Agricultural Sector Support in Suriname

2013

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Executive Summary

This report analyzes government support to agriculture in the Republic of Suriname. The relative importance of agriculture in Suriname's economy is declining, primarily as a result of the stronger growth in other sectors, most notably mining. The sector's share in GDP fell from around 15% in 1990 to 9% in 2012. Nonetheless, agriculture remains an important sector because (i) it is a major source of employment in rural areas, (ii) it provides around 5% of the country's generation of foreign exchange and (iii) it is responsible for the production of the population's main staple food, rice. In trade terms, developments have been more positive. Total agricultural exports, which are dominated by rice and bananas, have shown an upward trend over the last five years and grew from USD 69 million in 2007 to USD 115 million in 2011. This growth has been driven by the restructuring of the banana sector and higher international market prices of fish and shrimp. Livestock commodities, including beef, poultry, pork and dairy, are all net imports.

Agricultural policy in Suriname is guided by an Agricultural Policy Note and a set of sub-sector white papers presented in 2009. The implementation of the earlier 2005 – 2010 Agriculture Sector Programme was suspended in 2009 following the cessation of official development assistance of The Netherlands, a major funding source of the ASP. The main institution implementing agricultural policy is the Ministry of Agriculture, Animal Husbandry and Fisheries. The Ministry's budget has shown significant fluctuations over the last years. Faced with the drop in development assistance and decreasing bauxite revenues, the Ministry of Agriculture's budget was reduced from SRD 120 million in 2009 to SRD 67 million in 2011, which mainly affected programme costs.

Today, agricultural policy in Suriname consists of a range of general and commodity-specific measures that create transfers to the sector. The instruments applied include traditional trade policy measures, such as import tariffs, but also direct payments to producers, state ownership, tax exemptions for inputs, subsidized credit, price policies, food subsidies, and government support for rural infrastructure, irrigation, research and training. Because of its importance, the rice sub-sector traditionally receives most attention from policymakers. On all rice exports, a levy is applied, of which a share is used as a funding source for the Anne van Dijk Rice Research Centre., while the remainder is captured by the Ministry of Agriculture as

a non-tax revenue. In 2013, the Government implemented a production subsidy to compensate rice producers for increased fuel taxes.

Following the collapse of the banana subsector in the early 2000s, the Government of Suriname pursued a strategy that aimed at a restructuring of banana production to increase its competitiveness. Bananas are produced under a monopoly held by the state-owned Stichting Bananenbehoud Suriname (SBBS). Following important investments in infrastructure under the EU's Banana Accompanying Measures programme, the Government is currently negotiating the privatization of SBBS.

Agricultural policy also plays a key role in the milk subsector, the most regulated subsector of Surinamese agriculture. The Melkcentrale Paramaribo (MCP) is a parastatal that is bound to buy all raw milk offered by farmers at a fixed price. Retail prices are also set. Though the objective of price setting at retail level is to protect consumers and ensure access to milk, in reality consumers in Suriname are strongly penalized by this policy measure. Households pay more for their milk than in the United States or Europe, which have far higher labour and mechanisation costs.

Livestock imports are subject to a 20% import tariff. This tariff rate also applies to poultry, making the country's poultry market the most open in the region.

An important general policy measure that creates transfers to agricultural producers is the Agricultural Credit Fund (AKF), a fund that provides subsidized credit to agricultural producers. It is managed by the state-owned Landbouwbank. In July 2013, the total fund portfolio consisted by 191 loans for a total amount of SRD 19.4 million. The rice subsector is the main beneficiary of the fund.

As our analysis for the period 2006 – 2011 shows, individual policy measures together result in an overall policy framework that creates positive transfers to the agricultural sector in Suriname. In other words, agricultural policy in Suriname results in support to producers, who are getting higher prices and budget transfers that increase their gross receipts.. The total support estimate (TSE) amounted to 1.31% of GDP on average over the 2009 – 2011 period, which is higher than in OECD, EU, Brazil, USA and Ecuador, but average for the Latin America and Caribbean region and close to the levels of Colombia.

Support is driven mainly by policies that affect price levels (so-called Market Price Support), while budgetary transfers sum up to less than 10% of total support to producers. The market price support can be explained only partly by explicit policy measures, such as the import tariff for poultry products or the Government-set minimum producer prices for milk. As is the case in many developing countries, price gaps between international reference prices and domestic farm-gate prices are also the result of the structure and development of the value chain.

Though overall support exists, the differences between subsectors are significant. Rice producers received positive market price support in 2010, and negative market price support in other years. However, the negative price gap that rice producers face is largely offset by government expenditure to the sector, particularly in areas that generate long-term effects and positively affect its competitiveness (such as infrastructure and research). In general, livestock products receive higher levels of support than crops. The most supported commodity in total value terms is poultry.

The share of support provided to agriculture in the form of general services is about 40% of total transfers to agriculture, which is higher than in most Latin American and Caribbean countries, and close to the levels in Chile and US. Investment in general services, and especially in market and rural infrastructure, enhances competitiveness of domestic production and promotes long-term economic growth. The majority of these services consist of investments in irrigation infrastructure. The analysis shows that additional investments in other areas of general services, such as research, credit and extension, are needed to increase the sector's competitiveness in the long run.

The variety of agricultural policy measures applied in Suriname creates space for ad-hoc and discretionary policy measures. These should be avoided. In turn, the Government should focus on creating a reliable and transparent policy environment that triggers private productivity-enhancing investment and that enhances the sector's competitiveness. A number of potential policy changes are identified by this report. These include (i) the substitution of production subsidies for the rice sector with investments in infrastructure, access to credit and research; and if a production subsidy is given, enhance its targeting to smaller farmers; (ii) avoid increases of tariffs to protect poultry producers; instead, focus on increasing the production of quality feed components to lower the subsector's cost levels; (iii) reconsider the

framework of price policies in the dairy sector in order to incentivize market-led organization of the subsector; (iv) reduce government intervention in the sector through state-owned companies and foundations, and focus on ease of doing business to increase private investment, and (v) strengthen the Government's capacity to monitor the effects and coherence of its agricultural policies, in order to make government policy more effective and evidence-based.

1. Introduction

The relative importance of agriculture in Suriname's economy has declined over the last two decades. While agricultural output showed strong fluctuations, the country's economic growth was boosted by development in the mining and services sectors. However, agriculture is still of significant socio-economic relevance, as it is a major provider of employment in rural areas, earns 5% of foreign exchange[1] and is a key contributor to food security through the production of rice, the population's main staple food.

The Government of Suriname has repeatedly recognized the importance of developing the agricultural sector by increasing its productivity and competitiveness. In its 2010 statement 'Crossroads – to better times together', the Government of Suriname states that it gives 'high priority to a set of programmes that aims to fulfil 85% of Surinam's domestic food needs, and of which at least 40% of production is for export.' The interest of the Government in the sector is also reflected in the agricultural policy support mechanisms it applies. These include trade protection, price policies, subsidies, as well as other instruments.

This report provides a comprehensive analysis of the effect of the public policy framework on the agricultural sector, using the OECD's Producer Support Estimate methodology (PSE). The PSE approach focuses on two main elements of support: (i) the impact of government policy on prices received by agricultural producers, and (ii) the support provided through budgetary transfers to the sector. The result of the analysis is a set of indicators that allows for comparison of support levels between years as well as commodities, and that could serve as a baseline against which the effects of agricultural policy reforms could be measured. In addition, the level of agricultural support in Suriname are compared with other countries in the region.

Before presenting the results of this quantitative analysis, an overview is given of the policies applied by the Government of Suriname to the agricultural sector as a whole as well as to different subsectors. It covers both the country's trade policy framework as well as its domestic policies related to prices, marketing and taxation.

[1] FAO (2010)

The last section of the report presents an overview of policy recommendations that are based on the analysis presented. These recommendations are meant to serve as inputs for evidence-based dialogue on potential policy changes that could strengthen the competitiveness of the agricultural sector in Suriname and render the policy framework more conducive to agricultural investment.

More detailed descriptions of the key agricultural value chains of rice, bananas and poultry are provided as annexes to the report. These analyses also provide a more in-depth overview of the incentives and disincentives faced by producers of these commodities, and an indication of whether the observed distortions are the result of policies or specific value chain characteristics. In addition, an estimation is provided of the Government's revenue foregone as a result of its policy support to the agricultural sector, including tax exemptions and reduced fees of transport services provided by parastatal companies.

2. Overview of agricultural policies

2.1 Role of the Agricultural Sector

Suriname is a thinly populated middle-income country on the Northeast Coast of South America, covering an area of 164,000 sq. km of which 80% is tropical rainforest. Half of the country's population of 540,000 (2011) live in Paramaribo, the capital city.

The country is well-endowed with natural resources and its broadly open economy is largely dependent on the extractive industries, in particular of gold, bauxite and oil. Trade is important, and imports and exports averaged some 100% of GDP in the 2006 – 2011 period. The agricultural sector, though important because of its contribution to employment and foreign exchange generation, represented a relatively small share of 9% of GDP in 2012.[2]

Following a period of highly volatile growth and near hyper-inflation in the 1990s, the economic outlook of Suriname has stabilized and the economy has registered steady annual growth rates that have averaged 4.1% between 2006 and 2012. Thanks to the strong performance of the mining and energy sector, similar growth rates are expected for 2013 and 2014.[3]

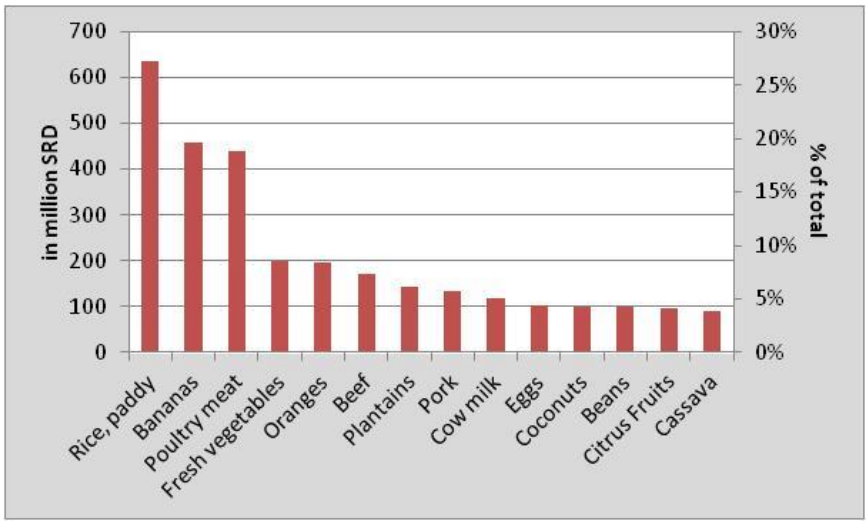
The prospects for the country's agricultural sector are mixed. Throughout the last decades, the share of agriculture in the economy has fallen significantly from levels around 15% of GDP in the mid-1990s to below 10% today. The subsectors of rice and bananas, Suriname's most important crops, are facing challenges to improve their cost structures and remain competitive. The banana industry, which produces the second most important commodity in terms of value of production and the country's most important agricultural export, faces strong competition from other Latin American producers as a result of changes to the EU's preferential tariff regime. At the same time, rice producers are increasingly calling for government support to reduce the high cost levels of inputs and transportation that undermine their competitiveness in international rice markets[4].

[2] World Bank (2013)
[3] Economist Intelligence Unit (2013)
[4] Economist Intelligence Unit (2013)

Still, Suriname remains a country with strong potential for agricultural development. Of the country's total 1.5 million ha that are considered suitable for agricultural production, it is estimated that only 120,000 ha are currently used for crop cultivation and pastures.[5] Approximately 85% of the suitable agricultural land is located in the country's coastal plains, which also boast the main production areas in the districts of Nickerie, Coronie, Saramacca and Commewijne.[6]

Figure 1 provides an overview of the value of production of agricultural commodities in Suriname. Besides rice and bananas, other important crops produced in Suriname are vegetables, plantains, citrus fruits and cassava. Together, these crops account for 61% of the total value of agricultural production over the 2006 – 2010 period[7]. The main livestock products include poultry meat, beef and pork, as well as milk.

Figure 1: Value of production of main agricultural commodities in Suriname (in million SRD and share of total), 2006 - 2010

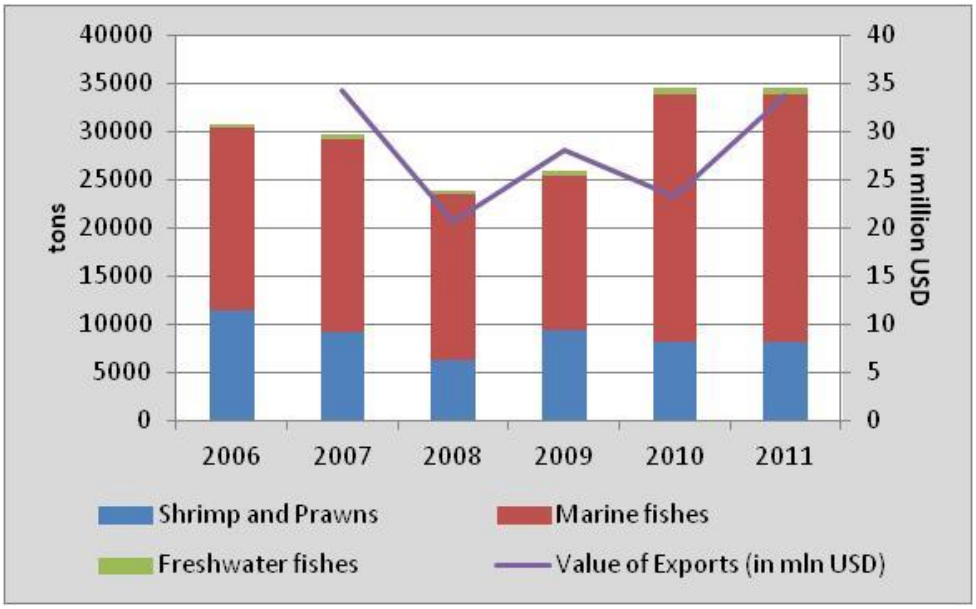


Source: FAOSTAT

[5] World Trade Organization (2013)
[6] FAO (2005)
[7] FAOSTAT (2013)

Over the last decade, the fisheries sector has become increasingly important and currently represents 2.3% of GDP. Though total fish and shrimp capture has been fluctuating, higher international market prices have resulted in higher values of production and exports for the sector.

Figure 2: Annual fisheries production and value of exports in Suriname, 2006 - 2011, in tons and millions USD



Source: FAO Fisheries Global Production Statistics

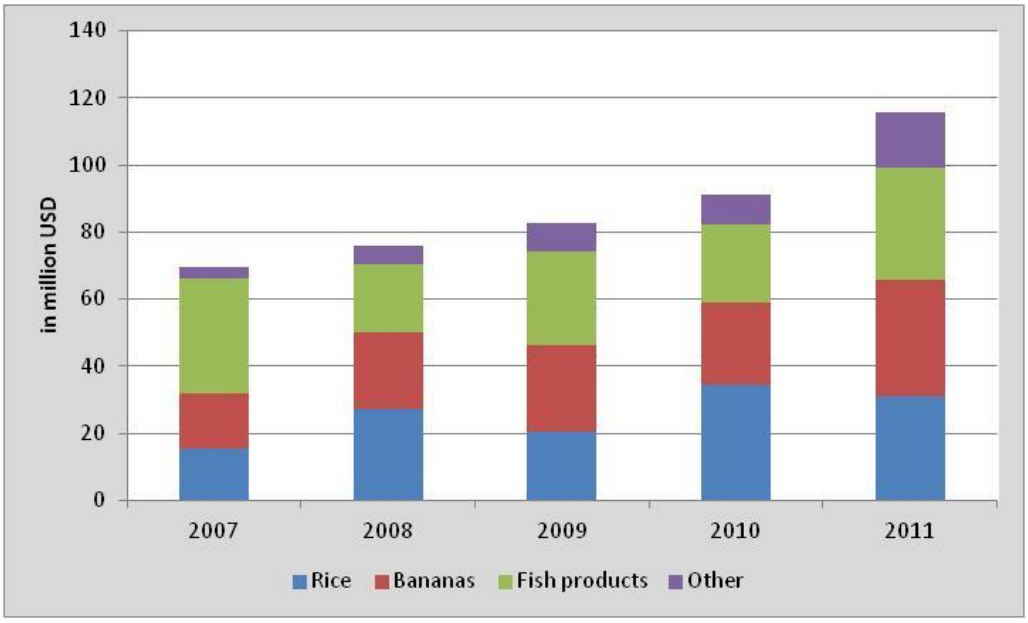
The fishing fleet in Suriname consists of both artisanal and industrial ships. In total, approximately 1100 ships are active in the coastal and inland waters, of which 135 are trawlers and liners for the catch of shrimp, seabob, snapper and pelagic species. As follows from Figure 2, production of shrimp has decreased over the period under review, while marine fish (mainly for fish fillets) has shown increases. The United States, Jamaica and The Netherlands are the main export destinations for Surinamese fish.[8]

Although the relative importance of agriculture in the economy has decreased, agricultural exports have demonstrated a consistent upward trend over the last five years. As shown in Figure 3, total agricultural exports increased from USD 69 million in 2007 to USD 115 million in 2011. The total value of banana exports more than doubled from USD 16.6 million in 2007 to over USD 34 million in 2011. Together, rice and bananas are not only the

[8] World Trade Organization (2013)

major crops in terms of production, but also represented over 50% of agricultural exports throughout the period under review.

Figure 3: Value of main agricultural exports, 2007 - 2011, in million USD



Source: FAOSTAT and World Trade Organization, 2013

2.2 Introduction to Agricultural Policy

In its 2010-2015 government statement 'Crossroads – Together towards better times', the Government of Suriname stated that increasing food production was among the key priorities of its policy agenda, and that the agricultural sector should focus both on food production for local consumption as well as to supply international (and, in particular, regional) markets[9]. In the same document, it was also announced that the Government would prepare a number of white papers to set out its priorities for development and growth in the country's main agricultural subsectors.

The general government policy for the agricultural sector is laid down in the Beleidsnota LVV 2010 – 2015. The policy note builds on the 2005 – 2010 Agriculture Sector Programme (ASP) that focused on three main objectives, 1) food security and safety, 2) income generation and 3) contribution to the economy. The programme was financed through an Agricultural Sector Fund that relied heavily on resources from the Netherlands committed under the Dutch-Suriname Treaty on Development Assistance. As a result of the treaty's phase-out in 2010, the ASP could not be extended beyond mid-2009[10].

The new Beleidsnota LVV 2010 – 2015 is the principal policy document for the Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) and was drafted in just three months after the installation of the Bouterse Government[11]. The note expands the number of strategic objectives of agricultural policy from the former three to seven:

1. To guarantee the food security of the population of Suriname;
2. To secure agricultural health and food safety;
3. To develop a sustainable agricultural sector;
4. To transform the agricultural sector into the food producer and supplier of the Caribbean region;
5. To increase the contribution of the agricultural sector to the national economy
6. To create the spatial conditions for sustainable development of the agricultural sector; and

[9] Government of Suriname (2010)
[10] Ministry of Agriculture, Animal Husbandry and Fisheries (2010)
[11] Roseboom (2012)

7. To manage the preconditions and risks regarding the implementation of agricultural policy.

In addition to the sector-wide Policy Note, White Papers were drafted for the following subsectors: Rice; Bananas; Livestock; Horticulture; Fisheries and Aquaculture; Agribusiness; Agricultural Health and Food Safety; and Agricultural Development of the Interior.

