information from newspaper articles and other research documents. The full listing of source material is presented in the references section.

The small ruminants sector is one of the fastest growing segments of the agricultural economy in many developed and developing countries, propelled by revenue growth and supported by technological and structural changes as well as an enabling environment. Development and transformation of this sector offer opportunities for agricultural development, poverty reduction and food and nutrition security gains. In recognising this and apart from the respective Ministries of Agriculture, several institutions also have active programmes which aim to support and further the development of the regional small ruminant industry. These institutions include the University of the West Indies (UWI), McGill University, the Inter-American Institute for Cooperation on Agriculture (IICA), the Food and Agriculture Organization of the United Nations (FAO), the Caribbean Development Bank (CDB), the Common Fund for Commodities (CFC), the International Development Research Centre (IDRC) and the Caribbean Agricultural Research and Development Institute (CARDI).

When compared to cattle, small ruminant production is much better suited to CARICOM countries with limited land space as a source of meat and milk. The animal management requirements are flexible and meet the capabilities of small farmers with limited resources, so much so that a common saying in the region is that the goat is the “poor man’s cow”. There is also a valuable broad genetic base existing in the region e.g. Barbados Black Belly which has desirable traits such as adaptability, prolificacy, year round breeding and tolerance to internal parasites.

In the global context, exports of small ruminant meat are dominated by New Zealand and Australia at approximately 64% and by Europe (mostly France) at 31%. Asia and South America account for 6% of world trade.

The consumption of sheep meat (1.5 kg/capita) in the region is twice that of goat (0.6 kg/capita) (Table 1). Ethnic, cultural and religious factors greatly influence consumption patterns. The regional market for sheep and goat meat can be characterised as being underdeveloped with supply and availability of quality meat being the main concerns. This has resulted in a high dependency on imports (up to 75% of consumption requirements) from countries such as New Zealand and Australia. Jamaica is the largest importer of small ruminant meat in the region, followed by Trinidad and Tobago.

**Table 1** CARICOM goat and sheep meat production, imports and consumption (MT) 2004.

<b>Commodity</b>	<b>Production</b>	<b>Imports</b>	<b>Total Consumption</b>	<b>Per capita consumption (kg)</b>
Goat Meat	2,592	1,770	4,362	0.62
Sheep Meat	1,076	9,518	10,594	1.50
<b>TOTAL</b>	<b>3,668</b>	<b>11,288</b>	<b>14,956</b>	<b>2.11</b>

NB: Data excludes Antigua & Barbuda and Bahamas

Source: Singh et al, 2006.

In terms of cost of production of small ruminants (Singh et al, 2006), feed accounts for over 50% and 25% of total costs of production on many sheep and goat enterprises, respectively. Labour is the second highest cost of production. In the region, cost of production for fattening sheep ranges from and US\$ 0.81/kg live weight in Guyana to US\$ 3.69/kg live weight in Trinidad and Tobago. The cost of local mutton ranged from US\$ 1.68/kg for Guyana to US\$ 8.35/kg for Trinidad & Tobago. The highest and lowest cost of production of goats was found in Jamaica under intensive and semi-intensive systems respectively. Cost of production ranges from US\$ 2.47 to US\$ 3.83/kg live weight. Costs of locally produced goat meat in Jamaica ranged from a low of US\$ 4.27/kg of meat to a high of US\$ 8.66/kg. The estimated cost of goat meat derived

from the two production models in Trinidad & Tobago was US\$ 7.54 and \$ 6.75/kg with the higher cost of production being attained under intensive systems of management.

In terms of price competitiveness compared to the imported product, the study found that Guyanese sheep producers are the most price competitive even though marginally, and Trinidad and Tobago producers are by far the least competitive.

In the case of goats, one semi-intensive goat production model in Jamaica showed some marginal competitiveness. All other countries in the study (Trinidad and Tobago, St Lucia and Jamaica) were uncompetitive. It was generally felt that competitiveness is not only influenced by production technologies employed or breeds used but is more affected by management practices including herd health, housing, and quality of supplements.

Most Caribbean countries with the exception of Guyana may find it difficult to compete with the imported small ruminant product on the basis of price alone.

