

THE EFFECT OF POLICY IN SHAPING THE DEVELOPMENT OF THE
BARBADOS SMALL RUMINANTS INDUSTRY: PROMOTING
AGRICULTURAL HEALTH AND FOOD SAFETY

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ABSTRACT

This paper looks at the effect of a capacity-building policy instrument on the development of the small ruminants industry in Barbados compared to its Caribbean neighbours. This subsector has continued to show signs of persistent underdevelopment, although several projects have improved production and productivity over the last 15 years. Small ruminant stock numbers increased from 872,000 in 1994 to 905,000 in 2008 – an increase of 3%. At the same time, meat production from small ruminants increased from 2,345 tonnes in 1994 to 2,707 tonnes in 2008 – an increase of 15%. Concurrently, imports of sheep and goat meat rose from 6,774 tonnes in 1994 to 14,880 tonnes in 2007 – an increase of almost 120%. A case-study was conducted across six countries,

using the innovation systems approach, to study the agricultural science, technology and innovation system for small ruminants in order to assess the role of policy in shaping the regional industry. Results show that, except for Barbados, there were no discernible policies specifically targeting the small ruminants subsector. Further analysis showed that one particular policy goal, ‘Enhancing agricultural health and food safety’, had a high rate of implementation and was delivered with the support of extension and advisory services. Between 1990 and 2008, the sheep industry in Barbados expanded at a rate of 3.3% annually, and improved the environment for innovation in terms of knowledge generation and diffusion among key actors.

KEY WORDS: KNOWLEDGE GENERATION, INNOVATION SYSTEMS APPROACH, POLICY INSTRUMENT

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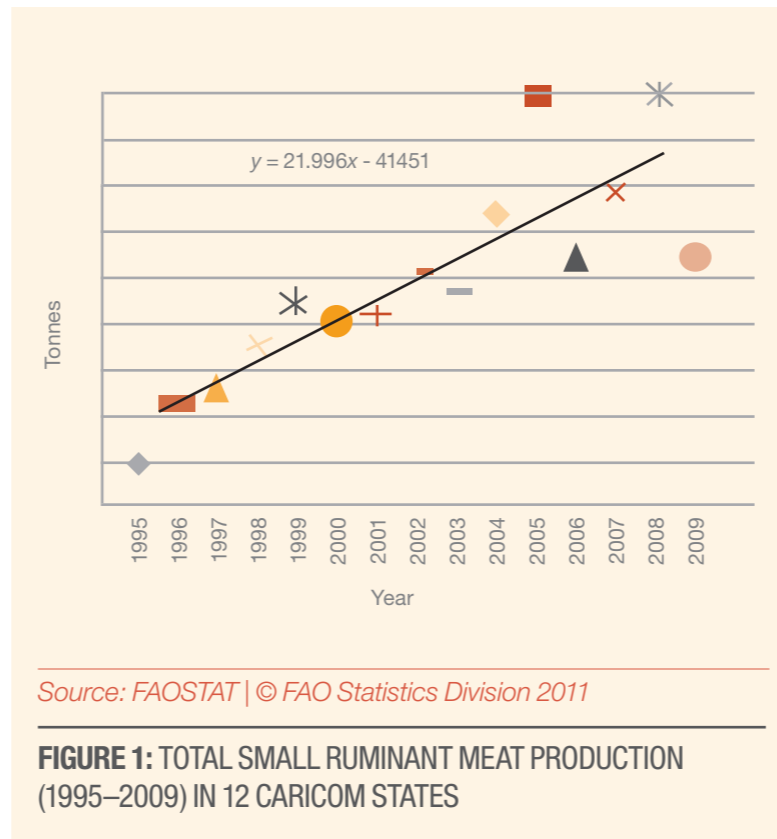