No summary of the different subsector white papers is presented here, but an overview of the relevant objectives and activities set out in the different documents is provided in Roseboom (2012). In addition, key information from the white papers on the Government's policy priorities for the different subsectors is included in the section on commodity specific measures below.

In July 2012, the Ministry of Agriculture requested the technical assistance of FAO for the preparation of an Agricultural Action Plan 2013 – 2016. The assistance in support of the formulation of the plan was expected to be initiated in July 2013. The Action Plan would comprise a set of concrete actions to be selected out of the subsector white papers, including a ranking of priority policy interventions for the three-year period, organized in a results-based framework.

The Ministry of Agriculture, Animal Husbandry and Fisheries (LVV) is the main institution responsible for the administration of public sector programmes and projects of Suriname's agriculture, fisheries and livestock sectors. The Ministry is politically directed by a Minister of Agriculture, while the civil service is headed by a Permanent Secretary. The Ministry consists of five departments: (i) crops, (ii) livestock, (iii) fisheries, (iv) research, marketing and processing and (v) administrative services. The directors of these departments, together with the Permanent Secretary, make up the management team of the Ministry[12].

The Ministry also carries the administrative responsibility for a set of foundations and state-owned companies that are active in the agricultural sector. The most important of these are listed in Table 1. In the budget of the Ministry, the profits (or losses) from these parastatals is not individually recorded, but only collectively. As a result, the contribution of each

[12] Roseboom (2012)

parastatal to the Ministry of Agriculture's budget cannot be assessed. In 2011, parastatal enterprises' contribution amounted to a mere SRD 164,000 on a total of SRD 5.12 million non-tax income. The majority of non-tax revenues collected by the Ministry comes from animal slaughtering inspection and certification (in 2011: SRD 2.77 million) and commercial fishing licenses (in 2011: SRD 1.41 million).

Table 1: Overview of key public sector foundations and enterprises under administrative responsibility of the Ministry of LVV

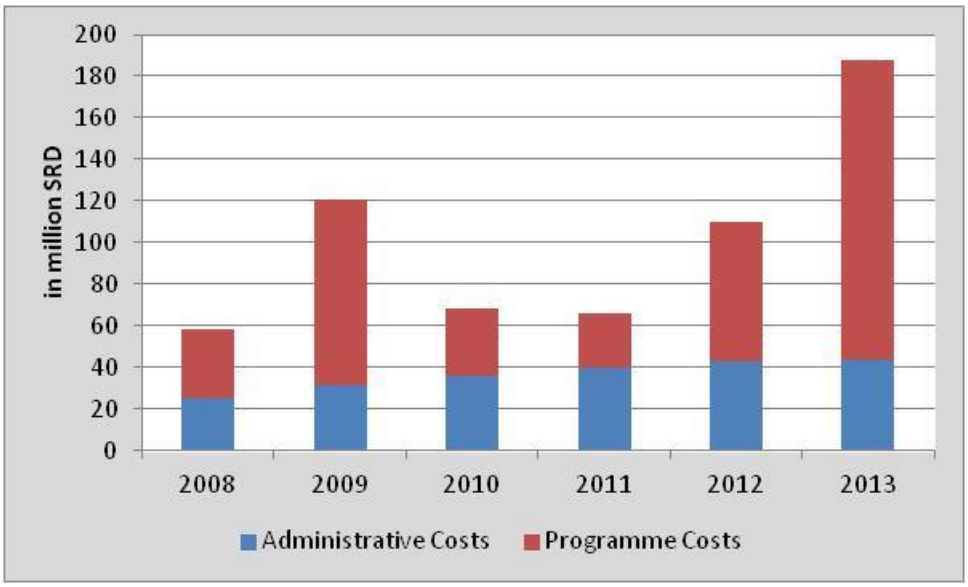
Name	Activity	Legal status	Remarks
Centrale voor Vissershaven in Suriname (CEVIHAS)	Central fishing port	Joint Stock	
Landsbedrijf Alliance (ALLIANCE)	Fruit plantations	Special Law	
Melkcentrale Industrie	Milk production and import	Joint Stock	
Multipurpose Corantijn Project (MCP)	Infrastructure and water management for rice production	Sui Generis	
Stg. Behoud Bananen Sector (SBBS)	Banana plantation	Foundation	Total sales revenue in 2012: USD 44 million
Surinaamse Amerikaanse Industriemaatschappij (SAIL)	Shrimp fishing and processing	Joint Stock	

Source: Roseboom (2012) and World Trade Organization (2013)

The total budget of the Ministry of Agriculture, Animal Husbandry and Fisheries showed significant fluctuations in last six years. Following the termination of the Netherlands' development assistance to Suriname and a drop in bauxite revenues, the fiscal position of the Government deteriorated from a surplus in 2008 to a deficit of 2.9% in 2010.[13] As a result, the Ministry of Agriculture also faced budget cuts and its overall budget was reduced from SRD 120 million in 2009 to SRD 68 million in 2010 and SRD 67 million in 2011. As can be seen from Figure 4, the cuts mainly affected the programme budget, while administrative costs showed slight increases as a result of growing staff costs.[14] This also meant that transfers to the agricultural sector from the Ministry's budget diminished between 2009 and 2011. It is foreseen that the level of programme spending will revert to pre-2010 levels as of 2013.

[13] World Trade Organization, 2013
[14] Data obtained from the Ministry of Finance, 2013

Figure 4: Total budget of the Ministry of Agriculture, Animal Husbandry and Fisheries, 2008 - 2013, in million SRD



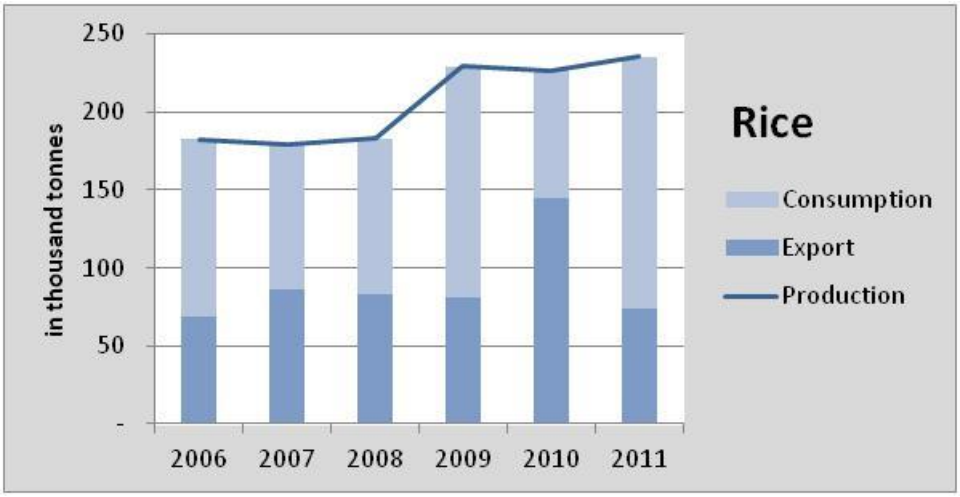
Source: Ministry of Finance, 2013

2.3 Commodity Specific Measures

Rice [15]

Rice is Suriname's most important agricultural crop. It is the product with the highest share in total value of agricultural production and it is the population's main staple food. The importance of rice in the Surinamese diet is greater than in many other countries in the region, including Jamaica, Brazil and Venezuela. In 2009, rice consumption in Suriname amounted to 68 kg per head of the population, representing an energy supply of 629 kcals per day (25% of total per capita calory intake). In addition, it is the second most important agricultural export after bananas. Since 1990, the subsector has witnessed significant variability in total production, mainly because of fluctuations in the area harvested. Total production reached a peak of 327,000 tons in 1985, before dropping to levels between 150,000-170,000 tons in the 2000 – 2004 period. Higher costs of inputs, poor infrastructure and reduced access to finance were considered as the main reasons of the decline in rice production [16]. Currently, rice production is showing an upward trend with paddy production returning to levels consistently above 200,000 tons since 2009 (see Figure 5).

Figure 5: Rice production, consumption and export in Suriname, 2006 - 2011, in thousand tons



Source: Ministry of Agriculture, Agricultural Statistics, 2013

[15] A more detailed analysis of the rice value chain and its cost structure is provided in annex I.
[16] World Trade Organization, 2013

Rice production is strongly concentrated in the western coastal districts of Nickerie, Coronie and Saramacca. The Nickerie district alone represents approximately 80% of the area under cultivation.[17]

Given its key economic importance, the rice subsector is the main focus of Suriname's agricultural policy and has been the subject of various policy measures, including direct payments to producers, fuel subsidies, export taxes, and government support to irrigation, water management, access to inputs and rice research. The policy objectives of the Government for the rice sector include the improvement of infrastructure, access to inputs, higher levels of product quality and increased access to finance for producers and processors. The basic document that lays down the policy priorities of the Government for rice is the rice subsector White Paper.[18]

The tax on all rice exports amounts to SRD 10 per ton and is levied at the border. The tax is generally referred to as an inspection fee. Of the SRD 10, the amount of SRD 6 is used as a funding source for the Anne van Dijk Rice Research Centre. The remaining SRD 4 is captured by the Ministry of Agriculture and is included in its budget as a non-tax revenue.

In 2013, the Government paid rice farmers a subsidy (usually referred to as 'incentive') of SRD 2,13 per bag of 79 kg of wet paddy rice, in order to compensate rice producers for the increased government take on fuel that was introduced by the new Government in 2011. Though initially the subsidy was planned to take place as an area payment of SRD 130 per hectare planted, the Ministry of Agriculture decided to convert the payment to a production subsidy paid out on the basis of bags of paddy rice produced. This meant that farmers with higher productivity levels benefited more than less productive farmers. The subsidy was eventually paid out to farmers in March 2013 through the banking system to promote that, where applicable, the subsidy was used to settle overdue debts and increase producers' credit standing. The Government has not given any indication that the subsidy payment will be repeated on an annual or otherwise regular basis, and therefore it should be considered the one-off result of a lobby campaign from the rice subsector, rather than a deliberate policy decision of the Government of Suriname as part of its overall strategy for the rice subsector. During the

[17] Ministry of Agriculture, Animal Husbandry and Fisheries, 2010
[18] Ministry of Agriculture, Animal Husbandry and Fisheries, 2010

preparation of the report, the research team did not encounter a policy document that outlines the rationale and objectives of the rice subsidy.

If the objective of the instrument is to reduce the debt-burden among producers and increase their credit standing, a direct income payment (e.g. based on acreage) would be a more effective instrument, as well as less price distorting. Farmers with low productivity levels need credit most, as they require it for productivity-enhancing investments. Under the conditions of the subsidy implemented in Suriname, however, those producers benefited less from the subsidy than those that already register high levels of productivity. Though the subsidy will have had some positive effects on the liquidity of rice producers, there are no indications that long-term productivity gains are expected from the payment.

The compensation payment for high fuel costs – which represent 10-15% of the total cost of production for rice[19] - was not new; in the period 2003 - 2006, rice farmers benefited from the reimbursement of the government take on fuel up to a limit of 125 liters per hectare. The funds for this fuel subsidy were provided by the Ministry of Finance, while the Ministry of Agriculture implemented the measure by keeping required records and arranging payments to farmers. For the year 2006, a total sum of USD 1.7 million was paid in support to producers. Approximately 1270 farmers benefited from this support measure with an average payment of SRD 1340 per farmer.[20]

Another important element of government support to the rice subsector is through the para-statal National Rice Research Foundation, in particular the Anne van Dijk Rice Research Centre (ADRON). Its total budget in 2010 amounted to SRD 1.99 million, of which SRD 0.44 million was covered by the sector through the 60% share of the export tax that is allocated to ADRON. The main focus of ADRON's research program is on seed development, pest and disease control and crop management.

Under the EU support programme for the competitiveness of the rice subsector in ACP countries, EUR 9.25 million was allocated to Suriname for the 2008 – 2013 period. These funds

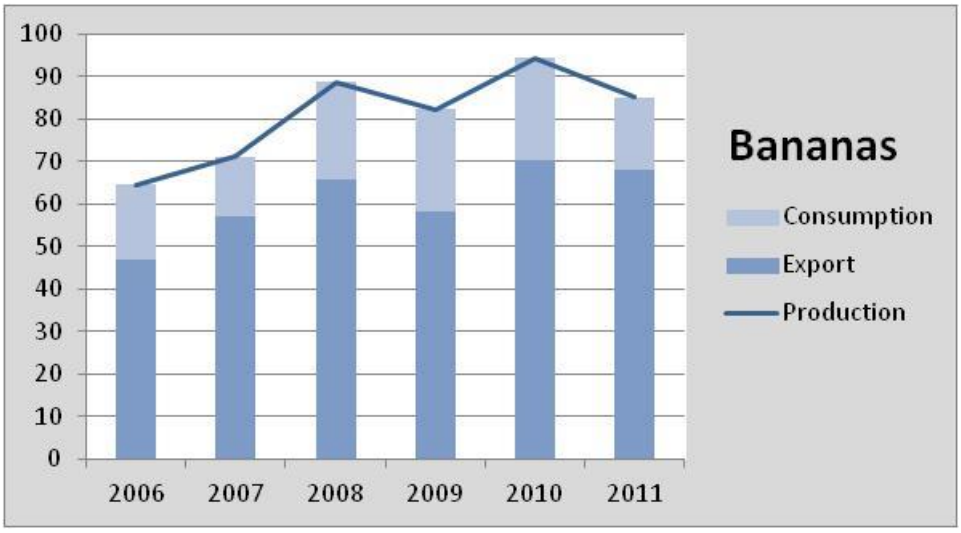
[19] Based on estimates from the United States, see Greer et al (2012)
[20] Graanoogst, 2007

were used for capacity building, credit provision through the Rice Fund, and rehabilitation of infrastructure.

Bananas[21]

Bananas are Suriname's most important agricultural export product.. Though banana production goes back to the 1960s, the subsector witnessed a dramatic collapse of production following the bankruptcy of the state-owned banana company Surland N.V. in 2002. Before the collapse of Surland, production hovered around 40,000 tons per year. Given the importance of the banana subsector for Suriname's economy in general and its foreign exchange earnings in particular, the Government decided to implement a restructuring plan for viable long term development of the banana subsector that could compete in a liberalized world market. The assets and activities of Surland were brought under the Stichting Behoud Bananen Sector (SBBS), a newly established state-owned banana company. Since the restructuring, production showed levels of 94,272 tons in 2010 and 85,017 tons in 2011, with banana exports amounting to 70,239 and 68,138 tons respectively (see Figure 6) . The entire volume is realized by SBBS, which is the only operator in Suriname involved in banana production and export. The EU is the main export market, with Germany, Austria, France and Belgium as the most important destinations. The company employed 2,400 staff, making it the second-biggest employer in the country after the Government itself.

Figure 6: Banana production, consumption and export in Suriname, 2006 - 2011, in thousand tons

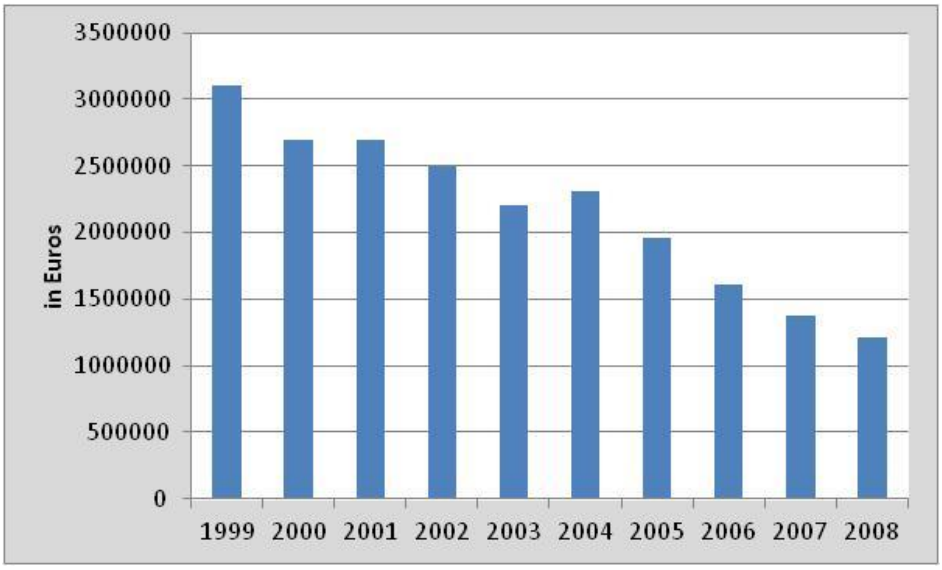


[21] A more detailed analysis of the banana value chain and its cost structure is provided in annex II.

Source: Ministry of Agriculture, Agricultural Statistics, 2013

The investment plan for the subsector, which initiated in 2003, was largely funded through the European Commission's Special Assistance Framework (SFA) for Banana Accompanying Measures. The SFAs are assistance programs to traditional banana producers of the group of African, Caribbean and Pacific States (ACP), and were established to support adjustment of these countries' banana sectors to a more liberalized world market and increase competitiveness. In Suriname, total support throughout the 1999 – 2008 period averaged EUR 2.18 million a year and was used for investments in productivity, quality and infrastructure. The two plantations of SBBS (The Nickerie Estate of 1012 ha and Jarikaba Estate of 1253 ha) now benefit from modern infrastructure and equipment, such as drainage and irrigation systems, a cableway installations, packing stations and other civil works.

Figure 7: Annual support to the banana subsector from the EU's Special Framework Agreement, 1999 - 2008, in euros



Source: Ministry of Finance of Suriname

Despite a solid sector reform and increased competitiveness, banana still requires financial support from the government. In 2011, the Ministry of Finance made a USD 2 million contribution to SBBS to reinforce the company's working capital. As part of the 2010 Geneva Agreement on Trade in Bananas, Suriname receives an additional EUR 9.3 million over the period 2012 - 2016, allocated to investments in infrastructure as well as to improve the social and environmental conditions on the estates. This should result in lower costs, increased productivity and higher production quality to improve SBBS' market position and

competitiveness in the international market. The additional multi-annual support compensates the Surinamese banana subsector for reduction in the preferential margins for ACP countries to access the European banana market from EUR 3,26/box in 2010 to EUR 1,38/box in 2020. This means that Suriname will face increased competition from larger banana producing countries such as Ecuador and Colombia.

Transport costs also remain an important obstacle to increased competitiveness and lower costs in the banana subsector. The additional trucking costs related to the absence of a functioning port in Nickerie that can be used to ship banana produce, are estimated by SBBS to be USD 1 million per year.

Both external stakeholders, SBBS management and the Government have repeatedly stated that privatization of SBBS is the only sustainable future for the company. In 2005 and 2009, attempts to privatize SBBS were unsuccessful and the company remained in state ownership. In a letter to the European Union in June 2012, the Government of Suriname reaffirmed its commitment to privatization, and a third attempt to transfer SBBS' ownership to the private sector was launched. Currently, negotiations about the sale of SBBS to Univeg, a Belgium-based fruit and vegetables group, are still ongoing. Joining a broader fruits banana marketing group is considered to increase the company's long-term sustainability considering the structural weak position of banana growers in the industry and the strong movement of concentration on the international banana trade. It would allow SBBS to benefit from increased marketing opportunities and improve the average market price for the Surinamese banana.[22]

Besides the state ownership, there is no explicit export policy that affects the banana subsector, and domestic (farm-gate) prices are not available, as the value chain for bananas is integrated and only FOB prices are recorded. As a result, support to bananas in the analysis was set to zero. Further detail can be found in the Annexes to this report, which include a more specific overview of the characteristics and costs of the banana value chain in Suriname.