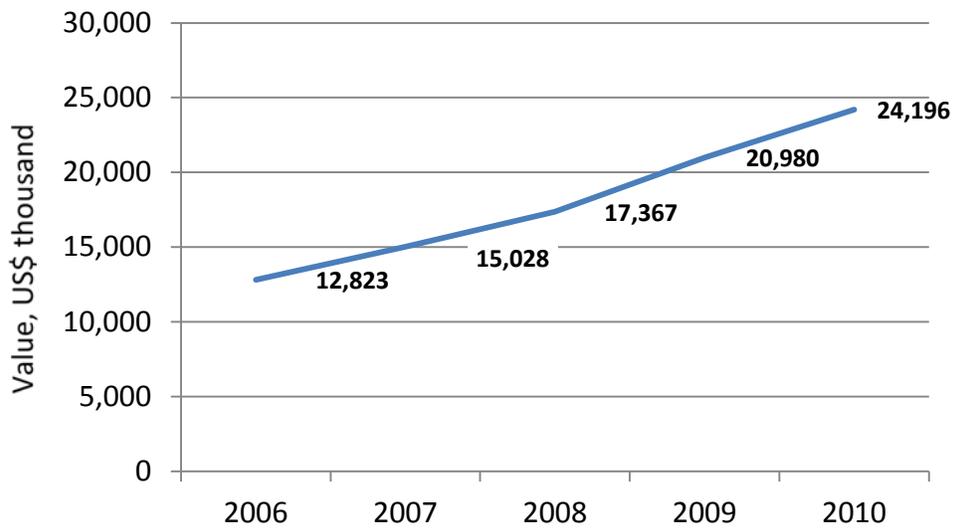
## **2.0 The small ruminant situation in Trinidad and Tobago**

On an annual basis, Trinidad and Tobago imports on average 1,625 MT and 1,123 MT of sheep and goat meat respectively with local production estimated at 309 MT for sheep and 2 MT for goat. The country's self-sufficiency ratio is estimated at 16.0% and 0.2% for sheep and goat meat with a corresponding import deficit ratio of 84.0% and 99.8%, respectively. In 2008, domestic production of sheep was estimated at 192 MT in 2008 and the value of imported mutton was estimated at US\$ 6M. Figure 1 shows the estimated import value of small ruminant meat into Trinidad and Tobago between 2006 and 2010.

As the import value of small ruminant meat increases, the stock numbers in the country have been decreasing (Figure 2) due to several reasons which will be highlighted in this document. The local sheep flock consists of several breeds including the Barbados Blackbelly, West African and recently the Dorper and Katahdin. Farmers engage in pure breeding and cross breeding strategies in efforts to achieve the most suitable carcass conformation required by the market.

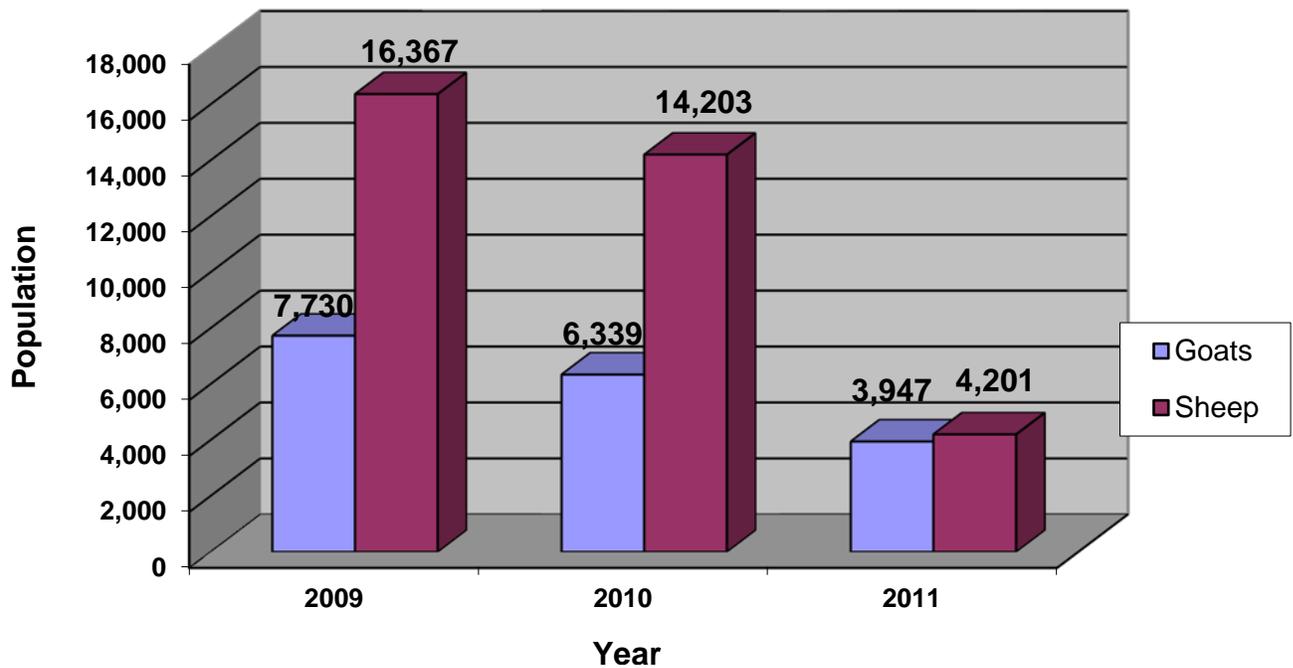
The goat breeds commonly reared are Saanen, Anglo Nubian, Toggenburg, British Alpine and the Boer.