INTRODUCTION AND OBJECTIVES

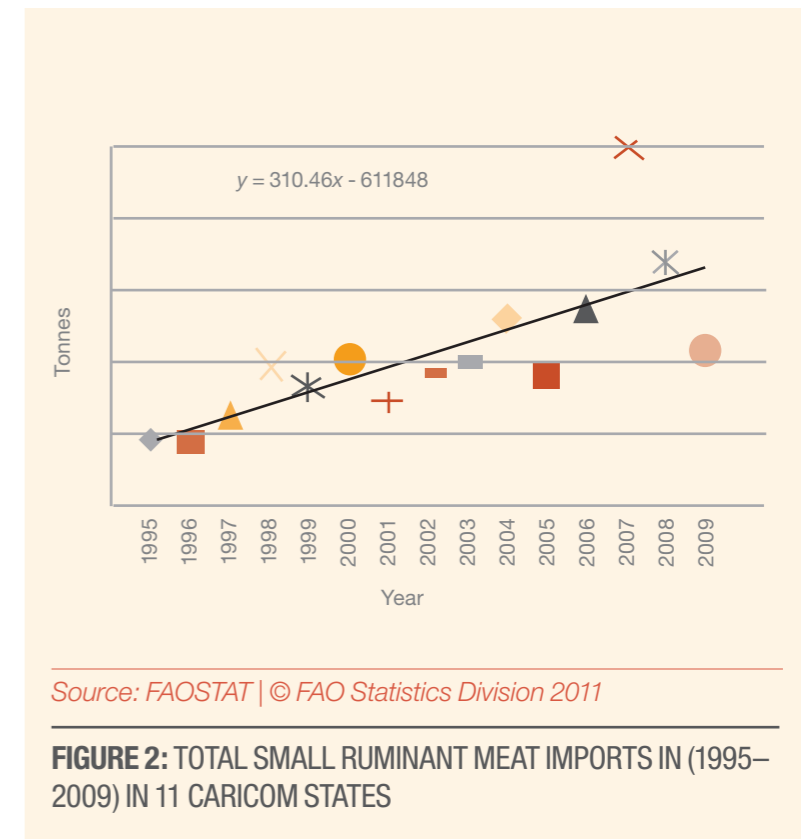
The Caribbean community (known as CARICOM) comprises 15 member countries² with a population of approximately 16 million people. This region has an annual food import bill of US\$4 billion (2008 estimates) and is characterised by an agricultural sector that has been in decline over the last 15 years. Except for Belize and Guyana, gross earnings of the sector and its contribution to regional GDP have been moribund over the period. Blake and Charles (2006) stated that there was significant frustration with the slow pace of implementation of policies, programmes and proposals for diversification, transformation and support to enhance the competitiveness of the regional agricultural sector. The small ruminants sector is vital for food security but it mirrors the current stagnation seen in crop agriculture. It is within this scenario that the effect of clear policy positions on the development of the regional small ruminants sector was assessed.

MATERIALS, METHODS AND DATA SOURCES

A case-study using the agricultural science, technology and innovation systems (ASTI) methodology of CTA/UNU-INTECH/KIT (2005) was conducted across six CARICOM countries: Barbados, Belize, Grenada, Jamaica, St Kitts/Nevis and Trinidad and Tobago. The study followed the methodological framework and included a historical review of the small ruminants sector, a



comprehensive review of the policy environment and identification of the key actors in the ASTI system using a modified focus group approach. The desk-top study reviewed data that mapped the performance of the small ruminants industry from 1995 to 2009 in the target countries. The historical performance of the sector was mapped against the policy interventions during the period to assess the role of policy, if any, on sectoral development. One of the advantages of the innovation systems approach to sector analysis is that it focuses on changes in the industry (trend analysis) and is not a snap-shot of performance. It



is, therefore, a useful tool with which to track real sector performance. Data comparisons were made using regression analysis.

RESULTS AND DISCUSSION

FAO reports that in the CARICOM region, between 1995 and 2009, small ruminant meat imports rose

² Antigua and Barbuda, The Bahamas, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, Saint Lucia, St Kitts and Nevis, St Vincent and the Grenadines, Suriname, Trinidad and Tobago

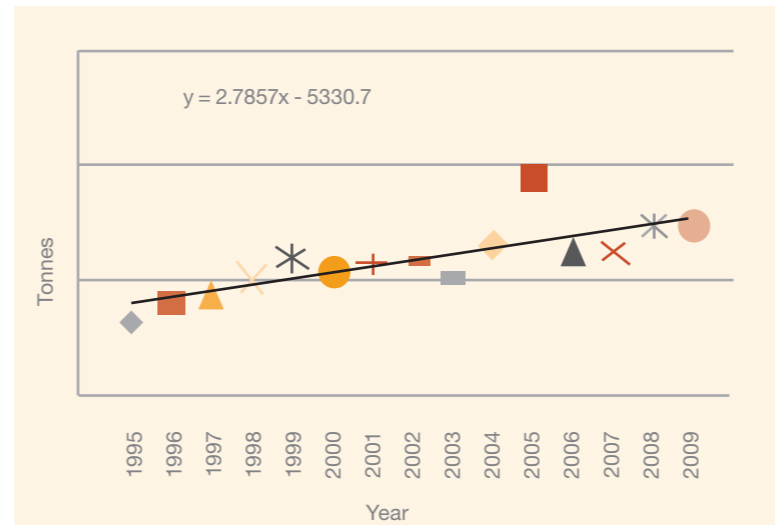


14 times faster than the rate of local production (FAOSTAT, 2011). Meat production (Figure 1) increased by 22 tonnes per year (t/yr) and imports increased by 310 t/yr (Figure 2). Singh (1995) noted that there is no clear relationship between the large number of small ruminant projects implemented in the region and the production statistics. Imports continue to grow, despite the preference for local sheep and goat meat: the commodity is not price-competitive, with imported meats retailing at between 30 and 40% cheaper than locally produced commodities. The data suggest that the industry can accommodate an increase in excess of 200% in local production, assuming consumers are willing to pay a higher price for the local product.