[22] European Commission, 2012

Cassava

Historically, cassava has been mainly produced as a staple food in the interior of Suriname. Currently, however, cassava production has received increased interest from the Government of Suriname and private investors alike.

Recently, the Government has initiated a cassava initiative to boost production of cassava for processing into flour. Cassava flour could be used to produce bread, thereby reducing the wheat import bill. In addition, the 2010 Beleidswitboek Veeteelt (Policy White Paper for Livestock) mentions cassava as a possible crop to be processed into animal feed, in order to reduce Suriname's dependency on imported feed. Furthermore, private company Unifood Suriname has started the production of cassava for export as block and grated fresh cassava (frozen) to the European market. Finally, the agricultural research institute CELOS is running a long-term cassava improvement programme.

The Government-supported cassava processing to cassava flour is part of the Cassava Initative that started in 2010 and which is led by Mr. Robert Power, the agriculture advisor to the President. The main component is the establishment of a cassava processing factory for flour near Zanderij, funded through a Government-backed loan, by Innovative Agro Processing Industries NV (IAP). The processing capacity of the plant is 30,000 tons of raw cassava per day. The fresh produce will be procured from small producers at a 'guaranteed' purchasing price of USD 0.60 per kg, which is higher than the international market price. It has been mentioned that factory ownership has been transferred to the Government, but no details about the arrangement are available.[23] If this is the case, this would go against the Government's stated objective of reducing the state-ownership of agricultural enterprises. So far, no cassava has been procured yet by IAP, and therefore it has not yet been confirmed whether the price of USD 0.60 per kg will be respected. Therefore, the 'guaranteed' purchasing price has not been included in the PSE calculations.

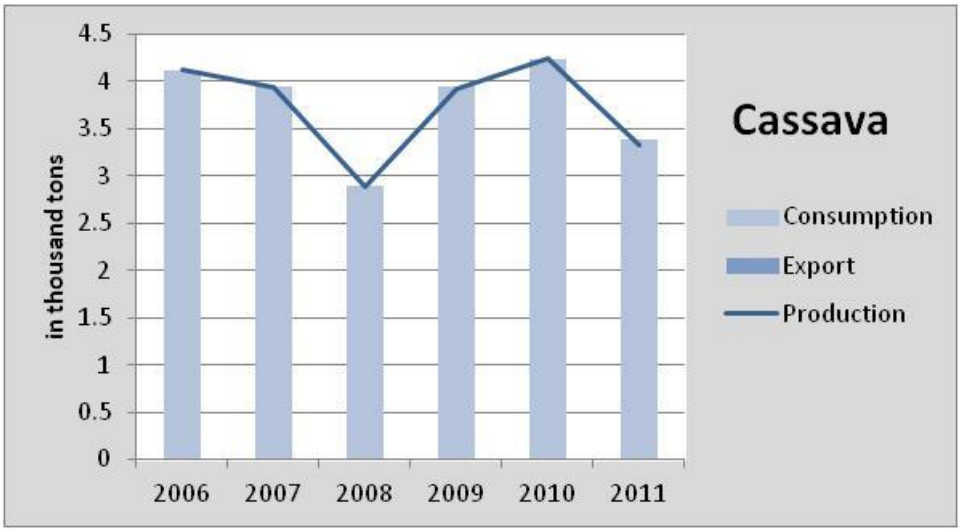
Various other stakeholders have labelled the price promised to producers by IAP as unsustainable in the medium-term. In addition, researchers at CELOS have warned against the risks of rapidly expanding cassava production without proper training and development of high-quality planting material. These risks include diseases or exploitation of forests.

[23] Information provided by Mr. Winston Ramautarsing on 29 July 2013

Despite the fact that some contacts between CELOS and the Government's Cassava Initiative was established, surprisingly Suriname's primary agricultural research institute has not been involved in the initiative in a structural manner. At the same time, private sector stakeholders mentioned to the research team that information from CELOS regarding its cassava breeding program was not readily available. The role of the Ministry of Agriculture in the coordination of the cassava initiative seems somewhat unclear and limited. However, the Ministry is more actively involved in technical assistance to promote cassava production. In 2012, approximately 50 officers of the Ministry's agricultural extension department have been trained in propagation of cassava planting material and cultivation of cassava to guide small and medium growers in setting up their casssava plantations. In 2013, approximately 800 farmers received training on cassava cultivation nation-wide.

Figure 8 shows the levels of cassava production and consumption during the 2006 – 2011 period. It is important to note that the effect of the recent Government-led cassava initiative as well as the private investments in the cassava chain are not yet reflected in the production figures below.

Figure 8: Cassava production, consumption and export in Suriname, 2006 - 2011, in thousand tons



Source: Ministry of Agriculture, Agricultural Statistics, 2013

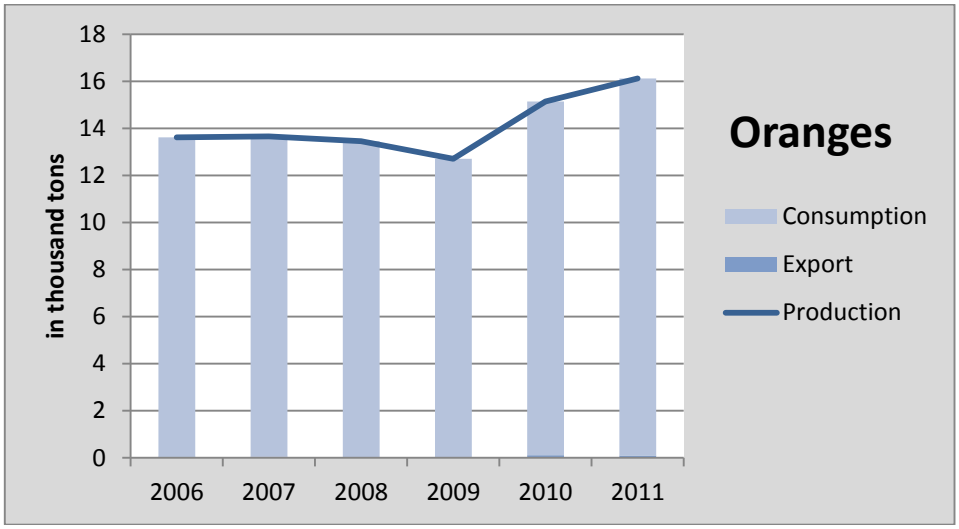
Oranges

In general, fruits and vegetables are grown by small and part-time producers on a total of approximately 1,000 ha, with small farm sizes ranging from 0.5 – 2 ha. Oranges, and citrus-fruits in general, are produced in Suriname almost entirely for domestic consumption, as can

be seen in Figure 9. During the period under review, production remained largely stable, with a slight increase in 2010 and 2011.

Production of citrus fruits also takes place on the estate of Alliance, a former sugar cane plantation in the Commewijne district that is now owned by the Government – operating as a parastatal – and that is entirely focused on citrus production. Early 2013, reports emerged that retail prices of oranges spiked to almost 5 SRD per orange as a result fruit shortages following years of neglect of citrus production.[24] The Ministry of Agriculture, however, reports that the average price per orange in the first quarter of 2013 remained at SRD 2.80.

Figure 9: Orange production, consumption and export in Suriname, 2006 - 2011, in thousand tons



Source: Ministry of Agriculture, Agricultural Statistics, 2013

Meat

In the early 1990s, Suriname's self-sufficiency rate for livestock products was around 100%; today Surinam is a net importer of all livestock products, as the current production levels do not meet the domestic demand for these products. Though the contribution of the livestock sector (including meat, dairy and eggs) to the national economy has gradually increased in the 2005 – 2010 period, the sector attracts low levels of investment compared to crops such as rice and bananas. In various subsectors, including meat cattle, dairy cattle and poultry, the number of farms has been decreasing. In the vast majority of farms, animal husbandry is a part-time

[24] 'Schaarste sinaasappel door verwaarlozing aanplant', DB Suriname, viewed here: http://www.dbsuriname.com/dbsuriname/index.php/schaarste-sinaasappel-door-verwaarlozing-aanplant/

economic activity. In addition, the absence of domestic feed production has driven up the cost of production of most meat products, and processing industry is weakly developed.[25]

Table 2: Livestock sector in Suriname, key indicators, 2010

Sub-Sector	Number of Farms	Number of Animals	Production Volume	Production Value in SRD
Chicken (broilers)	2200	500,000	8.2 million kg	61.86 million
Chicken (meat)	1500	240,000	45 million chicken	15.75 million
Meat cattle	1000	36,000	1.9 million kg	21.64 million
Dairy cattle	1000	18,000	6.5 million liter	12.35 million
Pigs	155	29,000	1.9 million kg	13.68 million
Small ruminants	450	13,000	16.500 kg	0.57 million

Source: LVV, Witboek Veeteelt (2011)

Table 3: Average per capita meat consumption, 2009

Meat type	Local production (kg)	Imports (kg)	Total (kg)	Local production as % of total consumption
Beef	3.85	2.70	6.55	59%
Pork	3.58	1.34	4.92	73%
Poultry Meat	15	33.49	48.49	31%

Source: LVV, Witboek Veeteelt (2011)

Poultry meat[26] is the most popular source of animal protein in Suriname. With a consumption level of almost 50 kg per capita, the Surinamese are among the countries in the world with highest poultry per capita consumption.

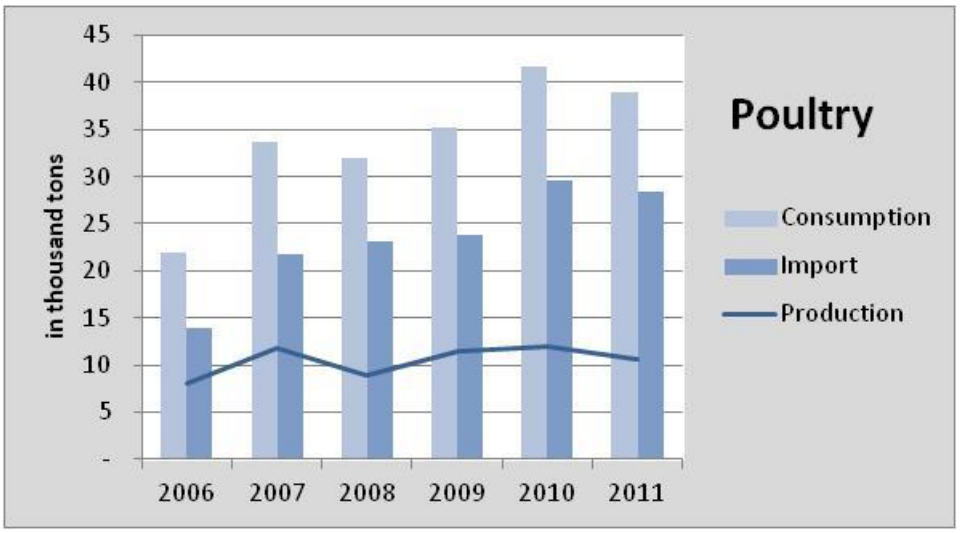
The macro-economic imbalances and foreign exchange shortages of the 1980s and 1990s have had a strong effect on the Surinamese poultry subsector. Given the sector's high dependency on imported feed, in the early 1990s farmers were confronted with limitations to the availability of foreign exchange to finance chicken feed and medicines, which together constitute the main cost component of poultry production. This lead to a scarcity of poultry meat and high consumer prices. In order to ensure the availability of affordable chicken for the population, the Government lifted the import ban for poultry meat and the first bulk of leg quarters was imported in 1992. This resulted in benefits for consumers who pay lower market prices for poultry, also in comparison to other countries in the region that maintain high

[25] Ministry of Agriculture, Animal Husbandry and Fisheries, 2011
[26] A more detailed analysis of the poultry value chain and its cost structure is provided in annex III.

protection levels for poultry (such as Jamaica, which has in place a 260% tariff). The growing demand for lower-priced imported chicken was reflected in a solid growth of the share of imported poultry meat. In 2009, the share total poultry consumption covered by imports had increased to 69%, while in 2011 this had grown to 73%, meaning that only 27% of total consumption was still covered by domestic production.[27] As described in the value chain study on poultry in Annex III, however, the poultry market in Suriname remains divided; imported products are not considered perfect substitutes for domestically raised chicken. Consumers have a strong preference for domestic chicken, which sells at a premium of around 100% over poultry meat imported from the United States.

In the period under review, production levels have remained stable while consumption has increased. As can be seen in Figure 10, total consumption reached levels near or over 40,000 tons in 2010 and 2011, while total production did not exceed 13,000 tons. This signifies that additional demand is entirely covered by imports.

Figure 10: Poultry production, consumption and import in Suriname, 2006 - 2011, in thousand tons



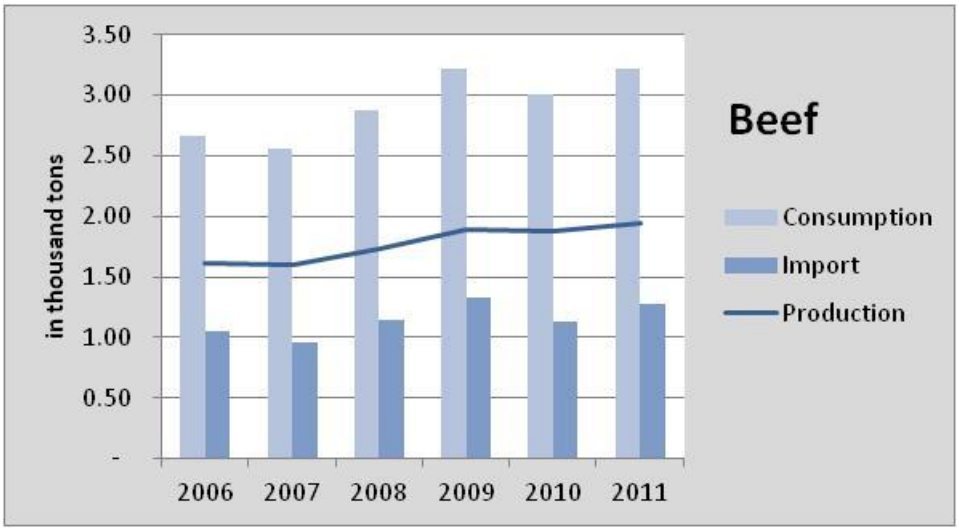
Source: Ministry of Agriculture, Agricultural Statistics, 2013

As can be seen in Figure 11, beef consumption in Suriname has been growing steadily throughout the period under review. The subsector is relatively small; though the Ministry of Agriculture lists around 1,000 cattle farms, only 24 of those farms have 50 or more cattle, and

[27] (Jagai, 2011)

just six farms exist that boast a herd of more than 200 animals. The total number of animals has gradually increased to around 36,000 in 2009[28]. Pork production is even more concentrated, as pig breeding takes place at around 150 farms in the districts of Wanica, Saramacca and Coronie. As follows from Figure 12, pork consumption also follows a growing trend. Both subsectors remain dependent on imported feed components that limit their competitiveness and capacity to compete with beef and pork meat imports. The dependency on imported feed components for cattle is related to the average farm size. In Suriname, cattle is mostly held in a semi-intensive way in which the animals are provided with additional feed. Particularly animals bought from other farms are fattened for beef production through supplementary feeding. [29] A lower dependency on imported feed, for example through more extensive farming and pasture-based production, would increase the competitiveness of the cattle subsector. However, more effiient cattle breeding would not directly result in import substitution, as a significant share of the beef and pork imports consist of processed meat products.

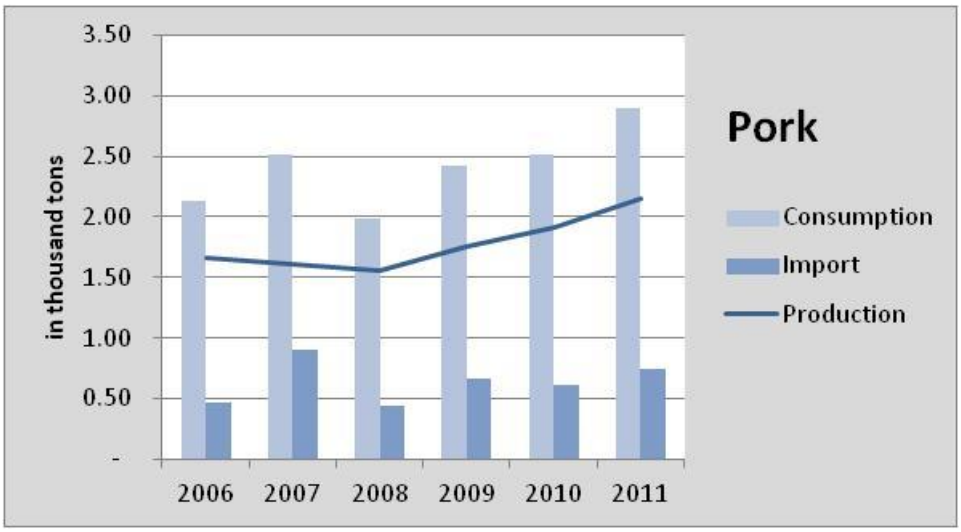
Figure 11: Beef production, consumption and import in Suriname, 2006 - 2011, in thousand tons



Source: Ministry of Agriculture, Agricultural Statistics, 2013

[28] Ministry of Agriculture, Animal Husbandry and Fisheries (2011)
[29] Ministry of Agriculture, Animal Husbandry and Fisheries (2011)

Figure 12: Pork production, consumption and import in Suriname, 2006 - 2011, in thousand tons



Source: Ministry of Agriculture, Agricultural Statistics, 2013

Milk

The milk subsector is the most regulated subsector of Surinamese agriculture. The Melkcentrale Paramaribo (MCP) is a parastatal that is bound to buy all raw milk offered by farmers at a fixed price. It is estimated that approximately 580, or almost 60% of all dairy farmers, sell to MCP, and the processing plant produces 80% of all domestically produced milk. The total raw milk sold to MCP has fluctuated between 5 and 6 million liters per year during the 2005 – 2009 period. The raw milk constitutes approximately 60-70% of total production of MCP, while 30-40% consists of imported milk powder. The other three, non-state owned dairy processors do not respect the obligation to buy raw milk from farmers and only process imported milk powder. The fixed price of milk has increased significantly over the last years. The most recent increase took place in January 2012, when the retail price per liter was raised from SRD 3.50 to 3.75. Less than a year earlier, retail prices stood at SRD 2.75. Though the objective of price setting at retail level is to protect consumers and ensure access to milk, in reality consumers in Suriname are strongly penalized by this policy measure. Households pay more for their milk than they should on the basis of international milk prices, and the retail milk price in Suriname is higher than in the United States or Europe, which have far higher labour and mechanisation costs.[30]

[30] Wouters (2010)

The price of milk, both at retail and farm gate levels, is set by the Ministry of Agriculture and the Ministry of Trade and Industry. The farm gate price is largely based on the cost price of milk. This cost price, on its turn, is determined by a committee which has the above-mentioned ministries, as well as the Union of Dairy Cattle Farmers and the Association of Surinamese Dairy Farmers (VSMB) as its members.