**Figure 1.** Import value of small ruminant meat into Trinidad and Tobago (US\$ thousand).



Source: International Trade Centre (2013)

**Figure 2.** Average population of goats and sheep in Trinidad, 2009 – 2011.



Source: Central Statistical Office, Trinidad and Tobago (2013)

The local small ruminant products face stiff competition from international supplies. According to small ruminant farmer Vishwanath Baboolal (Bridglal, 2012), when the Government of Trinidad and Tobago removed the import duty on foreign meat in 2007, it caused a 70% drop in the local supply market and led to a direct and devastating impact on local industry (price of imported meat was US\$ 3.78/kg versus local farmers' price of US\$ 10.34/kg). Even so farmers were selling at below the cost of production of US\$ 12.08/kg.

This high cost of production of local farmers can be attributed to many factors, the major ones being:

- Praedial larceny.
- High feed prices.
- Problem of "economies of scale". Individual farms are too small. Farmers may need to form cooperatives to overcome this challenge.
- Lack of access to information and research.
- Lack of quality breeding stock, particularly females.
- Scarcity of labour (youths are generally not interested in farming and labourers look for work in industry rather than on farms).
- High cost and unavailability of veterinary services. Most local veterinarians specialise in treating species such as dogs and cats. Treatment drugs are also expensive.

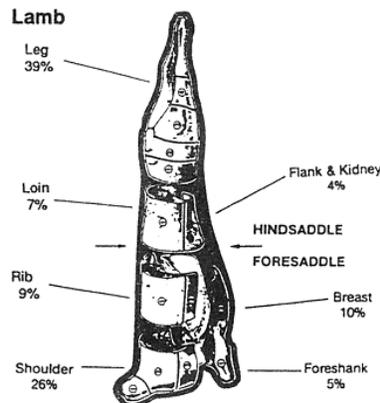
Even though CARICOM countries, including Trinidad and Tobago cannot compete with the imported product in terms of price, producers have no difficulty selling their products on the local market because of the freshness and flavour attributes of local small ruminant meat. In Trinidad and Tobago in particular there is a strong preference throughout the year for locally produced fresh mutton and goat meat over imports with demand peaking at cultural and religious festivals and celebrations. Additional revenue is also made with the marketing of 'fifth quarter' parts such as the head, liver, feet and intestines. The majority of the fresh meat is marketed at roadside stalls, which are becoming increasingly prevalent and there is a very low presence of local meat on supermarket shelves. In 2010, the Trinidad and Tobago Goat and Sheep Society (TTGSS) launched an initiative aimed at increasing incomes and market opportunities for local farmers (Borely, 2012). A display was done at a World Food Day exhibition to demonstrate the different meat cuts and manner of presentations. A master butcher was on site to demonstrate meat fabrication techniques, sparking interest by a number of supermarkets. However, due to the diversity of production systems and breed characteristics, there was variability in carcass quality reaching the supermarkets. Also, supermarkets have

expressed the view that purchasing agreements with local farmers are often difficult to maintain primarily due to consistency and reliability of supply. This was also experienced in the 1990's in an arrangement brokered by CARDI, between the TTGSS, the Sugarcane Feeds Centre (SFC) and the "HiLo" chain of supermarkets.

In 2011/2012, another initiative by the TTGSS sought to encourage the consumption of local meat and to ensure that farmers get higher prices year-round by partnering with the SuperQuality supermarket to purchase meat from local farmers. The animals were slaughtered at the SFC for a nominal fee with the farmers being responsible for getting the carcasses to the outlet. Since payment was not immediate, this arrangement caused cash flow difficulties for many farmers. To relieve farmers of this distress, the TTGSS set up a float fund, facilitated by the Trinidad and Tobago Agribusiness Association (TTABA). This ensured farmers received immediate payment for their products. The meat was graded and fabricated into the different cuts (Figure 3) at the supermarket and sold retail to consumers. The arrangement came to an end when the Master Butcher was no longer employed at the supermarket and it was difficult to find a replacement person, pointing to the need for training and capacity building initiatives in this node of the value chain.

Studies were also done at SFC, in association with the Carlton Savannah hotel and through the TTGSS, to assess yield (quantitative) and suitability in hotels and restaurants (qualitative).

**Figure 3.** Cuts of lamb.



In terms of the dairy goat industry in Trinidad and Tobago, it is still in its embryonic stage of development. According to the President of the TTGSS, goat milk production in Trinidad and Tobago averages only 600 litres per day. This includes 100 litres per day from the largest small ruminant farm in the country, Marilisa Farms.

In a similar arrangement to the meat marketing concept, the TTGSS has been involved in the coordination of production and collection of milk from its membership and liaising with the

University Field Station to process and distribute the value added product. The TTGSS is also engaged in a milk testing and a certification and promotional programme. The processed product is being sold at the “HiLo” supermarket chain.