On average, in the six CARICOM countries of Barbados, Belize, Grenada, Jamaica, St Kitts/ Nevis and Trinidad and Tobago, sheep and goat meat production increased by 2.79 t/yr between 1995 and 2009 (Figure 3), however, imports grew by nearly 35 t/yr on average over the same period – or more than 11 times faster than local production (Figure 4).

The case of Barbados

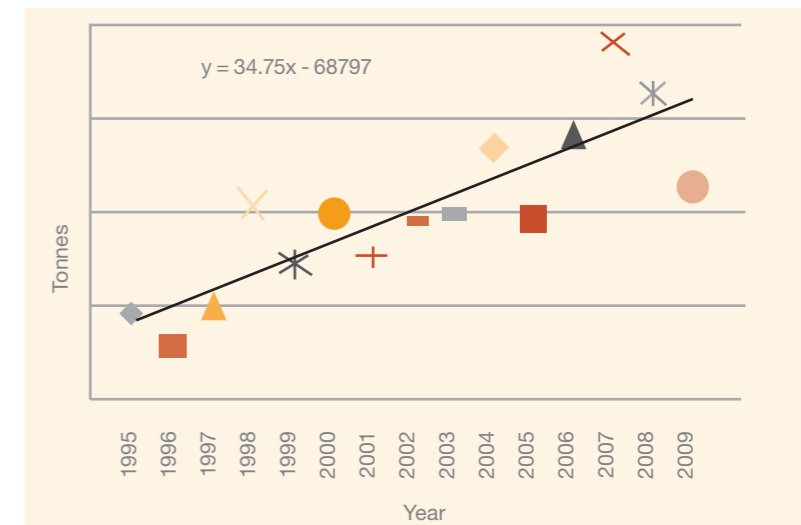
The data illustrated in Figure 5 show that between 1995 and 2001, small ruminant meat production declined in Barbados at a rate of 1.8 t/yr, but started to rise from 2002 to 2009. The highest growth rate was recorded during the 2002–2004



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FIGURE 3: AVERAGE SHEEP AND GOAT MEAT PRODUCTION IN THE FIVE CARICOM STATES OF BELIZE, GRENADA, JAMAICA, ST KITTS/NEVIS AND TRINIDAD AND TOBAGO, 1995–2009

period, when it averaged 12.5 t/yr. Production declined in 2005, compared to 2004, but grew from 2005 to 2009 at an annual rate of 1.9 t/yr. However, meat imports decreased (Figure 6), declining at an annual rate of 0.38 t/yr. There was a peak in 2007, which coincided with the staging of the cricket world cup in the West Indies. The finals were played in Barbados. It is possible that the anticipated demand spike occasioned by that event, led merchants to increase imports by 142%, when compared to the 2006 figure. Small ruminant meat production reached its lowest level in 2001, when only 57 tonnes of meat were produced. None of the other five countries had discernible policies for the small ruminant sector.



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FIGURE 4: AVERAGE SHEEP AND GOAT MEAT IMPORTS IN THE FIVE CARICOM STATES OF BELIZE, GRENADA, JAMAICA, ST KITTS/NEVIS AND TRINIDAD AND TOBAGO, 1995–2009

In keeping with stated policies to increase production and productivity in the small ruminants industry, the Government of Barbados introduced specific measures aimed at ‘enhancing agricultural health and food safety within the small ruminant industry’ (Hippolyte, 2010). Under this rubric, major prescriptions were developed and implemented in 2001.