In the medium term, the price policy in the milk subsector is unsustainable as it keeps unproductive and unprofitable farms in operation and reduces the need for producers to make productivity-enhancing investments. The lack of productivity in milk production is confirmed by various reports.[31]

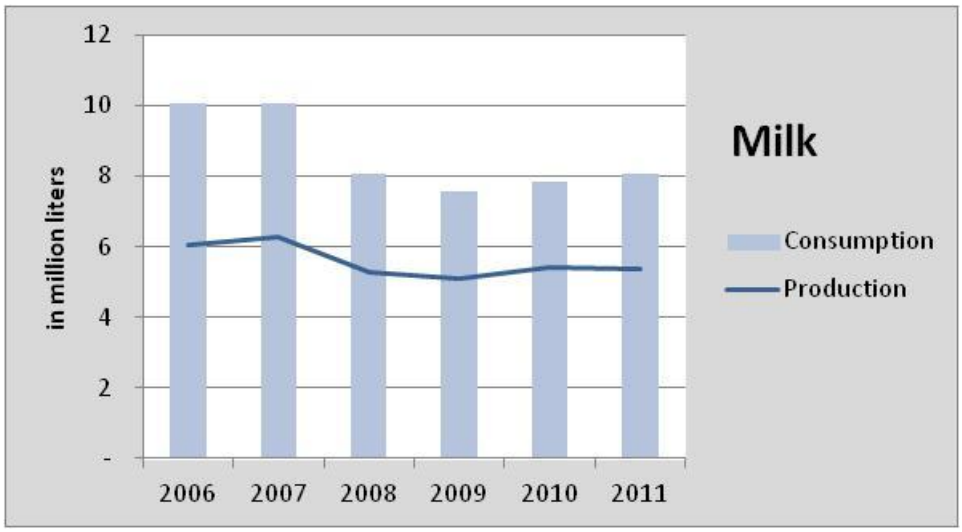
Despite the Government's regulation of the subsector through price policies and state ownership of the Melkcentrale, experts have indicated that the subsector needs to modernise to survive, mainly by improving product quality through better feed, joint procurement of inputs by farmers, more efficient milk collection and improved quality control. This should bring down the costs of production of milk in Suriname and should allow the Government to abandon its price setting policies. [32]

As a result of the high costs in the milk production chain and fierce competition from milk powder imports, milk production has been stagnating – and even slightly decreased – in the period under review, as follows from Figure 13.

[31] Wouters (2010); Report of a mission to the Vereniging Surinaamse Melkveehoudersbedrijven Bond (VSMB), PUM Netherlands Senior Experts, 18 July 2012

[32] Report of a mission to the Vereniging Surinaamse Melkveehoudersbedrijven Bond (VSMB), PUM Netherlands Senior Experts, 18 July 2012

Figure 13: Milk production and consumption a in Suriname, 2006 - 2011, in million liters

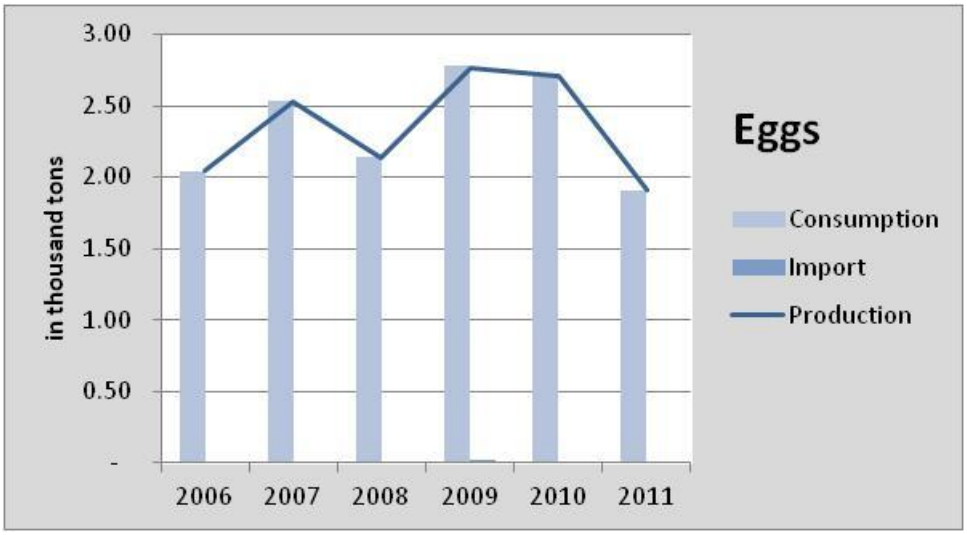


Source: Ministry of Agriculture, Agricultural Statistics, 2013

Eggs

All eggs consumed in Suriname are domestically produced, and Suriname has been self-sufficient in egg production for all years in the period under review. The total number of broilers in the country amounted to 214,000 in 2009. The main challenge for the production of eggs remains the high cost of feed for broilers, as most feed components for poultry are imported.[33]

Figure 14: Egg production, consumption and import in Suriname, 2006 - 2011, in thousand tons



[33] Ministry of Agriculture, Animal Husbandry and Fisheries, Beleidswitboek Veeteelt, 2011

Source: Ministry of Agriculture, Agricultural Statistics, 2013

2.4 Trade Regulations

General orientation of trade policy

The general trade policy orientation towards trade liberalization of Suriname is aimed at improving efficiency and identifying Suriname's key strengths as an open economy with vast natural resources. The Government acknowledges that in a globalized and increasingly open market with less trade preferences and fierce competition, economic diversification and competitiveness are key. In order to benefit from economic opportunities in the international market, the country has recognized the need to increase the engagement of the private sector and shift the role of Government in economic development from a leading to a facilitating one. These challenges are also valid for the country's agricultural sector. The Development Plan 2012 – 2016 highlights the importance of export growth as a crucial condition for development in the medium term.

The trade policy of Suriname is strongly influenced by its membership of the Caribbean Community (CARICOM) and the World Trade Organization (WTO). Suriname joined CARICOM in 1995 and entered the group's single market one year later. The WTO indicates that Suriname appears to be well positioned to benefit from efforts to liberalize trade and to reduce international market distortions, given that for the major part of its exports it does not depend on non-reciprocal preferential treatment as it sells its minerals mainly in competitive markets. Exceptions of this are rice and bananas, which benefit from ACP trade preferences to enter the European market.

Measures affecting exports of agricultural products

All exports are subject to a consent fee of 0.1% and a statistical fee of 0.5%. These fees apply to exports to all destinations (including the CARICOM) and are calculated on the basis of FOB value.[34]

Rice exports are subject to an implicit export tax in the form of an inspection fee. This tax amounts to SRD 10 per ton, of which SRD 6 is used to fund the Anne van Dijk Rice Research Centre in Nickerie.

[34] Information provided by Ministry of Trade and Industry, 2013

The Ministry of Trade and Industry has confirmed that the government does not grant any export subsidies to any sector.

Measures affecting imports of agricultural products

Under the Ministry of Finance, the Customs and Excise Department (CED) is responsible for implementation of customs and duty collection and processing.

Suriname grants duty-free access to all imports from the CARICOM area.

The tariffs that apply to agricultural imports from non-CARICOM countries are 20% for nearly all products, including meat products such as poultry. In the WTO, Suriname did not reserve the right to use the special agricultural safeguard or apply export subsidies. The applied tariffs vary strongly between products, but have a ceiling of 50% for certain prepared foodstuffs, while other products (mainly of basic need, such as wheat and maize flour) are duty-free.

Based on the Law on Turnover Tax 1997, a turnover tax of 10% is applied to most domestically produced as well as imported goods. For various food products, a rate of 0% applies. These include all products under review, such as rice, meat products, milk, eggs and fruits, as well as other agricultural commodities such as wheat and potatoes. The tax is levied at the point of sale by the manufacturer. For imports, the 10% tax is calculated on the basis of the import value of the goods (CIF) plus all other duties and charges.[35]

Measures affecting production, trade and prices

According to the 2013 WTO Trade Policy Review, Suriname notified the World Trade Organization in 2009 that it did not grant subsidies to any economic sector.[36] In March 2013, an incentive was paid to rice producers amounting to SRD 130 per hectare in order to compensate farmers for the low international market price during the 2012 Spring season. During interviews of the research team with agricultural sector stakeholders and government representatives these interlocutors seemed keen to stress that this payment was not a subsidy but merely a compensation payment.

[35] World Trade Organization, 2013
[36] World Trade Organization, 2013

A price control framework is in place for 44 products of basic necessity. This framework allows the Ministry of Trade and Industry to intervene and establish prices of any good on the list if it rises by more than 15%.[37] During the food crisis in 2008, the Government negotiated with the business sector to restrict profit margins for both importers and retailers to 7%.[38] The authority of the Ministry of Trade and Industry to apply price controls (on an ad-hoc basis) is based on a 1996 Price Setting Law. The price controls as well as band of allowed mark-ups at wholesale and retail levels can be enforced by the Economische Controle Dienst (Economic Inspection Service). The full list of products has not been obtained during the preparation of this report, but a 1999 report of ECLAC on Trade policy in the CARICOM mentions cheese, peanut butter, onion, beans, peas, tea, flour as some of the products. During our research we have not come across any case of price setting by the Government. However, recently there have been some calls for more intensive price controls (by consumer organizations as well as labour unions) on retailers' mark-ups to lower the prices of basic food supplies.[39]

[37] World Trade Organization (2013)
[38] Cable US Embassy (2008), viewed at http://www.cablegatesearch.net/cable.php?id=08PARAMARIBO177
[39] See Dagblad Suriname, *'Prijsstijgingen doen armoede toenemen' (27 July 2013)*, http://www.dbsuriname.com/dbsuriname/index.php/prijsstijgingen-doen-armoede-toenemen/

2.5 Other Measures

Exchange rate policy

The local currency of Suriname is the Suriname Dollar (SRD). During the period under review, the SRD increasingly depreciated in the parallel market. In order to address the depreciation and realign the official exchange rate with the parallel rate, the Central Bank of Suriname (CBvS) decided to carry through a devaluation of the local currency by 20%, from SRD 2.78 to SRD 3.35 per USD). In addition, a band of SRD 3.25 – 3.35 per USD was established within which all transactions have to take place. The devaluation of the local currency played an important part in pushing up the annual inflation rate in 2011, which was estimated at 15.3%, also as a result of increased import prices.

Ease of doing business

In the World Bank Doing Business Report, Suriname ranks near the bottom of countries in which it is easy to do business. In 2013, Suriname occupied the 164th position (out of a total of 183 countries), down from 161st in 2011 and 155th in 2010. This is partly due to the notoriously slow processes to start a business, which requires an average of 694 days and 13 different administrative procedures, the third slowest in the world. The report also indicates that over the last eight years, no single institutional or regulatory reform to improve the environment for local entrepreneurs was recorded, compared to 25 in Colombia.[40] Suriname was also included in the World Economic Forum (WEF) Global Competitiveness Report 2011-2012, in which it ranked 112th out of 142 positions, sliding down from the 102nd position in 2009-2010. The main challenges of the business climate in Suriname include difficult access to capital and inefficient government administrative processes. The current Government has explicitly recognized the need to improve the business environment and simplify procedures in the 2011 – 2015 Policy Note of the Ministry of Trade and Industry.

Subsidized credit

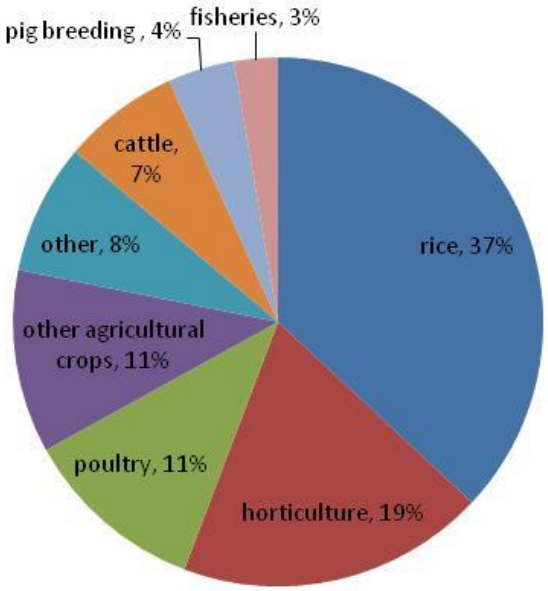
The Agricultural Credit Fund (AKF) was established in 2007 and was funded with EUR 2.3 million of capital from the Netherlands' development assistance resources. It operates as a revolving fund and is managed by the Landbouwbank (Agricultural Bank). The Landbouwbank is a financial institution fully owned by the Government of Suriname, and is responsible for 5% of total supply of credit in Suriname. An additional EUR 1 million of capital was provided

[40] The World Bank, 2013

by the Government from the Fund for Economic and Social Structure Improvement (FESS) to the AKF, with a particular instruction to increase subsidized lending to the rice subsector. The maximum loan amounts for rice producers are SRD 500,000 and for non-rice farmers SRD 200,000. The interest rate for all loans is 6.75%, against a current market rate of 11-13%.[41] The average grace period is 6 months. The current portfolio (July 2013) of the AKF consists of 191 loans for a total amount of SRD 19.4 million. Loans to the rice subsector represent 37%, or SRD 7.2 million of the total portfolio. As shown in Figure 15, other subsectors that benefit from the credit fund include crop production, livestock, horticulture and fisheries.

The Landbouwbank was regularly criticized by producers and other stakeholders for being underfunded and too strict in its evaluation process of credit requests. However, the bank indicates that the lack of profitable proposals remains the main issue in the sector. It has also said that it will step up its efforts to assist farmers in drafting business plans and improving their administration.

Figure 15: Loans to agricultural sub-sectors in the Agricultural Credit Fund (AKF) per July 2013, as share of total



Source: Landbouwbank, 2013

[41] Source: Interviews with Landbouwbank management, 2013

Tax Concessions

Companies in the agriculture, livestock and fisheries sectors are eligible for a partial exemption of import duties (90%) for import of capital assets with a minimum value of USD 1,000. In addition to the import duty exemption, eligible goods are also exempted from turnover tax and partially exempt from the statistical fee of 0.5% over the CIF value of imports.

In accordance with the Raw Material Regulation (Grondstoffenbesluit), which was introduced in 1997 to respond to the demand of the private sector to bring Suriname's tax concession structure in line with other CARICOM member states, producers and manufacturers benefit from exemption of import duties on raw materials, inputs, semi-finished products and packing materials. The regulation states that these materials are only exempt from inputs if they are imported to be used in production processes in a number of sectors, including agriculture, livestock and fisheries.[42]

In Annex IV, an estimation is presented of the total revenue foregone by the treasury as a result of these tax concessions that benefit the agricultural sector.

Food subsidies

A baby food subsidy is in place to reduce the cost of baby food for consumers. The subsidy is paid from the budget of the Ministry of Health and amounted to SRD 3.28 million in 2009 and SRD 2.57 million in 2011. For 2010, no data is available. The Ministry of Health announced that from 2013 funds for the baby food subsidy will no longer be budgeted separately. Instead, the baby food subsidy funds will be integrated into a broader Government fund to support low-income households.[43] However, the Ministry of Health indicated that the subsidy will continue to exist. If that is the case, the measure will continue to be reflected in the levels of support to consumers (Consumer Support Estimate, CSE). The subsidy covers approximately 50% of the commercial retail price. Cans of subsidized baby food were priced at SRD 4,75 in 2011, which was expected to rise to SRD 10 after abolishment of the subsidy.[44]

[42] Coffeng, 2010

[43] See NoSpang, 25 October 2012, 'Subsidie babyvoeding niet meer op begroting', viewed here: http://www.nospang.net/index.php?option=com_content&view=article&id=27842:subsidie-babyvoeding-niet-meer-op-begroting&catid=73:binnenland&Itemid=65

[44] See: Starnieuws 31 januari 2011, 'Prijs babyvoeding stijgt met meer dan 100%' viewed here: http://www.starnieuws.com/index.php/welcome/index/nieuwsitem/4366; and No Spang 25 October 2012, 'Subsidie babyvoeding niet meer op begroting', viewed here: http://www.nospang.net/index.php?option=com_content&view=article&id=27842:subsidie-babyvoeding-niet-meer-op-begroting&catid=73:binnenland&Itemid=65

A subsidized school feeding program is implemented by the Government of Suriname. The program costs increased from SRD 2.8 million in 2009 to SRD 10 million in 2011.

3. Estimates of Support to Agriculture

3.1 Methodology

General introduction to the methodology

The estimates of support to the agricultural sector in Suriname are calculated using the methodology of Producer Support Estimates (PSE). The PSE methodology was developed by the OECD in the 1980s and has been applied in both OECD member and non-member countries since 1987. It serves as an instrument for estimating the level of domestic support to agriculture and to compare support internationally and over time. Because of their quantitative nature, information can serve as evidence to monitor and evaluate developments of agricultural policies and as a common base for policy dialogue. For that reason, the PSE methodology is also used by a wide range of international organizations and financial institutions (including the WTO, FAO, the World Bank and the IDB).

For calculating levels and composition of public sector support to agriculture, the PSE focuses on two main components:

- Market Price Support (MPS) is measured as a gap between domestic and reference prices.
- Budget Transfers (BTs)

Positive PSE means that farmers are benefiting from government policy providing support to agriculture, but, at the same time, also indicates that market distortions exist. Negative levels of PSE mean that implicit taxation of domestic producers occurs as a result of agricultural policy or market distortions.

The list of definitions used in PSE, Consumer Support Estimate (CSE) and Total Support Estimate (TSE) is presented in Box 1.

Box 1. Definitions used in Producer Support Estimate, Consumer Support Estimate and Total Support Estimate

Producer Support Estimate – PSE: the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm-gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on farm production or income.

Percentage PSE (PSE%) – PSE as a share of gross farm receipts.

General Services Support Estimate - GSSE: the annual monetary value of gross transfers to general services provided to agricultural producers collectively (such as research, development, training, inspection, marketing and promotion), arising from policy measures that support agriculture regardless of their nature, objectives and impacts on farm production, income, or consumption. The GSSE does not include any transfers to individual producers.

Consumer Support Estimate – CSE: the annual monetary value of gross transfers from (to) consumers of agricultural commodities, measured at the farm gate level, arising from policy measures that support agriculture, regardless of their nature, objectives or impacts on consumption of farm products.

Percentage CSE (CSE%) - CSE as a share of consumption expenditure (measured at farm gate) net of taxpayer transfers to consumers.

Total Support Estimate – TSE: the annual monetary value of all gross transfers from taxpayers and consumers arising from policy measures that support agriculture, net of associated budgetary receipts, regardless of their objectives and impacts on farm production and income, or consumption of farm products.

Percentage TSE (TSE%) – TSE as a share of the GDP.

Single Commodity Transfers - SCT: the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, measured at the farm gate level, arising from policies linked to the production of a single commodity such that the producer must produce the designated commodity in order to receive the transfer.

Percentage Single Commodity Transfers - SCT%: the commodity SCT as a share of gross farm receipts for the specific commodity.

Market Price Support (MPS): the annual monetary value of gross transfers from consumers and taxpayers to agricultural producers, arising from policy measures that create a gap between domestic market prices and border prices of a specific agricultural commodity, measured at the farm gate level.