The potential industry benefits of the TTGSS activities include:

- Increased effectiveness in exploiting the market opportunities.
- Building trust and equity amongst member partners.
- Increased consumer confidence in the products.
- Increased size, profitability and sustainability of the sector.
- Horizontal collaboration and vertical integration within the sector.

Notwithstanding this, several constraints to the development of the small ruminant industry exist. These include:

- a. Unavailability of quality breeding stock.
- b. Praedial larceny.
- c. Lack of financial capital and incentives.
- d. Security of land tenure which also impacts the farmer’s capacity to develop pastures.
- e. Shortage of forage and water during the dry season.
- f. High cost of supplement feeds.
- g. Proliferation of roadside vending of meats which usually have no HACCP-certified slaughtering facilities and little or no health certification of slaughtered animals/meats for sale.
- h. Absence of a herd identification programme.
- i. Alternatives to improve meat/bone ratio and average daily gain.
- j. Inadequate support services (including information) – little or no specialist extension personnel, particularly personnel trained in artificial insemination etc.
- k. Absence of established standards for small ruminant meats.
- l. Research and development deficiency.
- m. Low levels of innovation, technology transfer and adoption.
- n. Ageing farming population

In light of its experiences, the TTGSS has made several recommendations to facilitate production and marketing of small ruminant products (meat, milk and breeding stock). These include partnerships, facilitations and/or investments in the following areas (partnership/facilitation/investment institutions shown in parenthesis):

1. Quality control, involving carcass grading and proper slaughter practices to provide a guarantee of quality to the consumer. The supply of milk must also be consistent and of high quality and untainted, disease free, contaminant free, meet industry standards, well presented and of sufficient quantity (SFC, University of Trinidad and Tobago - UTT, UWI, Livestock and Livestock Products Board - LLPB, Ministry of Food Production - MFP and FAO).
2. Investment in primary production units (Agricultural Development Bank - ADB, Development Grants, LLPB).
3. Research and development initiatives in the areas of housing and the environment, nutrition and breeding (UWI, UTT, CARDI, MFP).
4. Grant/incentive support for TTGSS collection, processing, and distribution activities, record keeping (FAO, IICA, TTABA, LLPB and MFP).
5. Improvements in the input supply specific to the goat sector needs (MFP, LLPB).
6. Increased production of forage (MFP, CARDI).
7. Continuous capacity building initiatives (UWI, UTT, Hotel School, MFP) and developing the critical mass required at each node of the value chain.
8. Development of business modules and best practice standards/infrastructure for sheep and goat farms (breeding and multiplication) (TTABA, LLPB, UWI, UTT, CARDI).
9. Meat product sophistication: Boneless cuts, bones for stock, steaks, roasts (LLPB, CARIRI, UTT, UWI).
10. Dairy goat product development: cheese, yoghurt, punches, ice creams, soaps, leather (LLPB, Caribbean Industrial Research Institute - CARIRI, UTT, UWI)
11. Monitoring health of animals including testing and certification to provide a guarantee of health status (Vet Services, UTT, UWI, LLPB, MFP, FAO)
12. Establishment of breed clubs/societies, recording, linear appraisal (Ontario Goat and MFP)

The TTGSS also submitted some key considerations for industry development as a whole. These were:

1. Consumer awareness about the health benefits of goat milk and industry awareness of local and global trends.
2. Farmers must be consumer focused.
3. Training processors in product diversity and food culture initiatives.
4. Coordinated support and joint programming to ensure there is no duplication of efforts.
5. Institution of proper data collection and information management systems.
6. Development of the critical mass required to move the industry forward.

7. Sustainability: To ensure sustainability, youths must be encouraged to be involved in small ruminant farming. Farmers must also be stimulated to develop the entrepreneurial mentality. Producers must become technically proficient and the population must be educated about the health benefits of goat milk to increase social acceptance of goat milk products. In addition to improvement of the skills and knowledge of producers, attitudes must also change. As the numbers and diversity of producers increase, so too must the market.
8. Emphasising the multi-functionality of agriculture in terms of:
  - a. Human, social and rural development
  - b. Increasing economic growth
  - c. Ensuring security of food supply
  - d. Trade and foreign exchange earnings
  - e. Facilitating cultural expression
  - f. Fostering entrepreneurial activity
9. Functioning industry associations.
10. National, regional and international collaboration on any effort to advance industry development.
11. Improve organisational framework through:
  - a. Developing a National Livestock Policy.
  - b. Establishing or enlisting an organisation that will serve as an umbrella organisation responsible for market development.
  - c. Establishing or enlisting an organization that will serve as a facilitating agency for technical aspects of product development e.g. TTABA
  - d. Strengthening recognised industry associations e.g. TTGSS

## **2.1 Elements of the Government of Trinidad and Tobago's Small Ruminant Development Strategy**

The Government of Trinidad & Tobago realising the importance of the small ruminant industry has set a target to increase local self-sufficiency in lamb and goat meat by producing an additional 10% (274.7 MT) of the present quantity of imported meat (2,747 MT) with the specific objective to sustainably develop the sheep and goat meat industry (Benn, 2012).