The 2001 implementation of key policy prescriptions in agricultural health and food safety issues for the Barbados small ruminants industry included the following:

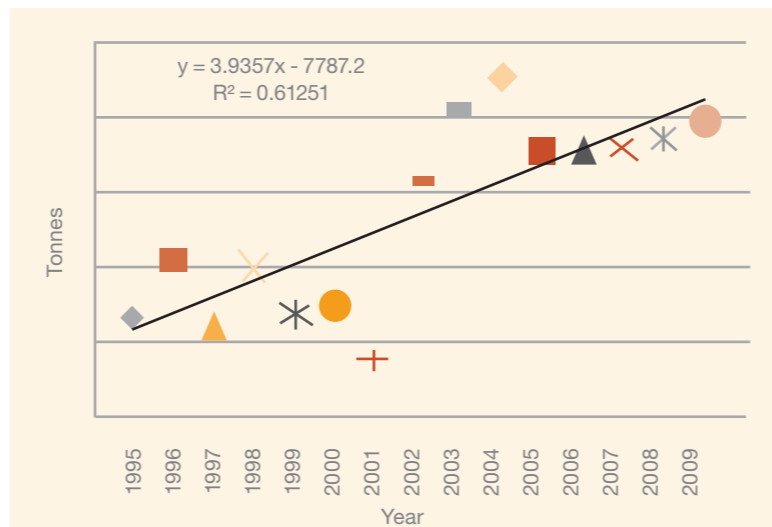
- Technical assistance to train producers in the necessary practices in accordance with the Hazard Analysis and Critical Control Points (HACCP)



- requirements will be facilitated by a grant (up to a maximum of \$3,000 per farmer/processor)
- Establishment of a fund of \$100,000 to facilitate farmers to get training in post-harvest technology and quality assurance systems, to be administered by the Ministry of Agriculture
 - Introduction of grades and standards for sheep and goat products
 - A rebate of US\$2.00 per head for sheep and goats to an organisation which undertakes the registration of livestock under a national livestock registration programme.

Most of the growth in production in Barbados occurred after 2001, coinciding with the implementation of the key policy measures listed above. The introduction of these specific policy measures appeared to have had an impact on official meat production, which started to climb post 2001 (Figure 5). Over three years (2002–2004) annual growth was 12.5 t/yr, before tapering off in 2005. Annual growth was 1.9 t/yr in the following period, 2005 to 2009.

The increase in meat production in Barbados may be explained by the greater emphasis on food safety and standards leading to more animals being slaughtered using the abattoir system and enabling better collection of official statistics. The policy could also have led to greater consumer confidence in the local product, resulting in increased demand. The Barbados economy is largely driven by the hospitality sector, which has stringent standards related to the



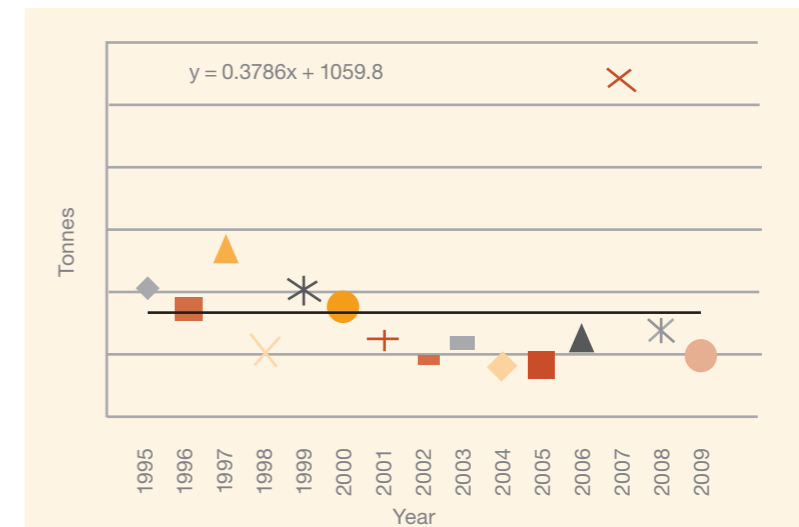
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FIGURE 5: SHEEP AND GOAT MEAT PRODUCTION FOR BARBADOS, 1995–2009

purchase and use of local meat and meat products. The introduction of grades and standards within the context of improving food safety may have acted as an innovation trigger and an increase in demand from the hospitality sector for locally produced meat from small ruminants. The policy measures were delivered mainly by the extension officers who trained the farmers. The use of extension personnel to build capacity in the use of grades and standards and to improve agricultural health and food safety appears to have been successful.

CONCLUSIONS, RECOMMENDATIONS AND IMPLICATIONS

The data presented indicate that capacity-building in agricultural health and food safety, including the



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FIGURE 6: SHEEP AND GOAT MEAT IMPORTS FOR BARBADOS, 1995–2009

introduction of grades and standards in the small ruminants industry, may have resulted in sustained increases in local meat production between 2002 and 2009.

The role of the extension services in the delivery of capacity-building initiatives appears to have been a critical success factor in the implementation of this policy. Sector-specific policy measures appear to have made a positive impact on production and productivity. Other countries in the region should carefully consider the Barbados model with a view to implementing policies and support measures that benefit industry developers. Additional research is required to further examine the causal relationship between policy and productivity gains within the small ruminants subsector in the Caribbean.



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