Source: OECD, 2010.

The value of budgetary support of general services to producers is measured by the GSSE indicator. The GSSE refers to the support provided to agricultural producers collectively, such as expenditure related to agricultural extension, research, technical assistance and infrastructure. The support or taxation of consumers of agricultural commodities is measured by the Consumer Support Estimate (CSE). Together the three indicators PSE, GSSE and CSE compose the Total Support Estimate (TSE), i.e. the total transfers from consumers and taxpayers to agricultural producers associated with agricultural policy. The TSE can be used to indicate the total level of public sector support to agriculture in a given country.

PSE and CSE, as well as PSE components, are often measured in a percentage form, as a share of total farm receipts (receipts from output and budget transfers).

The Market Price Support (MPS) component of the PSE is taken as the difference between the observed domestic price received by farmers, and the international reference price

that represents the value of the commodity in the international market. The reference price is considered to be the price that domestic producers could have received for their products in the absence of any domestic or trade policy affecting this commodity's market. Usually, these reference prices are usually calculated on the basis of border prices of imports (Cost, Insurance and Freight - CIF) and exports (Free On Board - FOB). If no reliable border prices are available, it is also possible to use specific border prices in close neighbour countries or in the countries playing a major role in international trade of the commodity, or the prices that prevail on international commodity exchanges.

Reference prices and producer's prices for MPS calculations must be measured at the same point in the value chain. In order to make the two prices comparable, the reference (border prices) must be adjusted for marketing margins in order to become comparable with farm-gate producer prices. This adjustment means that the costs of processing, handling and transportation to the market where domestically produced commodity meets the commodity from the foreign market, must be deducted from the reference price. In addition, quantity or quality adjustments could be applied to ensure that the traded good is comparable with the product as it is sold by the farmer.

The price adjustments are carried out as follows:

For imported commodity:

CIF price + costs of transporting the product from the border to the internal wholesale market (T1) = price of imports at domestic market level - cost of transporting the product from the wholesale market to the farm gate (T2) - costs of processing farm product into imported product (S) = price of imports in farm gate equivalent.

For exported commodity:

FOB price - handling and transportation costs between border and domestic wholesale market (T1) - handling and transportation costs between wholesale market and the farm gate (T2) - costs of processing of farm product into exported product (S) = price of exports adjusted to the farm gate level.

The Budget Transfers (BT) component of the calculations consists of the public expenditure in support of the agricultural sector. In general terms, these expenditures consist of three main groups:

i. economic transfers from the government budget to agricultural producers (e.g. input subsidies)
ii. financing of general services that support agriculture collectively (e.g. extension services or spending on agricultural research)
iii. transfers to consumers (e.g. food aid or other food subsidies).

The transfers to agricultural producers are included in the PSE indicator, while public expenditure that benefits the sector as a whole is used in the GSSE. Finally, support to consumers is taken into account in the calculation of the CSE. A thorough analysis of the budget of the Government of Suriname has been carried out to obtain an understanding of the nature and characteristics of the public sector's spending in support of the sector, and to distinguish the different types of budget support that the Government provides.

Assumptions and general approach to budget support PSE component calculations

A number of assumptions is applied to make sure the level of public sector support to the agricultural sector in Suriname is calculated correctly:

- Transfers to agricultural producers that benefit individual farmers or group of farmers must be included in the PSE. When the transfers benefit the agricultural sector as a whole, they are considered support to general services and, as a result, are included in the GSSE.

- Transfers to first consumers of agricultural production (agro-processors) and food aid programs are included in the consumer support indicator CSE. However, as primary agriculture is often the final beneficiary of the subsidies to agro-processing sector, these subsidies can be included in the PSE. The reasoning for attribution of those transfers to PSE or CSE is discussed below separately for each transfer, where this is applicable.

- Budgetary transfers to producers, which are part of the PSE, are presented as a matrix structure where PSE categories are presented along the vertical axis and PSE labels along the horizontal axis. Categories and labels indicate the way the

policy program is implemented. The classification and labels of Budget Transfers are given in Table 4.

As shown below, categories indicate the base on which the transfer or subsidy is calculated, such as value of production, number of animals, input use, services provided, income or non-commodity criteria. Labels are used for each category and provide a more detailed understanding of the implementation of each policy measure.

Table 4: Classification of Budget Transfers in the PSE according to OECD methodology

Categories	
A.	*Support based on commodity output*
	A.1. Market Price Support
	A.2. Payments based on output
B.	*Payments based on input use*
	B.1. Variable input use
	B.2. Fixed capital formation
	B.3. On-farm services
C.	*Payments based on current A (Area) /An (Animal number) / R (Receipts) /I (Income), production required*
	C.1 Based on current receipts/income
	C.2 Based on current area/animal number
D.	*Payments based on non-current (historical or fixed) A (Area) /An (Animal number) / R (Receipts) /I (Income), production required*
E.	*Payments based on non-current A (Area) /An (Animal number) / R (Receipts) /I (Income), production not required*
	E.1. Variable rates (vary with respect to levels of current output or input prices, or production/yields and/or area)
	E.2. Fixed rates
F.	*Payments based on non-commodity criteria*
	F.1. Long-term resource retirement
	F.2. Specific non-commodity output
	F.3 Other non-commodity criteria
G.	*Miscellaneous payments*
Labels	
-- With/without L (current commodity production limits and/or limits to payments)	
-- With V/F rates (variable or fixed payment rates)	
-- With/without C (input constraints).	
-- With/without E (commodity exceptions).	
-- Based on A/An/R/I (Area/Animal number/Receipts/ Income).	
-- Based on SC/GC/AC (a single commodity, a group of commodities or all commodities).	

The second category of Budget Transfers are those that benefit the agricultural sector collectively. This expenditure on so-called general services has been separated from the PSE and is instead being calculated as a separate indicator, the General Services Support Estimate

(GSSE). As can be seen from Table 5, the spending to general services is divided into seven broad categories.

Table 5. Classification of Budget Transfers in GSSE According to OECD Methodology

Categories
H. Research and development
I. Agricultural Schools
J. Inspection Services
K. Infrastructure
L. Marketing and Promotion
M. Public Stockholding
N. Miscellaneous

Source: OECD, 2010.

Selection of commodities

Since the PSE indicators are commodity-specific, a commodity selection was carried out to ensure Suriname's most important products are covered by the analysis and to maximize the policy relevance of the analysis. The commodity selection attempted to include both pre-defined, standard MPS commodities, as well as the country's most potentially competitive commodities.

The methodology of the OECD prescribes that all commodities with a more than 1% share in total value of agricultural production are included in the estimations of support, while the goal of the commodity selection process is that sum of the values of production of the commodities included covers at least 70% of the total value of agricultural production over the previous three years. The attempt was made to include the commodities important for Suriname's agricultural strategy and the commodities that are in the focus of the agricultural policy, such as rice and bananas.

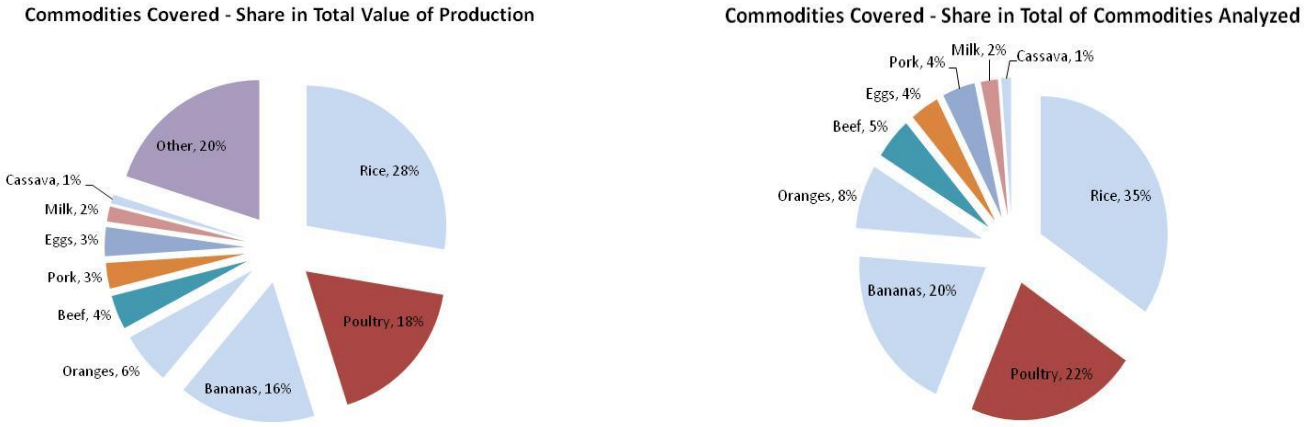
While fisheries is an important sector for Suriname, the PSE methodology is usually not applied for the fisheries sector. Since the PSE calculations are based on gaps between domestic and international reference prices, it is important that these two can be compared. The fact that fish products represent a fairly heterogenous group of different varieties makes it less suitable for the support estimation. In addition, domestic prices and marketing margins were not available for fish products. As a result, none of the fisheries commodities was included in

this analysis. However, if at a later stage sufficient data becomes available on one or more of the most important fish products (e.g. shrimp), the indicators could be updated. It is also recommended that data collection and analysis of support to fisheries is carried out over the coming years in order to assess how policy changes are affecting producers in the sector.

Despite their recognized growth potential, fresh vegetables have also not been included in the analysis as this group also consists of a broad mix of different products that make it unsuitable for domestic and international price comparison. In addition, the share of the individual vegetable products in total value of agricultural production was relatively low and volatile across years. Therefore, no vegetable product was selected.

The commodities selected for estimation of PSE in Suriname in 2009-2011 are presented in Figure 16 and Table 6. The average share of MPS commodities in total value of Suriname's agricultural production in 2008-2011 equalled 80.2%. Crops selected for MPS calculation averaged 74.5% of total crop production, while livestock commodities covered 99% of total livestock production in Surname.

Figure 16: Selection of MPS commodities, share in total value of agricultural production and total value of selected commoties, in %



Source: Ministry of Agriculture, Animal Husbandry and Fisheries data

Table 6: Overview of selected commodities, according to trade status

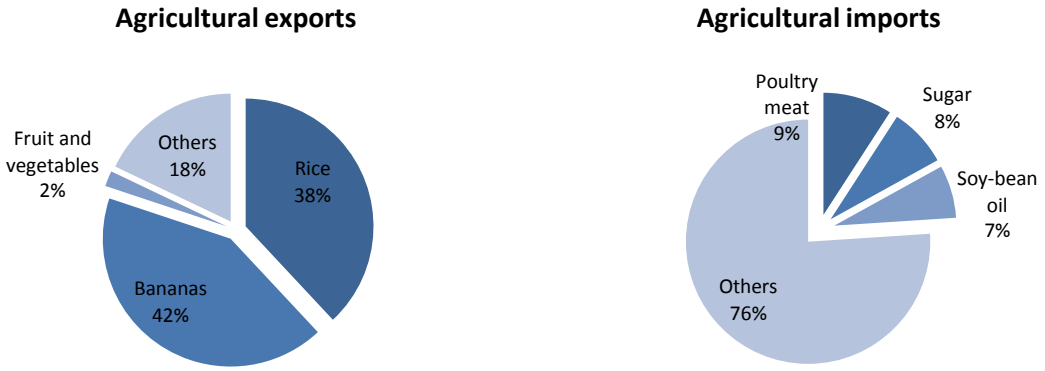
Selected export commodities	Selected import commodities
Rice	Poultry

Bananas	Beef
Oranges	Pork
Cassava	Eggs
	Milk

As follows from Table 6 most of the selected crops are exported, while all livestock commodities are imported. Rice and bananas are the main agricultural exported commodities and each contribute around 40% to the total agricultural exports of Suriname. However, their share in the total value of exports of the country represents only 1.3-2% each, as the export sector is dominated by precious metals, ores and petroleum products. The export of fruits and vegetables has been emerging but is not stable. Though the government is actively pursuing the development of the cassava subsector, until now export of cassava is almost negligible.

All selected livestock commodities, including poultry, beef, pork, eggs and milk, are net imported, meaning that domestic consumption exceeds production for poultry, beef, pork, eggs and milk. Poultry is a particularly popular source of protein in Suriname, and per capita consumption of chicken ranks among the highest in the world. It is also the largest agricultural import, followed by non-locally produced products such as wheat, maize, wheat flour, processed foods, sugar and non-alcoholic beverages. Import substitution is among the policy goals in this sector. It should be noted that while a majority of the agricultural exports are covered by the analysis the same does not happen for imports. This is due to the fact that many of the imported agricultural commodities are either not produced in Surinam (soy-bean, sugar) or are processed goods.

Figure 17. Suriname: Agricultural trade, share in total value of export and import of agricultural products



Source: Ministry of Agriculture, Animal Husbandry and Fisheries, UN Comtrade, WTO, 2013

3.2 Description of data used

The main source of agricultural statistics in Suriname is the Ministry of Agriculture, Animal Husbandry and Fisheries. The Ministry's Department of Planning and Development publishes an annual compendium of production, trade and price data. The departments of Livestock and Fisheries each have their own unit in charge of data collection and analysis for their respective subsectors. Additional sources for statistics are the international databases, particularly FAOSTAT and UN COMTRADE.

Box: Reliability of data in international databases

The reliability of agricultural statistics related to Suriname in international databases is low, as was demonstrated by the case of reported sugar cane production in the country. Though sugar production was the main economic activity throughout the colonial period, the sugar subsector witnessed decline throughout the 20th century and an increasing number of plantations went bankrupt. In the 1990s, sugar production came to a halt altogether. However, FAOSTAT continues to report sugar production of 120,000 tons throughout the period under review, with an average annual value of production of USD 13 million.

Domestic prices

Domestic prices for all commodities are farm-gate prices (source: Agricultural Statistics 2006-2011, Report by the Division of Agricultural Statistics, Ministry of Agriculture, Animal Husbandry and Fisheries).

Reference prices and margin adjustments

Reference prices are calculated in different ways depending on the trade status of the product. For exported commodities (rice, bananas, cassava and oranges) the reference prices are average export unit values, adjusted for processing, transportation and handing costs to make them comparable with domestic farm gate prices.

Table 7 and

Table 8 provide an overview of the data used in the calculation of the PSE indicators, including the source of the international reference price and the adjustments applied to obtain comparable prices.

Table 7: Overview of data used, exported commodities

Commodity (exports)	Reference Price	Margin Adjustment	Other Adjustments
Rice	Average export unit value (FOB) price for cargo rice. Cargo rice was chosen for better comparability with farm-gate commodity. (Source: Agricultural Statistics, LVV)	As reported by the Surinamese Federation of Rice growers, N.V. Sun Rice and CMA CGM Suriname N.V. All costs have been modified to refer to paddy rice using the quantity adjustment factor when relevant.	Quantity adjustments are made to take into account production of paddy rice and exports of milled rice. Sell of by-products in the country is discounted from reference price. (see Annex I).
Bananas	Average export unit value (FOB) price of bacoven. (source: Agricultural Statistics, LVV)	No adjustment was made; domestic farm-gate prices for bananas are not available and no policy distortions in the banana value chain were identified. For that reason, the support was set to zero.	
Cassava	Reference price is FOB export average unit value for cassava root (Source: UN COMTRADE)	Margin adjustment for cassava includes 20% storage, handling and transportation costs and 2% port expenses.	Through interviews with stakeholders in the cassava subsector it was confirmed that no cassava is currently used for animal feed. As all cassava produced is used for human consumption, no feed adjustments has been applied.
Oranges	Reference price is FOB average export unit value For 2006-2007 only data for all citrus fruits (not oranges) was available. (source: Agricultural Statistics, LVV)	Adjusted for 30% storage, handling and transportation costs (data from the PSE report for Jamaica) and 2% port expenses.	

Table 8: Overview of data used, imported commodities

Commodity (imports)	Reference Price	Margin Adjustment	Other Adjustments
Poultry	Unit value of imports from Brazil for HS 02.07.12 "Meat of fowls of species gallus domesticus, not cut in pieces, frozen".	Based on the marketing costs as reported by Doing Business Indicators of the World Bank for imports in Suriname and container company CMA CGM Suriname N.V.	Quality differences and consumer preferences for domestic chicken taken into account based on retail price ratios between domestic poultry and imported poultry from Brazil
Pork	Average import unit value CIF price, adjusted for processing calculated as % of border price (Source: LVV)		
Beef	The reference price is based on the Australian saleyard cow price, Queensland, minus by-product value, plus processing cost, plus transport cost. This reference was also used by the OECD for Mexico and by the IDB for some of the LAC countries.	No adjustment needed as the reference price is at farm-gate level. Transportation costs Australia to US where used as a proxy of transportation costs to Suriname .	*Remark: due to low volumes of trade and lack of reliable trade statistics, the reference price for beef and eggs were taken from the largest world producers and adapted to take into account processing, transport and margins, in accordance with OECD and IDB practice in other countries in the region.*
Milk	Fresh milk is not a tradable commodity. Therefore, the border price of milk is a calculated implicit value, calculated from the prices of butter and skimmed milk powder, using the components: milk fat non-fat-solids contained in raw milk, butter and skimmed milk powder respectively (sources: fat content of milk – Ministry of LVV, non-fat solids content – estimations from other LAC countries, import values	The reference price of milk at farm gate is the implicit milk border price adjusted for processing costs (average of processing costs in 4 main milk producing countries (Australia, EU, New Zealand, US).	

	of butter and milk powder – Ministry of Trade and Industry)[45]		
Eggs	Eggs are considered non-tradable. Domestic production covers 99% of consumption. US farm-gate price was taken as a reference, and adjusted for less production subsidies plus insurance and freight US-Suriname (=30 USD/t (Source: data from Peru). Because of the non-tradable status, the price US farmers receive for their output was used as reference.		*Remark: due to low volumes of trade and lack of reliable trade statistics, the reference price for beef and eggs were taken from the largest world producers and adapted to take into account processing, transport and margins, in accordance with OECD and IDB practice in other countries in the region.*

[45] Since 2005 OECD PSE methodology introduced the following calculation method: to derive the implicit milk reference price from border prices of representative, tradable dairy products: butter and skim milk powder (SMP). Two solid components in dairy products – milk fat and non-fat-solids – are considered. First, the implicit prices of the two components are calculated from the border prices of butter and SMP, and the percentage of fat and non-fat-solids in these two products. The implicit prices of milk fat and non-fat-solids are calculated using the data on actual border prices for tradable dairy products (lactose and protein are non-fat solids).
The resulting implicit border milk price is calculated as:

$$FP*mf+NFP*(ml+mp)$$

where FP is implicit fat price, NFP — implicit price of non-fat-solids, mf, ml and mp — content of fat, lactose and protein in raw milk respectively.

Excess Feed Costs

Through interviews with stakeholders in the cassava subsector it was confirmed that no cassava is currently used for animal feed. As all cassava produced is used for human consumption, and no feed adjustments has been applied.

Budget data

Government budgets were provided by the Ministry of Finance of Suriname for the years 2011, 2012 and 2013, for all ministries. These budgets contained the actual expenditures of the years 2009, 2010 and 2011 that were used in the analysis. Earlier years were not available, and as a result, the indicators for the 2006 – 2008 period are calculated using the price and cost data of Market Price Support only, as is shown in

Table 9.