Under this programme, major strategic actions to be undertaken during the period 2012-2015 are:

1. Development of a coordinating body (task force) to oversee goat, sheep and rabbit industry development.
2. Facilitating access to quality forages via the Mon Jaloux Forage Development Centre

3. Revision of the Agriculture Incentive Programme to include major additions for sheep and goat industry. These include:
  - a. An incentive of 50% of the cost for establishing pastures/fodder banks with approved grasses, cereals and legumes up to a maximum of US\$ 940/ha;
  - b. A rebate of 50% will be paid on approved imported semen and embryos up to a maximum of US\$ 3,135 per year. (Approval must be obtained from the Animal Production and Health Division prior to importation of embryos and semen);
  - c. A rebate for importation of approved breeding stock of US\$ 392 per animal up to a maximum of 15 animals per year per farmer;
  - d. A rebate of 50% on pre-approved housing, infrastructure, and waste disposal mechanisms to promote disease control to a maximum of US\$ 4,702.
  - e. A rebate of 50% on the installation of security systems up to a maximum of US\$ 5,000.
  - f. A rebate of 50% on the fencing of farmland and pastures to a maximum of US\$ 4,100.
4. Development of a National Livestock Policy.
5. Development of a livestock database and a management and identification system.
6. Appointment of a National Coordinator for the Management of Animal Genetic Resources.
7. Establishment of a Praedial Larceny Squad comprising members of the Special Reserve Police (SRP) to help combat praedial larceny.
8. Facilitation of the establishment of twelve 300-does and five 200-ewes commercial units.
9. Acquisition and dissemination of genetic material (locally and imported) to farming community.
10. Facilitating an increase in on-farm productivity.
11. Encouraging and facilitating Value Chain Development.

The last four items are funded by a Public Sector Investment Programme specifically for the development of the small ruminant sector.

### **3.0 The small ruminant situation in Jamaica**

Small ruminants have always played an important economic and nutritional role in Jamaican small farming systems, with goat meat being the more popular (Thomas, 2012). Sheep rearing is less popular despite research work that focused on sheep production in the 1950s and 1960s. In subsequent years, much funding came to the sub-sector from several international donor agencies to support research and development activities. In the 1970s a breeding centre was established in Hounslow, St. Elizabeth, but the main focus of the initiative was on goat rearing

due to the popularity of the meat. The growth of the aquaculture industry in the 1970s and 1980s also saw some growth in the population of sheep, albeit not primarily for food production, but because they were found to be very effective 'mowers' to control the grass around fish ponds. The desirability of value added activities such as fattening, breeding and providing cuts or carcasses to an end user rather than live weight sales, has been established by a 2003 study conducted for the Agricultural Support Services Project (ASSP)/Ministry of Agriculture and Fisheries on the economic viability of the Small Ruminants Sector in Jamaica.

Large quantities of chevron and mutton are being imported to satisfy local demand which exists primarily in the hospitality sector. Hence, increasing the production of these commodities continues to be among the top priorities of the Government of Jamaica's food security strategy. Currently, production from the sector accounts for only 15% of total mutton and chevon consumption locally while the remaining 85% is derived from imports, mainly from Australia, New Zealand and the United States of America. The most recent surveys have shown that between 2007 and 2011, the sheep population increased by 17%, while the goat population saw significant increases of up to 45% moving from a total of 482,345 in 2007 to approximately 700,000 in 2011. Despite these positive movements, however, Jamaica still imports over 4,600 MT of sheep and goat meat in 2012 valued at over US\$ 21 million (International Trade Centre, 2013) – indicating that there is still a great void to be filled by local production.

Tables 2 details the quantities of mutton and lamb imported versus the local production and highlights the deficit in production.

The sheep industry in Jamaica is recognised as one with enormous potential based on market demand assumed from quantities of mutton and lamb imported and consumed by the local households, restaurants and tourism market. In 2009, some 2591 MT of lamb and mutton valued at US\$ 8.4 million were imported, while production during the same period stood at only 15 MT. There was thus a difference of 2,576 MT which presents an opportunity for local farmers to expand production and generate income.

The industry is characterised by producers including, over 30 active farmers, some of whom belong to the Jamaica Sheep Farmers Association (JSFA) and includes major farmers with large holdings and small subsistence farmers. It is estimated that in 2011, the sheep population in Jamaica stood at 6,878 including lambs, ewes and rams. The local sheep flock consists of several breeds including the Dorper, Katahdin, Suffolk, Barbados Blackbelly, the St. Elizabeth and several mixtures of these. The St. Elizabeth is a locally adapted breed, which, although its genesis has not been documented, reports indicate that it is well adapted to local conditions. Table 3 provides a breakdown of the sheep population in 2009/2010 and 2010/2011.

**Table 2.** Quantity of mutton and lamb – imports (MT) and value (US\$ M), production (MT) (2006 – 2010) - Jamaica.

	2006	2007	2008	2009	2010*
<b>Imports - mutton and lamb</b>					
Mutton	4,195	3,431	4,257	2,159	2,255
Lamb	646	2,775	640	432	207
TOTAL	4,841	6,207	4,897	2,591	2,462
<b>Value of imports</b>					
Mutton	10.1	7.9	11.8	7.3	10.0
Lamb	1.6	1.7	1.8	1.1	1.0
TOTAL	11.7	9.6	13.6	8.4	11.0
<b>Production – sheep</b>					
No. slaughtered	498	541	1,877	805	400
Total weight	8	10	26	17	11
Dress weight	7	8	22	15	9
<b>Production deficit</b>	4,834	6,199	4,875	2,576	2,453

\* 2010 production data is preliminary

Source: Agricultural Marketing Information Division, Ministry of Agriculture & Fisheries, Jamaica, 2011.

**Table 3.** Sheep population in Jamaica (2009/2010 & 2010/2011).

Category	No. Sheep	
	2009/2010	2010/2011
Mature Ewes	4,662	5,653
Ewe lambs	871	1,297
Ram Lambs	809	1,008
Wethers	150	200
Service Rams	96	138
TOTAL	6,588	8,296

Source: Agro Investment Corporation, Ministry of Agriculture & Fisheries, Jamaica, 2012.

Similar to sheep production, there is a significant demand/supply gap which could be exploited by goat meat producers as indicated in Tables 4 and 5.

Approximately 40% of the goats produced are slaughtered at the public abattoirs and the remaining at private facilities with the majority of the meat being retailed for local consumption. In addition to the meat, and similar to the market in Trinidad and Tobago, there is demand for ‘fifth quarter’ parts. With regards to value added products, some leather products are manufactured.

In Jamaica, goats are utilised mainly for meat. However, there is tremendous scope for dairy goat production with consequent marketing of fresh milk, various cheeses and other value-added products viz. goat milk body lotions and soaps.

Major breeds currently being reared include Nubian, Boer, Natives (meat) and Alpine (dairy).

**Table 4.** Goat production in Jamaica over the period 2006 – 2010.

	2006	2007	2008	2009	2010
Number Slaughtered	39,515	40,121	41,369	43,160	49,085
Average Carcass Weight (kg)	14.36	13.39	13.71	16.73	15.90
Dress Weight (kg)	567,411	537,116	567,339	722,180	780,452

Source: Data Bank and Evaluation Division, Ministry of Agriculture and Fisheries, 2011.

**Table 5.** Volume (kg) and value (US\$) of goat meat imported into Jamaica.

Year	Imports (kg)	Value(US\$)	Unit price(\$/kg)	% increase in price
2008	1,198,947	25,641	1.82	
2009	1,536,141	43,037	2.38	30.7%
2010	1,191,765	48,594	3.47	45.5%
2011	863,668	40,352	3.97	14.6%

### 3.1 Elements of the Government of Jamaica’s Small Ruminant Development Strategy

To grow and develop the sector, the Ministry of Agriculture and Fisheries has been partnering with local and international stakeholders to implement several projects. Under a recently concluded EC Food Facility Project, for example, a total of ten dairy goats (five Alpine and five Toggenburg), 43 meat goats (Boer) and 1,000 straws of semen from high quality breeding stock have been imported from the USA and 72 animals were bought locally in Jamaica from

reputable breeding farms and distributed to demonstration sites. A total of 12 demonstration sites have been established across the island, four of which have been identified specifically as breeder sites to facilitate production and dissemination of improved breeding stock to goat farmers. Work is also being completed towards establishment of a milking parlour at the Sam Motto Demonstration Centre in Manchester to initiate much-needed development in the goat dairy sector. Fodder banks have been set up at all sites (mulberry, king grass etc.) for the supply of improved forage types to the industry and the Bodles Research Station Abattoir has benefitted from refurbishment to HACCP standards, complete with biosecurity infrastructure. The Government of Jamaica (GOJ), in recognising the need for partnership with goat farmers to advance the sector has ensured that the Jamaica Goat Farmers Association benefitted from the procurement of two trucks for transportation of live and slaughtered animals and provision of a herd record system (hardware and software) at the Herd Records Management Unit also at the Bodles Research Station. To strengthen the functioning of the Goat Farmers Association, the GOJ also provided office equipment to be housed at the Association's headquarters.