The following organizations' budgets were included in PSE/GSSE calculations: Ministry of Agriculture, Animal Husbandry and Fisheries, Ministry of Public Works, Ministry of Spatial Ordenation, Land and Forestry, Ministry of Regional Development and the Ministry of Education.

The budgets include both administrative and development components. However, administrative costs of implementing agricultural sector support programs and policies – such as salaries or travel expenses – do not produce any transfers to producers. Therefore, these costs are not included in the PSE and GSSE calculations and the Budgetary Transfers are based on the development component only.

Fisheries and forestry are not included in Budgetary Transfers component of the PSE.

Table 9: Components of PSE included for the different years

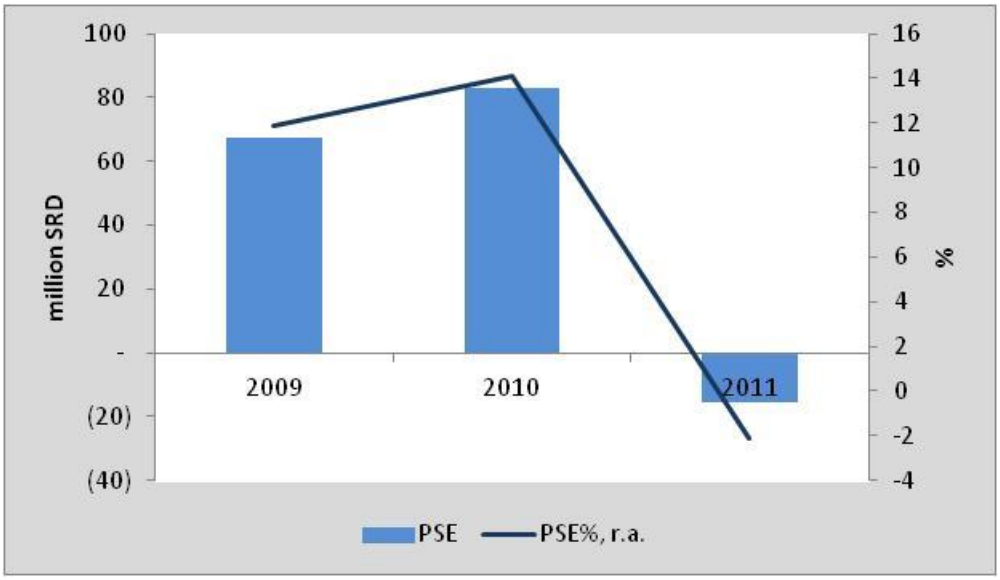
Year	Market Price Support	Budgetary Transfers
2006	X	
2007	X	
2008	X	
2009	X	X
2010	X	X
2011	X	X

3.3 Producer Support Estimates

The Producer Support Estimate (PSE) is the major indicator used by OECD and other international organizations to estimate the effect of the policy interventions on the welfare of agricultural producers and consumers, and it provides an indication of the level of support of public sector support to food and agriculture in a given country.

The average national PSE in 2009-2011 in Suriname hovered between SRD 62 million in 2009 to a negative support of SRD 16 million in 2011. As can be seen in The PSE as a percentage of total farm receipts (PSE%) was 12% in 2009, 14% in 2010 and dropped to -2% in 2011.

Figure 18: National PSE for Suriname, 2009 -2011, in million SRD and %

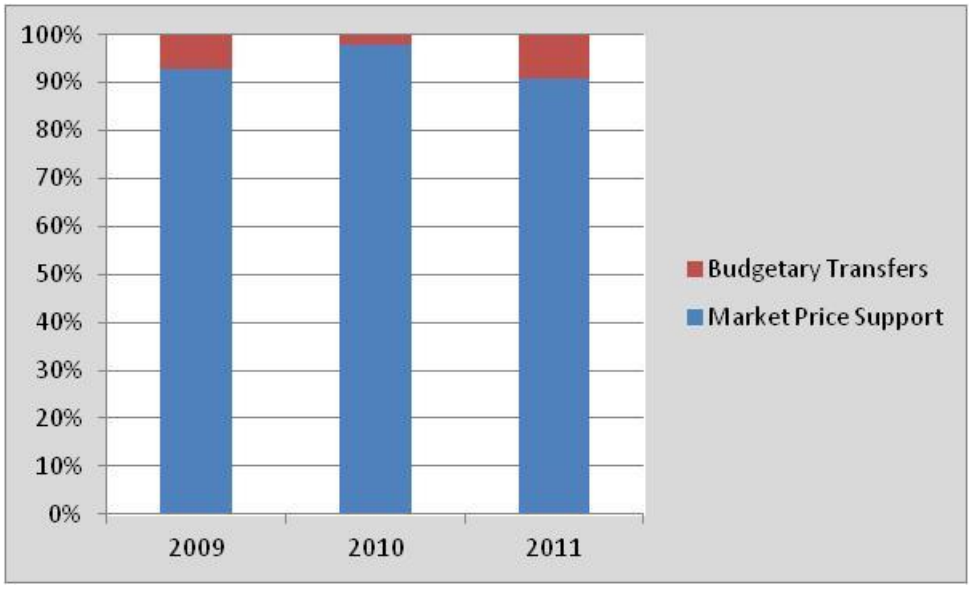


Source: Author's calculations

As in most developing countries, the main component of PSE in Suriname is market price support. Budget transfers represent between 2% and 10% of total PSE, as is shown in Figure 18. This means that in 2009 and 2010, producers were supported mainly because they received prices above the international reference (the price they would get in the absence of policies and value chain inefficiencies). Due to its importance in the value of agricultural production and in the agricultural sector in Suriname in general, changes in the results for rice have a relatively strong effect on the national PSE levels. The negative support in 2011 is largely the result of the wide price gap between domestic farm-gate prices and reference prices for rice in that year.

In overall terms, however, one has to take into account the relatively good price transmission observed for a number of commodities. While the PSE results show a rather significant price gap resulting from the public policy interventions as well as from the deficiencies of market infrastructure, the patterns and domestic prices' movements follow those on world agricultural markets. Thus, the price dynamics for rice (excluding 2011), bananas, cassava, beef and poultry generally follow the world price pattern. This is the result of the Government of Surinam using mainly use policy instruments for these commodities that do not affect price transmissions.

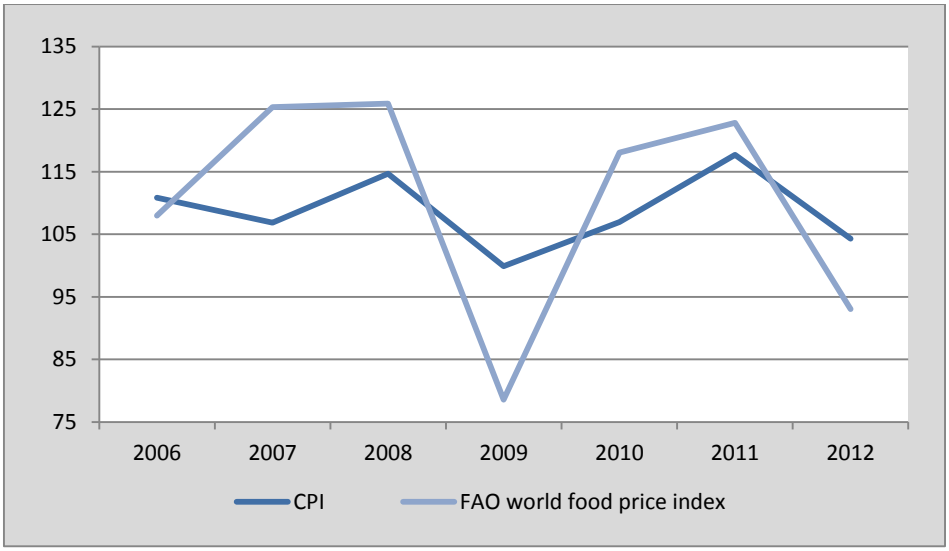
Figure 19: Shares of Budgetary Transfers and Market Price Support in total PSE, 2009 - 2011, in %



Source: Author's calculations

The year-to-year changes in the PSE can be explained by the volatility of world prices of agricultural commodities, as well as by the volatility of the domestic inflation index. Suriname's domestic inflation follows the pattern for the world food price dynamics, which means that international food price shocks also affected domestic prices. In 2011 however, domestic prices for main exported PSE commodities (rice and bananas) increased at a significantly slower pace than reference prices. This effect was shared by many OECD countries, resulting in record low PSE levels in 2011 (OECD, 2012).

Figure 20. Suriname: Year-to-year Inflation (CPI), %



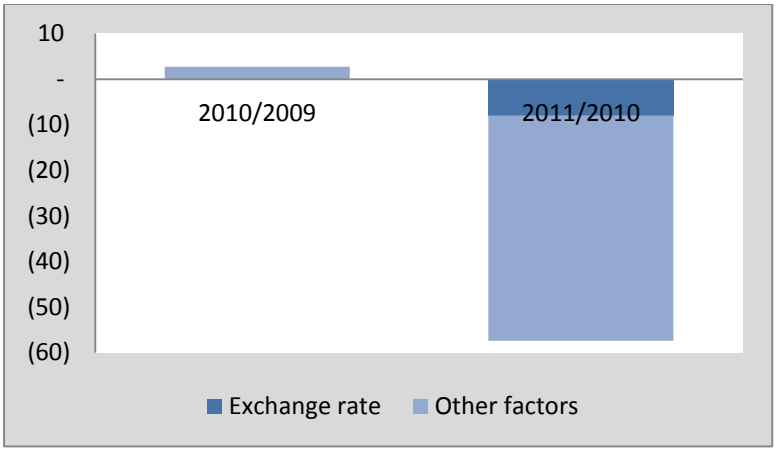
Source: WDI, FAO

Exchange rate effect on PSE results

In addition, the strong decrease in PSE value in 2011 is also the result of the exchange rate adjustment that was carried through in January 2011, when the authorities devalued the Surinamese Dollar by 20%.

When the nominal exchange rate overvalues the national currency, border prices calculated in national currency are undervalued and market price support is overestimated. It is likely that due to an overestimation of the value of the national currency in the year(s) before the devaluation of the currency, the PSE indicators overestimate the level of support to producers and should actually be lower. However, decomposition of the year-to year change of PSE in 2011 demonstrates that the effect of the factors other than exchange rate adjustment (such as international and domestic price movements in rice and bananas subsectors) contributed most to PSE decrease.

Figure 21. Suriname: Year-to year change in PSE, decomposed, %



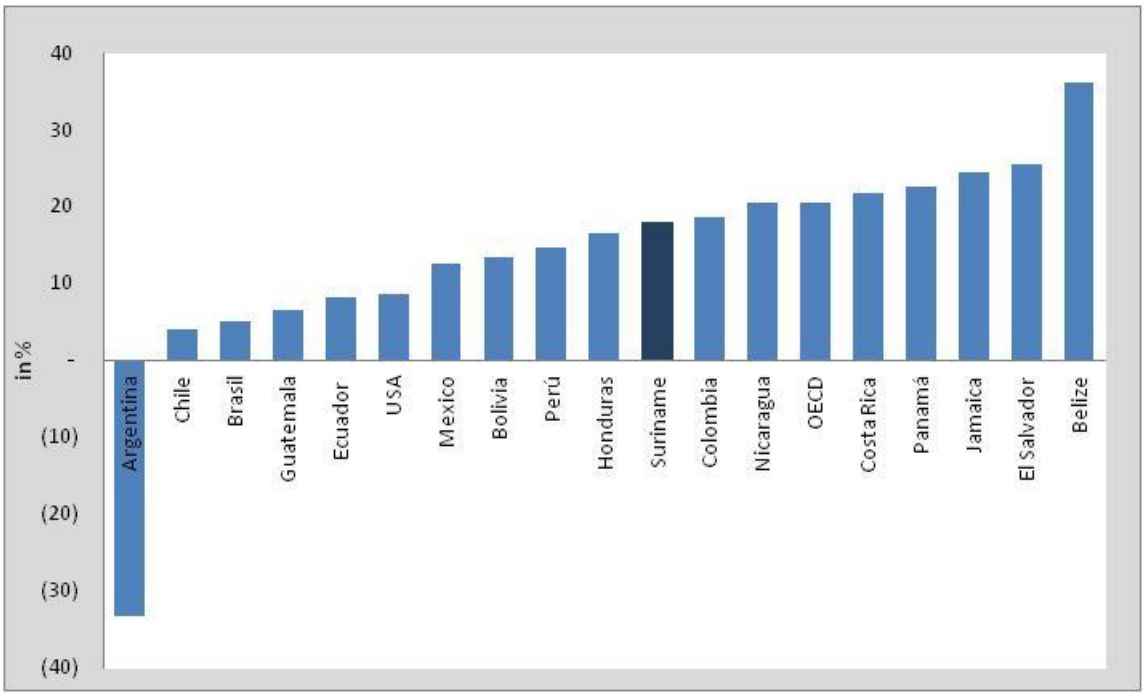
Source: consultant's estimation

International comparison of PSE indicator levels

As can be seen in Figure 22, the average PSE levels of Suriname in 2009-2010 were slightly lower than the average of OECD member countries, and close to that of Peru and Colombia. Several other countries in the region such as the USA, Ecuador and Brazil have much lower PSE levels, while Jamaica, the closest regional reference for Suriname, had significantly higher levels of support. The high PSE indicators for Jamaica are influenced by the country's high tariffs to shield its poultry subsector from cheap imports, resulting in strong Market Price Support. The closest reference to the current study, Jamaica, concluded that transfers to agricultural producers were higher in this country.[46]

[46] IDB/FAO, 2012

Figure 22. Producer Support Estimate (Percentage) in Suriname and selected countries* in 2009-2011, %



*Belize-2008,
Bolivia, Columbia, Costa Rica, Honduras, Panama, Peru - 2008-2009,
Jamaica, Guatemala, Ecuador, Brasil - 2008-2010
El Salvador, Nicaragua - 2009-2010
Source: consultant's estimation, IDB database, OECD PSE database

Market Price Support

As mentioned above, the Producer Support Estimate indicator is composed of two elements: market price support (MPS) and budgetary transfers (BT).

MPS is the component of support that is based on the differences between domestic and international prices and therefore, affects the production decisions and terms of trade. Gaps between domestic farm gate prices and reference prices can emerge as a result of trade policies, including tariffs and non-tariff trade barriers, or as a consequence of excessive costs and inefficiencies along the value chain. Policy interventions that affect MPS are considered to be among the most trade distorting measures of support (OECD, 2011). They are also less effective means of support to producers, compared to direct income payments, per hectare payments and similar support measures, which are not related to the production levels.

Negative Market Price Support means that, as a result of policy or structure of the value chain, prices received by producers are lower than they should be on the basis of the

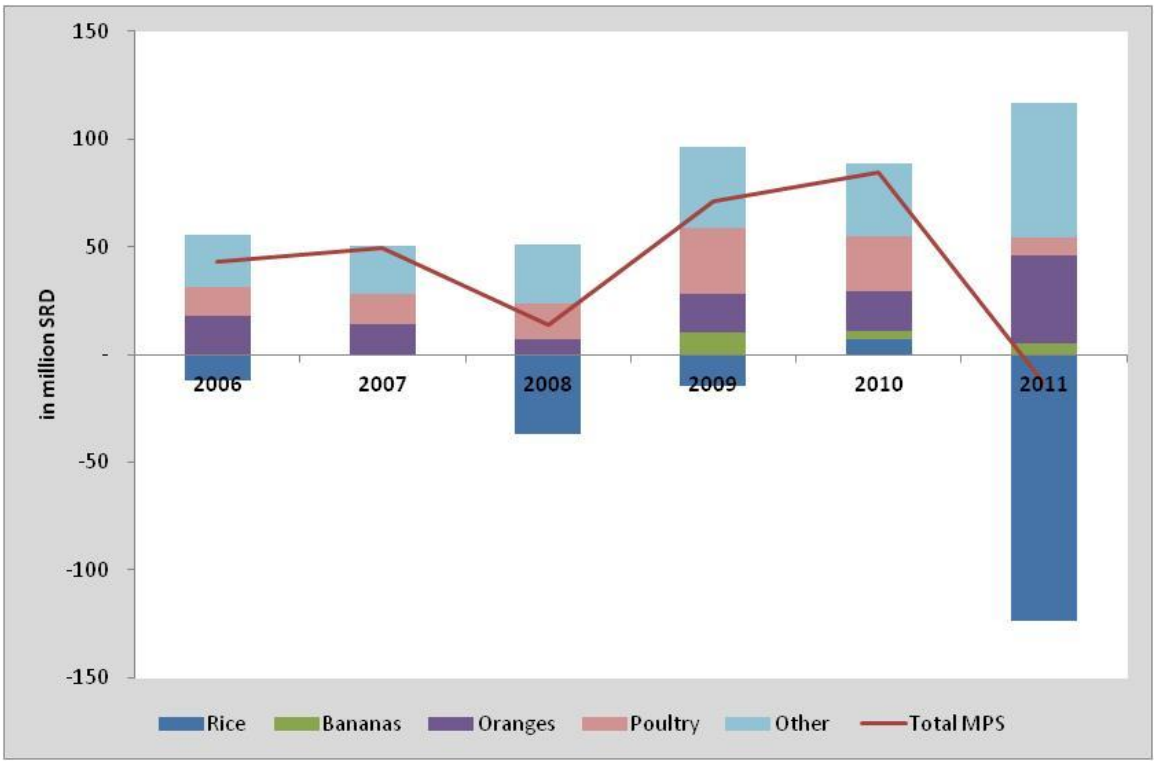
international market price of the commodity. This results in a disincentive for producers. Keeping prices low could be an implicit policy to retain competitiveness of Surinamese rice on the international market, and increase market shares. For an export commodity, such as rice, the reasons for the disincentives could be explicit or implicit policies (such as export taxes or inspection fees) or value chain inefficiencies (such as monopsonies or excessive profit margins during processing, transport or handling).

Most commodities in Suriname receive positive transfers resulting from government's agricultural policy, which is demonstrated by positive levels of MPS (see Figure 23). However, MPS for major exported commodities is either negative (rice) or slightly positive.

Implicit taxation of rice means that in absence of policy interventions and value chain inefficiencies, producers would be able to receive higher prices for their output, than they actually get.

Poultry was the most supported commodity during the whole study period in absolute terms, however, producers of pork, eggs, milk and oranges also received relatively high levels of positive Market Price Support as share of their respective value of production. This means that producers for these commodities received higher prices than they should get in the absence of policy and in an efficient value chain environment. It is not uncommon to observe high positive transfers for imports, as it is consistent with the policy objective of import substitution.

Figure 23. Positive and negative Market Price Support in Suriname, 2006 – 2011, in million SRD

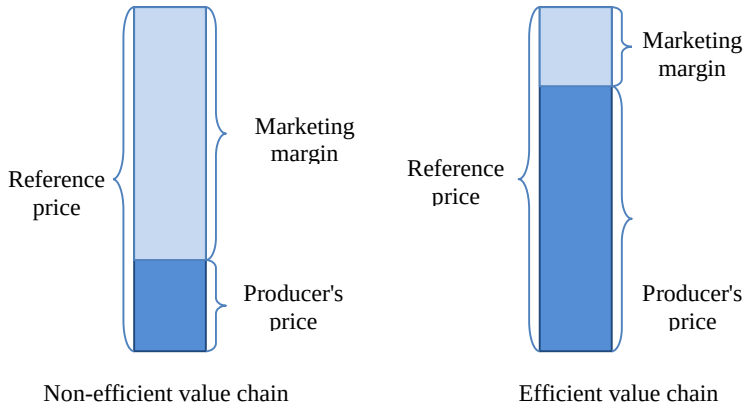


Source: Author's estimations

When markets are perfectly competitive and integrated, Market Price Support is the exclusive result of direct and indirect policy interventions. In developing countries, however, this is not the case; MPS also captures the effect of market infrastructure deficiencies, asymmetric information, lack of storage and excessive market power in the value chain (Barreiro-Hurlé and Witwer, 2013).

Underdevelopment of infrastructure refers not only to the physical, but also to commercial and institutional infrastructure. Weak institutions, lack of storage and collection facilities and the unavailability of market information are among the factors that affect the domestic prices received by agricultural producers and are, as a result, reflected in the PSE. In addition, poor condition of rural roads can lead to higher transportation costs, while weak market infrastructure with low production concentration means that processors and middlemen have stronger market power than farmers (Liefert, 2007), which could result in excessive marketing margins. The absence of the information system on agricultural markets also can lead to taxation of farmers, because the information available to wholesalers and traders may be not available to farmers.

Figure 24. Contribution of value chain inefficiencies to the levels of Market Price Support



Source: Author's elaboration

As is shown in Figure 24, at the same level of prices, benefits are differently distributed between domestic producers and marketing margin, which includes inefficiency of processing, market power of processors, losses in transportations due to poor road infrastructure or costs of overcoming bureaucratic obstacles. Given that the World Bank ranks Suriname among the lowest countries in terms of ease of doing business (rank 164 in 2013), it is probable that farmers are also affected by the high costs of complex administrative procedures. These costs increase the marketing margin and the PSE, and result in an overestimation of producer support.

In order to obtain a deep understanding of whether – and to which extent - positive or negative market price support is caused by the public policy framework or by value chain characteristics, it is necessary to carry out in-depth chain analysis for the various products under review. As part of this study, preliminary analyses of the value chains of rice, bananas and poultry were carried out. These studies, presented in Annex I – III, provide an overview of the cost structure between the farm gate and the border (for exports) or vice-versa (for imports). The information presented in the studies can serve as an input for dialogue on how competitiveness for Suriname's key commodities can be strengthened by targeting bottlenecks that inhibit consistent price transmission from international markets to producers.

Budget transfers

The second component of producer support consists of transfers by the public sector to agricultural producers. Unlike the market price support, which is financed by consumers who pay higher prices for their producers, these so-called Budget Transfers (BT) are financed by taxpayers – through the government budget. The level of BT often depends on the countries' general fiscal policy and capacity. Budget transfers to agricultural producers also include subsidized loans to farmers as well as the transfers resulting from tax concessions that create revenue foregone in support of the agricultural sector at the expense of taxpayers.

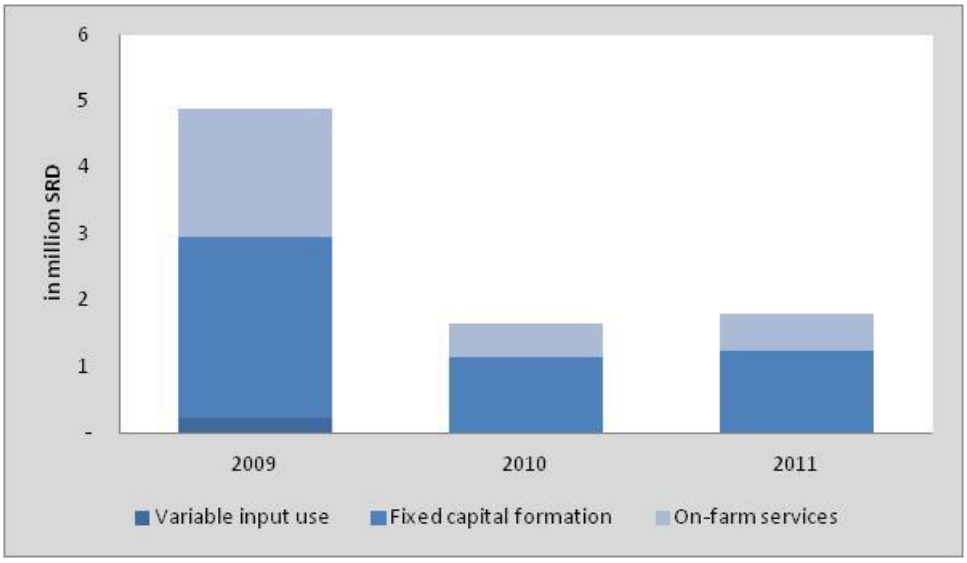
Budget transfers to agricultural sector in Suriname, creating transfers to individual producers, are included in PSE. Suriname budget provides descriptions of the programs, however, the programs are generalized and most of them include various types of transfers in terms of PSE/GSSE classification. Therefore, general budgetary expenses allocation principle was applied as follows. If the program is mostly designed to provide on-farm services to producers, it was included in PSE, even though part of budget costs of the program might include general services component. The budget expenditures on livestock programmes was allocated 25% to PSE (small ruminants support, breeding cattle purchases and on-farm inspections and training) and 75% to GSSE (Research and Development and Inspection Services).

As demonstrated in Figure 25, budget transfers to individual producers mostly consist of the transfers in the form of on-farm services, such as veterinary inspection services, training and extension. Transfers based on fixed capital formation include financing of state companies' capital, rice farmers' machinery park replacement, vegetables and fruit plant material supply, investment in breeding centers, greenhouses and nurseries. As there was no detail on the allocation of the funds to individual commodities, they were allocated to All Commodity transfers, excluding National Rice Research Foundation programs, 80% of which was allocated to GSSE (Research and development) and 20% to PSE, as it also provides services to producers, such as information dissemination and seed distribution. PSE part of this program was allocated to Single Commodity Transfer for rice.

The Agricultural Credit Fund, which was created in 2007, provides loans to farmers at reduced interest rates (6.75% per annum, while average regular loan interest rate was 11-13%). As the majority of loans are short term financing with an average of 8 months maturity, this

interest rate subsidy was considered to be used more for variable input purchases than for investments in on-farm capital assets. For that reason, the subsidy was allocated to the transfers to producers based on variable input use rather than to fixed capital formation.

Figure 25. Suriname: Budget Transfers in PSE, mn SRD



Source: author's estimations

Budget support not related to the level of production and inputs, such as support based on crop area (per hectare payments) or direct payments to support producer's incomes, is not applied in Suriname. However, those types of support may be more efficient forms of supporting producer's incomes, rural development and climate change goals while being less distorting to international trade.

3.4 Indicators of support to individual commodities

The effect of support policy on individual commodities, both as price support as well as budget transfer, is estimated by the so-called Single Commodity Transfers (SCTs). Single commodity transfers include both Market Price Support and Budget Transfers for individual commodities. As a general rule, a budget transfer is considered to be commodity specific if a farmer must produce a specific commodity in order to receive budget transfers.

Commodity-specific policies in Suriname are mostly concentrated on the rice and bananas subsectors. This is related to the importance of both commodities for food security and agricultural exports, and to the fact that both subsectors are affected by the changes in EU trade policy, which is phasing out import concessions and preferences which Suriname's producers

previously enjoyed. As a result, domestic producers are increasingly facing competition from other regions, and under pressure to increase their competitiveness to compensate for the loss in preferential trade conditions.

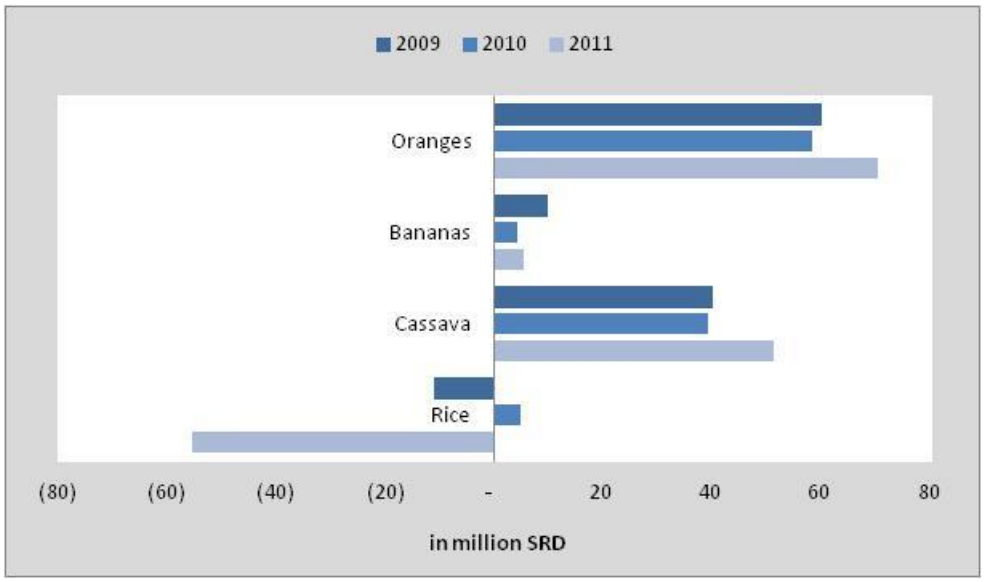
Table 10: Single Commodity Transfers by Commodity for Suriname, in percentage below provides an overview of the total transfers for a specific commodity (as a share of gross farm receipts). The indicators for 2006 – 2008 reflect Market Price Support only, as for those years budget data was not available. For the years 2009 – 2011, the SCTs also include budgetary transfers.

Table 10: Single Commodity Transfers by Commodity for Suriname, in percentage

	2006	2007	2008	2009	2010	2011
Rice	(20)	(1)	(22)	(11)	5	(55)
Cassava	53	31	32	40	39	51
Bananas	0	0	0	10	4	5
Oranges	64	58	30	60	58	70
Milk	56	35	33	50	59	70
Beef	39	38	35	43	38	41
Pork	44	55	76	67	60	75
Poultry	25	17	21	28	22	7
Eggs	66	50	31	57	60	62

Source: Author's estimations

Figure 26. Single Commodity Transfer for crops, %

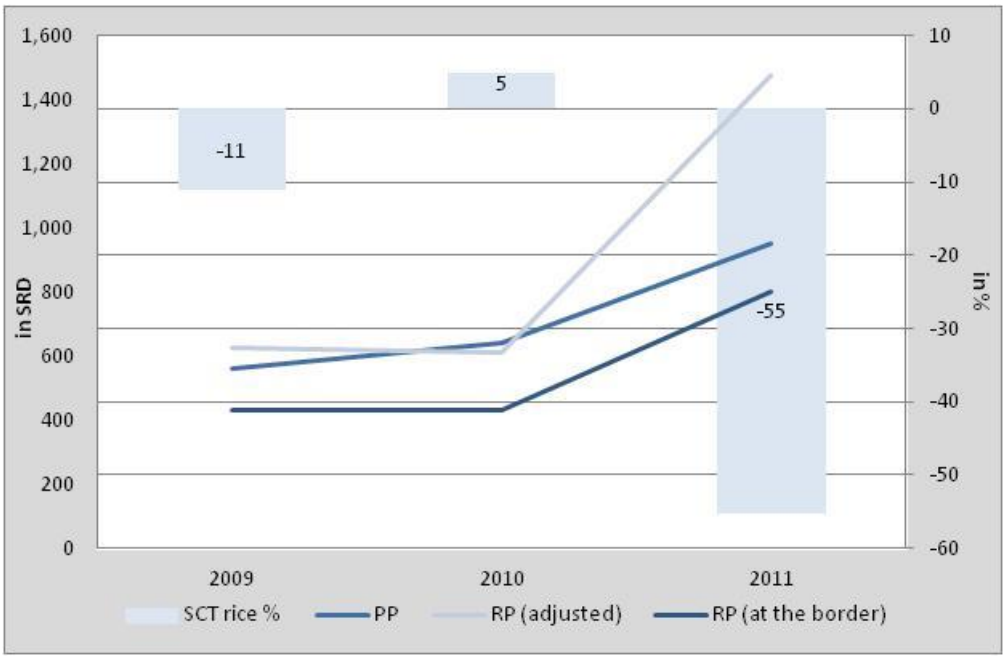


Source: author's estimations

Rice

Support for rice was negative in 2009 and 2011, and positive in 2010. Though it is not uncommon for developing countries to tax their exported agricultural commodities as a source of revenue generation, in Suriname there are no policy measures in place that explain the levels of negative support observed in 2009 and 2011. Though a SRD 10/ton export tax exists (1-2% of the producer price), the reasons for the negative levels of SCT are in the structure of the value chain, that creates negative Market Price Support in 2009 and 2011, mainly because of low capacity utilization in the processing industry. The high costs as a result of that under-utilization of capacity are transferred to farmers by millers.

Figure 27. Suriname: Rice SCT% (%, r.a.) and price comparison (SRD/t, l.a.)*



* PP- producer price at farm gate; RP (at the border) - reference price measured at the border converted to SRD (average export unit value (FOB) price for cargo rice); RP (adjusted) - RP (at the border) adjusted for processing paddy rice to cargo and for transportation to border.

Source: consultant's estimation

The most costly efforts for infrastructure improvements and productivity enhancement for the rice subsector, is to be found in the investments in irrigation infrastructure in the rice districts, mainly in Nickerie. These activities, funded through the budget of the Ministry of Public Works, do not create transfers to individual farmers and are therefore included in the general sector support, and not in the commodity transfers presented here. This underestimates the support to rice producers, as an important part of the public expenditure on irrigation does not benefit the agricultural sector as a whole, but the rice subsector only.

If these expenditures are taken into account and included in the Single Commodity Transfers for rice, producers of rice are supported both in 2009 and 2010. However, it remains negative in 2011 when funding for irrigation programs was reduced and when producers suffered from low domestic prices. This estimation demonstrates that while rice producers might be implicitly taxed through lower prices, they benefit from the general services support, which is the most efficient way of creating long-term positive effects.

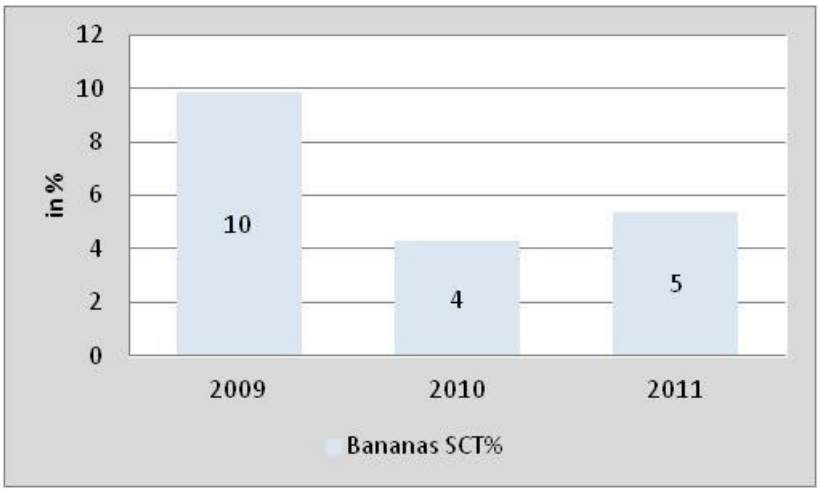
Annex VII provides a more detailed overview of the changes to support levels for rice when irrigation and research expenditure is included.

Bananas

During the period under review, the bananas subsector was not taxed or supported by domestic policy that affected prices. As the value chain is integrated, no domestic farm-gate prices exist. To determine its profitability, SBBS aims to produce at a cost that is lower than the reference price (FOB price). During the literature review and interviews with sector stakeholders, no policies that affect international market price transmission were identified, and Market Price Support was zero.

The EU banana Special Framework Assistance program (2004-2010) was a major policy instrument influencing the development of the banana subsector in banana-producing countries of the group of African, Caribbean and Pacific states (ACP). It brought significant amounts of investment (22 million euro) to the subsector in Suriname and it involved assistance to producers in the form of training, quality control, transport infrastructure development, construction of handling, packaging and storage facilities, and improvement of marketing. Distribution of the program funds by year (estimated) is presented in Table 11. It brought annual amount of transfers to banana sector from 4 to 17 million SRD in 2006-2010. The funds from the Banana Accompanying Measures were invested in SBBS and therefore constituted a transfer to banana producers. As a result, the BAM support affects the Single Commodity Transfer estimation for the years 2009 and 2010, which is positive. In addition, in 2011 the Government of Suriname injected USD 2 million of working capital into SBBS, in order to strengthen its liquidity position and make sure it had enough capital to bridge the period between costs of production and revenues. This investment resulted in positive Commodity Transfers to the banana subsector in 2011 as well, as is shown in Figure 28 Since in 2011 no funding for the subsector was provided, the transfers during that year amount to zero, as is shown in Figure 28.

Figure 28. Suriname: Banana SCT%



Source: Consultant's estimation.

The Banana Accompanying Measures in the Republic of Suriname planned for 2012-2013 will bring 9.3 mln euro[47] of additional investment with the goal to increase sustainability and competitiveness of banana subsector through reduced costs, increased productivity and improved product quality.

Table 11. Suriname: Banana Special Framework of Assistance budget distributed by year in 2006-2011, SRD mn

	2006	2007	2008	2009	2010
SFA transfers	11.04	14.53	17.32	10.29	3.92

Source: Estimated based on Ministry of Finance data

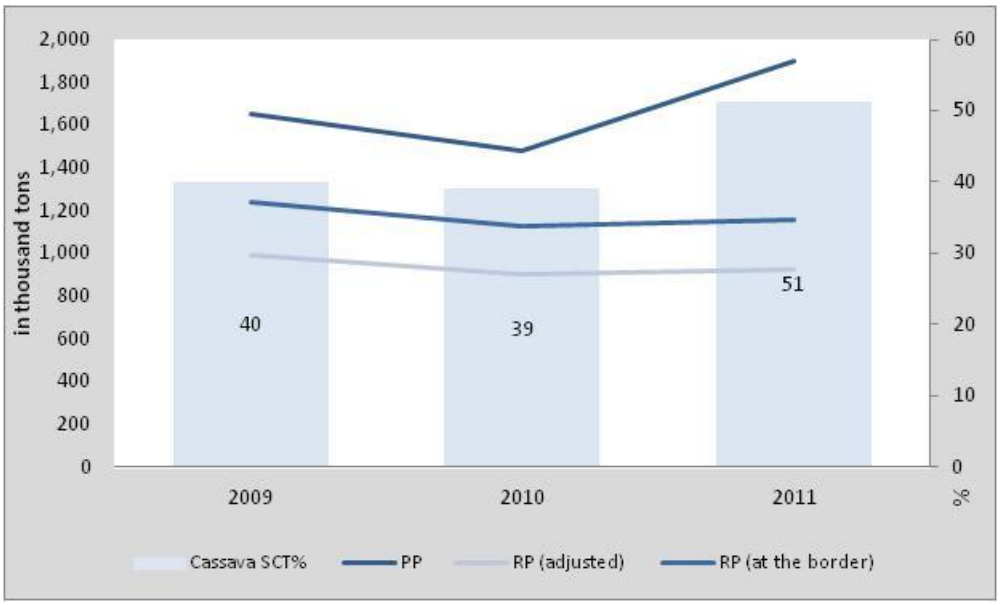
Cassava

Cassava producers received support throughout the period of analysis (see Figure 28).