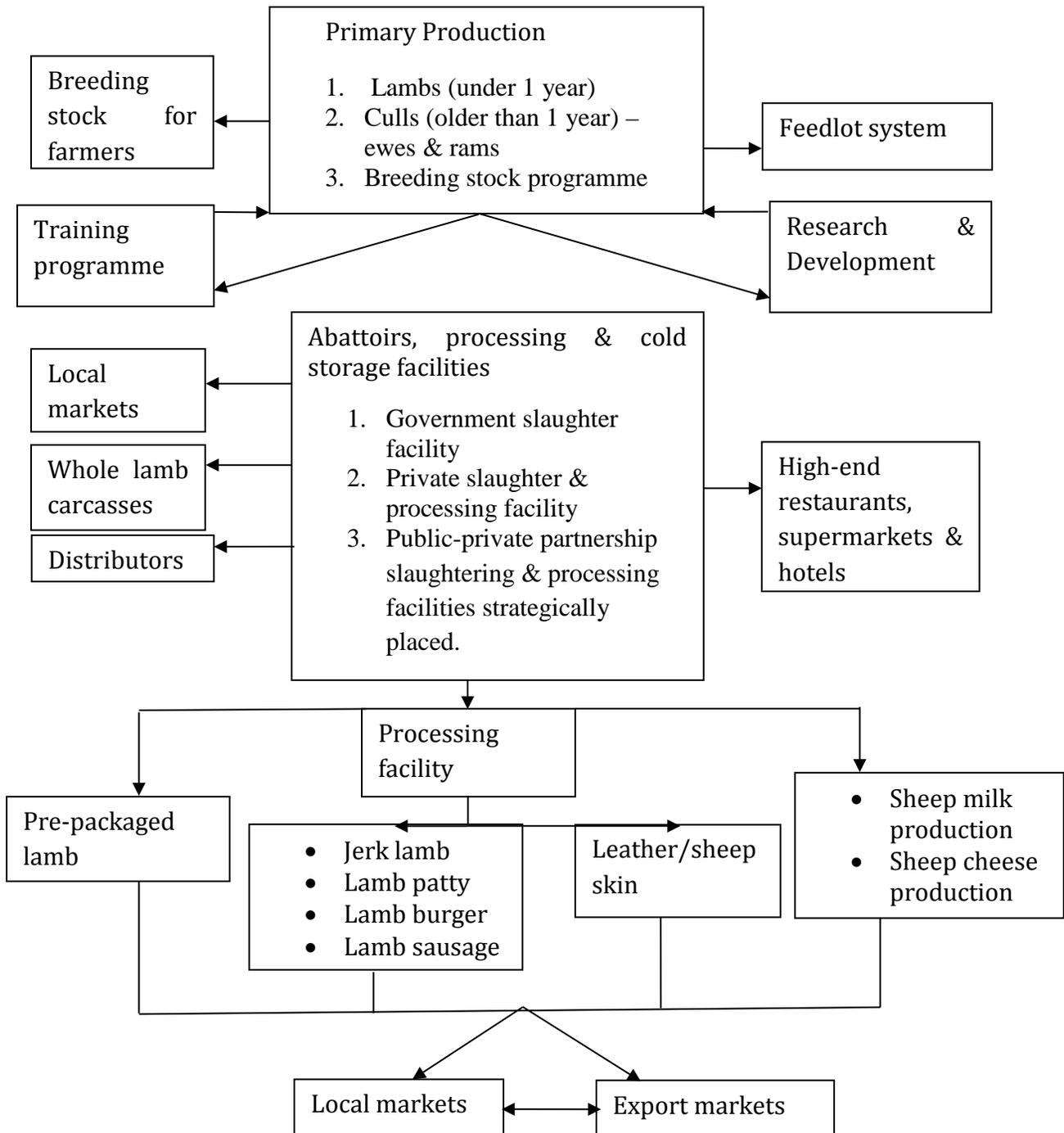
Best Agricultural Practices are required to improve production efficiencies and to this end capacity building initiatives have been implemented including training in all aspects of goat production, value-added production and group dynamics. In addition, a goat-rearing pilot project implemented by FAO, the EU and the Jamaica Goat Farmers Association was concluded in 2011 and sought to demonstrate best practices in goat rearing through the establishment of a goat house and storage area on a private farm (Gayle, 2012). The project served as a resource centre for farmers in St James and Hanover, Jamaica.

Empowered by its mandate to enhance the competitiveness of Jamaican agriculture, the now concluded Agricultural Support Services Project of the Ministry of Agriculture and Fisheries (ASSP) embarked on a Sheep Development Project, which aimed to increase the local output of sheep to supply at least 20% of the total demand for lamb and mutton. To achieve this objective the ASSP fostered the formation of the Jamaica Sheep Farmers' Association, facilitated the importation of breeding stock of the Dorper breed of sheep, refurbished an abattoir and established a feed lot for fattening lambs. Approximately US\$ 400,000 was invested to support the development of the sheep industry. Recently, a Sheep Industry Growth Strategy (2012) has also been drafted based on three main objectives (import substitution, improvement in productivity and value chain development). It is estimated that the cost of implementing this 5-year development plan for the industry will be US\$ 4.87 million. Work on the value chain component of the sheep growth strategy will be facilitated by the IDB-funded Agricultural Competitiveness Programme, which is being managed by the Agro-Investment Corporation on behalf of the Ministry of Agriculture and Fisheries. A consultancy, which commenced in July, 2012 and is funded by that project is identifying competitive industries and products along their value chains.

A proposed value chain for the sheep/lamb industry in Jamaica is presented in Figure 4. This can be used as a generic value chain for the small ruminant industry in the Region. Components of the value chain include production (breeding stock, feeding/finishing, technical support, veterinarian services), processing (primary processing/slaughter, secondary processing/fabrication), distribution (retail/wholesale), consumer, national & industry organisations and R&D community. To achieve success all existing linkages among the various actors of the value chain need to be strengthened.

The national strategies which have been identified for increased production of small ruminants also include use of cost effective alternative feeding systems; land reform programme addressing titles, tenure, and leasehold; easy access to low interest loan facilities; effective enforcement of Praedial Larceny Act and national registration of all livestock.

**Figure 4.** A proposed sheep/lamb industry value chain for Jamaica.



Source: Ministry of Agriculture and Fisheries, Jamaica, 2012

## 4.0 Conclusion

The Jamaican and Trinidad and Tobago small ruminant industries both have challenges, some of which are common to both countries, which are at different stages of development with Jamaica appearing to be more advanced. It is clear that the small ruminant industry in both countries has tremendous opportunities for growth and the generation of incomes as seen by the increasing imports. Potential also exists in non-traditional areas such as value added products made from the hides and, in the case of dairy goat, milk. Markets can also be developed through formal arrangements between farmer's associations and processing and retail centres with the resultant benefit of increasing farm incomes. It is anticipated that this document can serve as a paper upon which further discussions and deliberations can be made with the goal of furthering the development of the small ruminant sector of both countries and by extension the CARICOM region.

## 5.0 Bibliography consulted

1. Benn, C.R. 2012. Development of the Small Ruminant Industry in Trinidad and Tobago. Paper presented at the Workshop on "Achievement of outputs on information collection, access and dissemination in the three CFC-funded projects on Protected Agriculture (PA), Roots & Tubers (RT) and, Small Ruminants (SR)" held 17-20 September 2012, Crowne Plaza Hotel, Port of Spain, Trinidad.
2. Borely, J. 2012. Developing Small Ruminant Value Chains through Cooperative Action in Trinidad & Tobago- The Trinidad & Tobago Goat and Sheep Society (TTGSS) Experience. Paper presented at the Workshop on "Achievement of outputs on information collection, access and dissemination in the three CFC-funded projects on Protected Agriculture (PA), Roots & Tubers (RT) and, Small Ruminants (SR)" held 17-20 September 2012, Crowne Plaza Hotel, Port of Spain, Trinidad.
3. Central Statistical Office 2013. Small ruminants data 3<sup>rd</sup> quarter 2012. The Central Statistical Office of Trinidad and Tobago, Ministry of Planning and Sustainable Development. Available from internet: <http://www.cso.gov.tt/category/statistics-category/agricultural-statistics>
4. Central Statistical Office 2013. Agricultural Report Tables 2006-2010. The Central Statistical Office of Trinidad and Tobago, Ministry of Planning and Sustainable Development. Available from internet: <http://cso.planning.gov.tt/content/agricultural-report-tables-2006-2010>
5. Bridglal C. 2012. T&T's livestock farming industry struggling - A dying breed. Trinidad Express Newspaper.

6. Gayle, S. 2012. Goat farmers put food security in spotlight - European Union-funded project in Hanover reaping rewards. Jamaican Gleaner Newspaper.
7. International Trade Centre 2013. Trade Map. International Trade Statistics. Available from internet: [http://www.trademap.org/tradestat/Country\\_SelProductCountry\\_TS.aspx](http://www.trademap.org/tradestat/Country_SelProductCountry_TS.aspx)
8. Singh, R.H., Seepersad, G., and Rankine, L.B. 2006. The CARICOM Regional Transformation Programme for Agriculture. The Small Ruminant Meat Industry in CARICOM. Depart of Agricultural Economics and Extension, University of the West Indies, St. Augustine.
9. Thomas, M. B. 2012. Development of the Small Ruminants Industry in Jamaica. Paper presented at the Workshop on "Achievement of outputs on information collection, access and dissemination in the three CFC-funded projects on Protected Agriculture (PA), Roots & Tubers (RT) and, Small Ruminants (SR)" held 17-20 September 2012, Crowne Plaza Hotel, Port of Spain, Trinidad.