Cassava producer's support may have effect on the desired growth in production. At the same time, higher domestic prices for cassava could disadvantage the livestock producers as it limits the possibilities to use cassava for animal feed at low prices. Given the recent developments in the cassava subsector, it will be essential to closely monitor the commodity transfers to the cassava subsector in order to assess the effects of these policies on producers.

[47] EU, 2012

Figure 29. Suriname: Cassava SCT% and price comparison (SRD/t)*



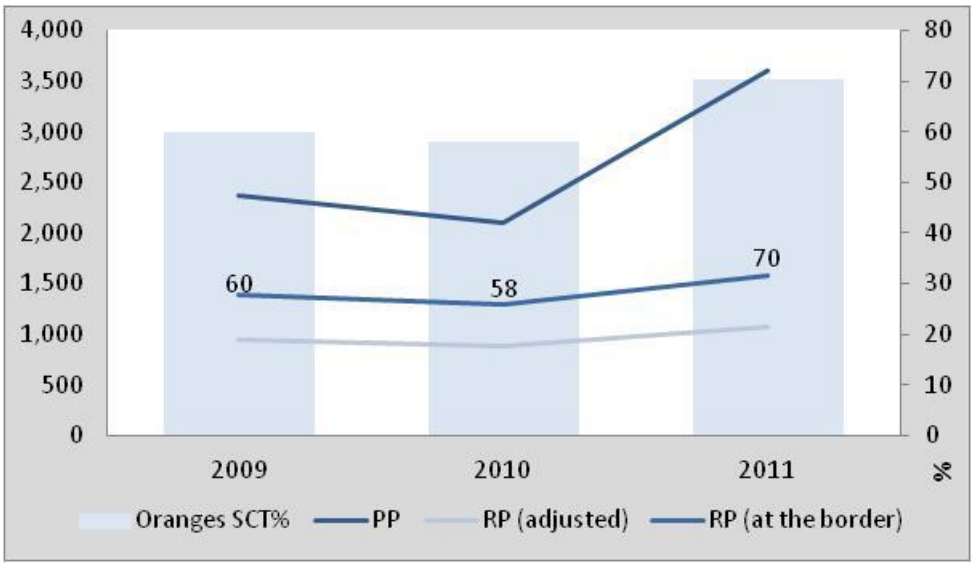
* PP- producer price at farm gate; RP (at the border) - reference price measured at the border converted to SRD (FOB export average unit value for cassava root); RP (adjusted) - RP (at the border) adjusted for storage and handling costs, transportation to border and port handling expenses.

Source: consultant's estimation

Oranges

Oranges and other citrus fruits are mainly produced for the domestic market and are almost not traded. Producers of oranges benefit from domestic prices that are higher than reference prices (see Figure 29). This is mainly caused by the high cost structure for oranges due to the low degree of professionalization in the sector. In addition, small budgetary support is provided through public funding for distribution of planting materials and establishment of nurseries.

Figure 30. Suriname: Oranges SCT% (%, r.a.) and price comparison (SRD/t, l.a.)*



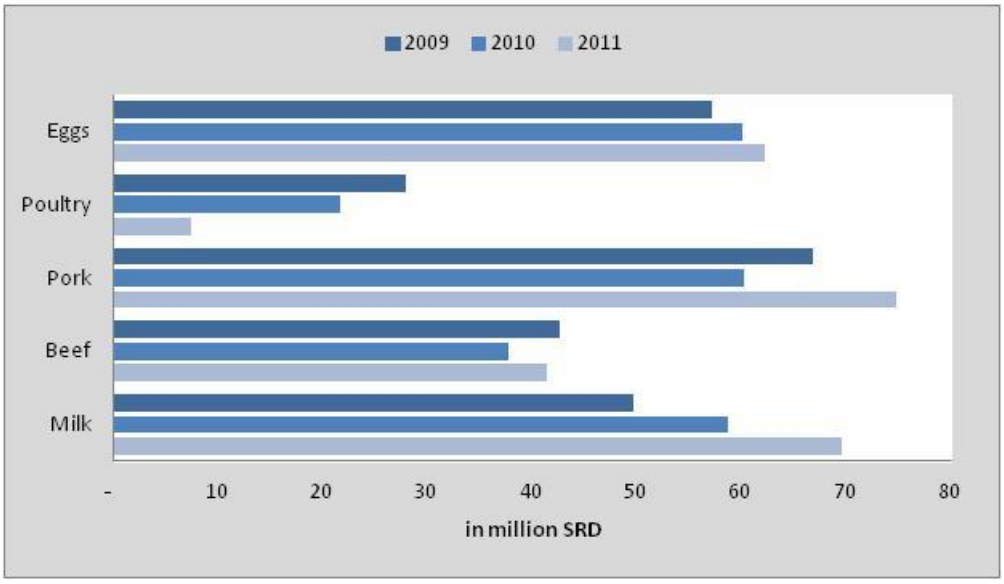
* PP- producer price at farm gate; RP (at the border) - reference price measured at the border converted to SRD (FOB export average unit value for oranges); RP (adjusted) - RP (at the border) adjusted for storage and handling costs, transportation to border and port handling expenses.

Source: consultant's estimation

Livestock

Producers of all types of livestock commodities benefit from agricultural policy, as is shown in Figure 30. Those sectors produce potentially import-substituting commodities and therefore are protected by import duties. They are excluded from the tariff liberalization schedule in CARICOM.

Figure 31. Suriname: Single Commodity Transfer for livestock, %



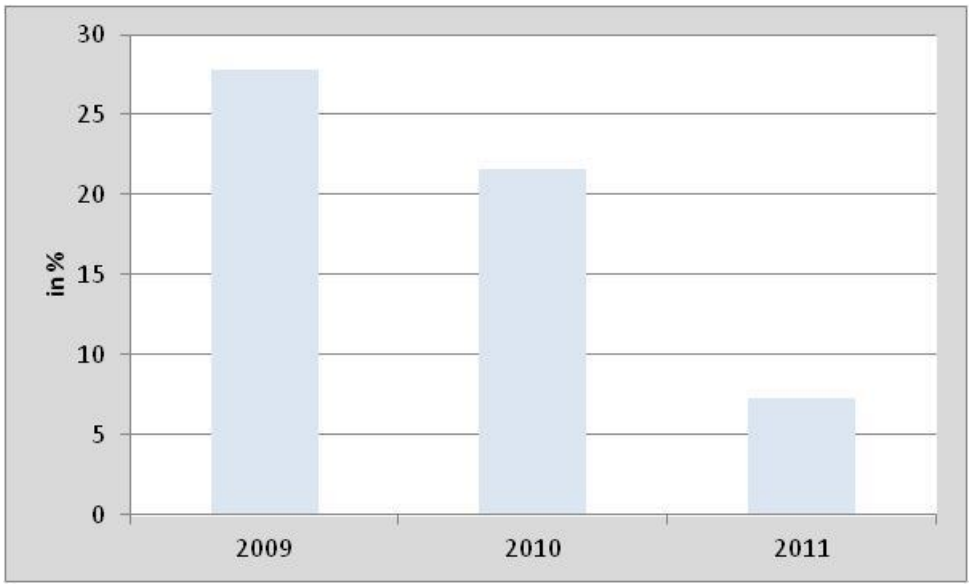
Source: authors' calculation

Poultry

The poultry subsector is supported by Government policy. Increased poultry demand over the last five years has been fulfilled by growing imports, and not by increased domestic production. The levels of commodity support to the poultry subsector are shown in #reference. Domestic prices in Suriname follow the pattern of international poultry prices, however, a price gap exists in all years. The support observed can only be partially explained by the tariff that is in place. High importers margins are identified as another source of the high domestic prices that prevail. This suggests that the Government's objective of keeping poultry prices low for domestic consumers is not realized, as consumers continue to pay relatively high prices for their chicken.

The same pattern of poultry being the most protected commodity in the agricultural sector was also found in several neighboring countries in the region, most notably in Jamaica.

Figure 32. Suriname: Poultry SCT%, 2009 - 2011



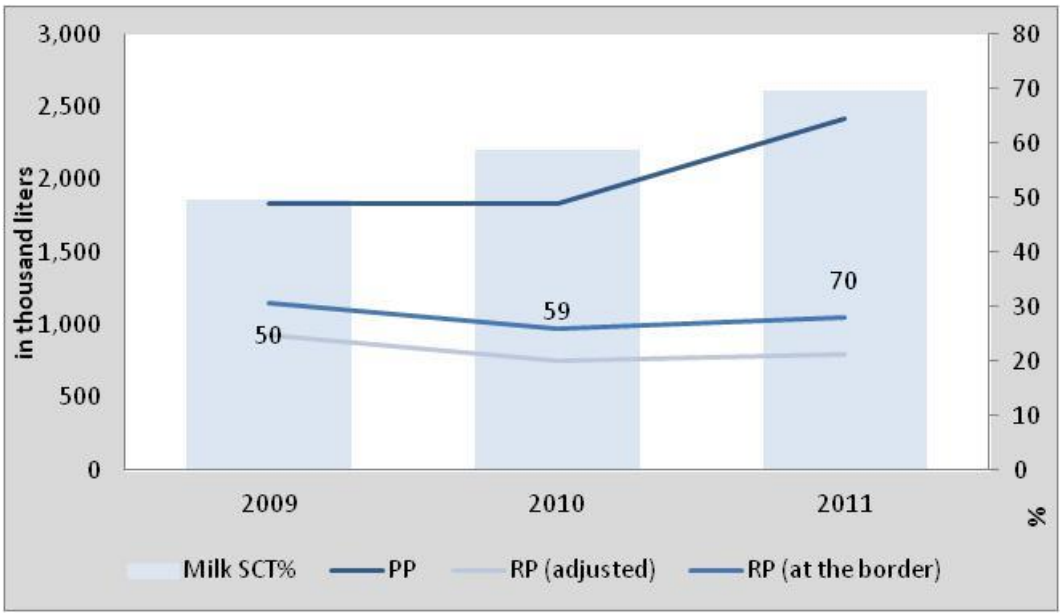
Source: consultant's estimation

Milk

The milk market is the most regulated market of all livestock commodities. The state-owned dairy processing plant Melkcentrale purchases milk from farmers at administratively fixed prices above the border price level. As a result, the higher prices received by farmers are reflected in high SCT for milk (Figure 32). This policy supports farmers in the short run, but harms the sector in the longer term, as it reduces the incentive to invest in productivity increases

and more efficient production methods. In addition, consumers pay a milk price that is far above the price they should pay on the basis of the price level in the international market.

Figure 33. Suriname: Milk SCT% (%, r.a.) and price comparison (SRD/t, l.a.)*



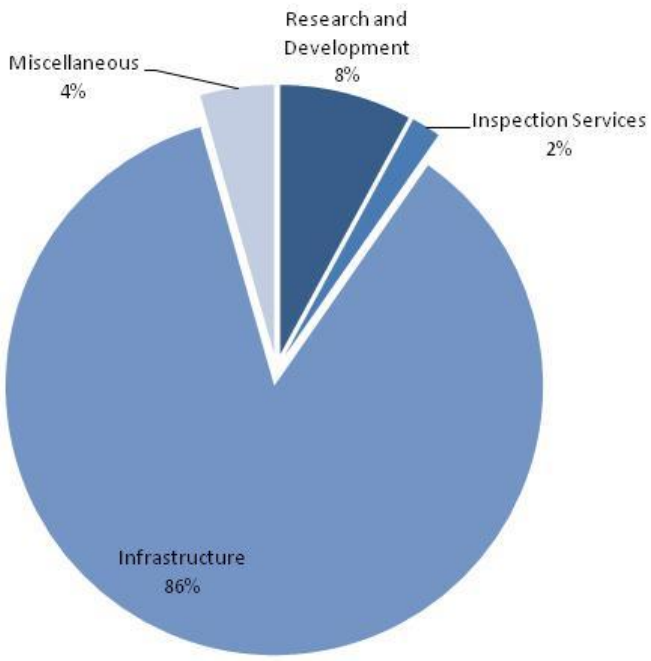
* PP- producer price at farm gate; RP (at the border) - calculated implicit price of raw milk converted to SRD; RP (adjusted) - RP (at the border) adjusted for processing costs (average of processing costs in 4 main milk producing countries.

Source: consultant's estimation

3.5 Estimates of support to general services

A major part of budget transfers to agricultural sector in Suriname is allocated in the forms that create transfers not to individual producers, but to the agricultural sector in general. However, as budget expenditures are not reported in detail but only at the programme level, it has not been possible to analyze the data at a disaggregated level. Therefore, the GSSE results for Suriname may overestimate support to general services. This is particularly so for expenditure related to irrigation and drainage infrastructure maintenance and rehabilitation financed from Ministry of Public Works. For a full understanding of the extent of public expenditure in support of the food and agricultural sector, it is required to study the characteristics of each expenditure measure in order to determine whether it is agriculture-related or not.

Figure 34. Suriname: components of General Services Support, total for 2009 - 2011



Source: consultant's estimation

The share of support that is provided to agriculture in the form of general services is over 40% of the total transfers to agriculture (including Market Price Support), which is higher than in most Latin American countries, and close to the levels of Chile and US. Investment in general services, and especially in market and rural infrastructure, enhances competitiveness of domestic production, stimulates more efficient production decisions and promotes long-term economic growth. However, in Suriname these areas still need more attention, as

underdeveloped infrastructure (irrigation and drainage, roads, as well as soft infrastructure, such as access to credit and information), lack of research and development, as well as issues in animal and plant health remain important constraints to agricultural growth.

Research and development

Research and development in Suriname is financed through the following research organizations: Research Department of the Ministry of Agriculture, Animal Husbandry and Fisheries, two national institutes of the Anton de Kom (ADEK) University of Suriname (the National Herbarium Suriname and the National Zoological Collection Suriname), Conservation International, Suriname Conservation Foundation, the Amazon Conservation Team and The Anne van Dijk Rice Research Centre (ADRON). (Milton, 2012)

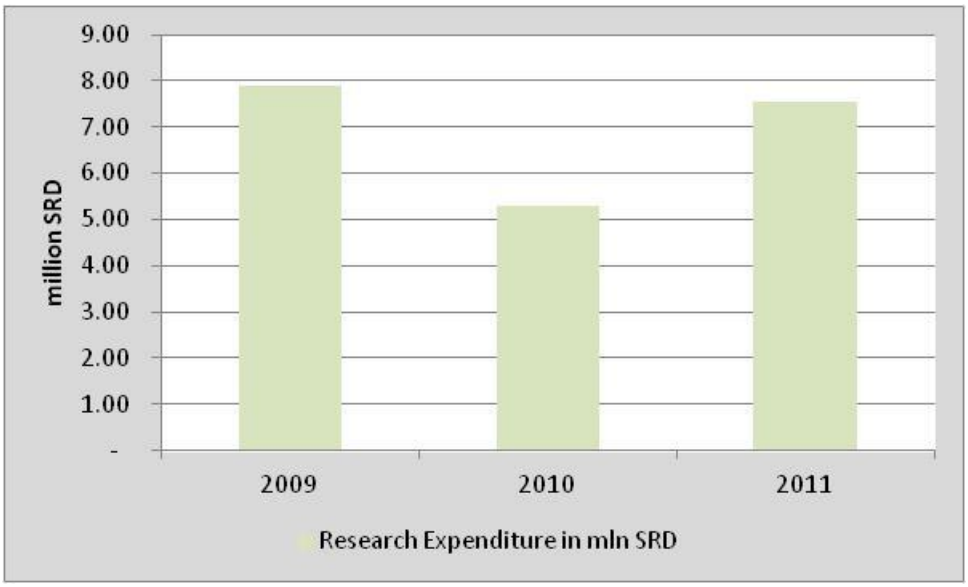
The main agricultural research centre in Suriname is CELOS: the agricultural research institute funded by the Ministry of Education through Anton de Kom University. CELOS does not have its own allocation in the budget of the Ministry of Education, and as a result, depends on negotiations with the University of Suriname's Board for its annual budget.

The research department of Ministry of Agriculture, Animal Husbandry and Fisheries is engaged in laboratory testing of crop and livestock production as well as in plant protection research. It also runs an experimental station.

The levels and composition of research expenditure in the agricultural budget is particularly hard to assess, as there is no specific programme for research in the budget. Expenditures on research activities are included in other programmes, including 'institutional design' (food safety, plant genetics research), 'livestock' (animal health and disease research) and 'national rice research foundation' (rice research). As mentioned above, the agricultural research institute CELOS is funded from the budget of the Ministry of education.

The total allocation to research included in the PSEs is provided in Figure 35.

Figure 35. Total agricultural research expenditure, in million SRD, 2009 - 2011



Source: Author's elaboration

Inspection services

Agricultural health and food safety is among the priorities of agricultural policy of Suriname. The transfers under this category include animal disease monitoring systems, veterinary laboratories, food safety inspection services.

Marketing

Marketing and promotion of exports is organised by the Suriname Chamber of Commerce and Industry (WTO, 2013), however, there is no information on public spending on these activities. No transfers to marketing and information dissemination actions were discovered in the budget of the Ministry's of Agriculture, Livestock and Fisheries, however, the reason might be that such programs are components of broader programs.

Infrastructure

Public expenditure in support of infrastructure development, including irrigation, is allocated by various institutions, including the Ministry of Public Works, the Ministry of Regional Development and the Ministry of Agriculture. For the rice and bananas subsectors, infrastructure development has also been funded through significant donor contribution from the European Union, such as the EU Rice Competitiveness Project and the Banana Accompanying Measures.

Rural roads in Suriname are in poor condition (Roseboom, 2012). The Ministry of Regional Development is mainly responsible for rural infrastructure financing, while some of the irrigation and drainage infrastructure works are financed through the Ministry of Public Works.

Integration of rural development, including roads, electricity network and other engineering infrastructure in the framework of agricultural development policy would improve coordination of actions and information exchange between the authorities involved.

Infrastructure is the factor outside the farming sector, which is very important for the agricultural producers. Creating information systems, property rights and enhancing competition will reduce transaction costs and increase competitiveness of the farming sector.

3.6 Estimates of support to consumers

The Consumer Support Estimate is the common indicator of support demonstrating how the agricultural support policy affects the consumers of agricultural commodities. Negative national CSE means that there are transfers from consumers to producers of agricultural commodities.

In Suriname, transfers from consumers to producers are the case for all the livestock commodities. The negative CSCT indicators[48] for all these products mean that support to farmers in these sectors originated from the transfers from consumers, not taxpayers. The producers of these commodities are supported mainly at the expense of domestic consumers, who pay higher prices for their milk, poultry meat, beef, pork and eggs. This is reflected in the negative level of the country's national CSE.

Negative CSEs affect the economic access of households to food, as consumers pay more for their food products than they should on the basis of the prices that prevail in the international market. In Suriname, the share of the population that is food insecure amounts to 11.4% in 2010-2012 (FAO, 2013 State of World Food Insecurity).

[48] CSCT is calculated as: the transfers to consumers from taxpayers – (transfers to producers from consumers + other transfers from consumers)

The negative consumer support is consistent with trends observed in other middle-income countries. In low-income countries, governments often tax their agricultural sectors by suppressing food prices, as concerns for the welfare and food security of (urban) consumers is considered more important than farm incomes. When incomes grow, however, middle income countries tend to provide more support to agricultural producers at the expense of consumers. In addition, middle-income countries have more financial resources to support their agricultural sector. All emerging economies monitored by the OECD provide positive support to farmers.[49]

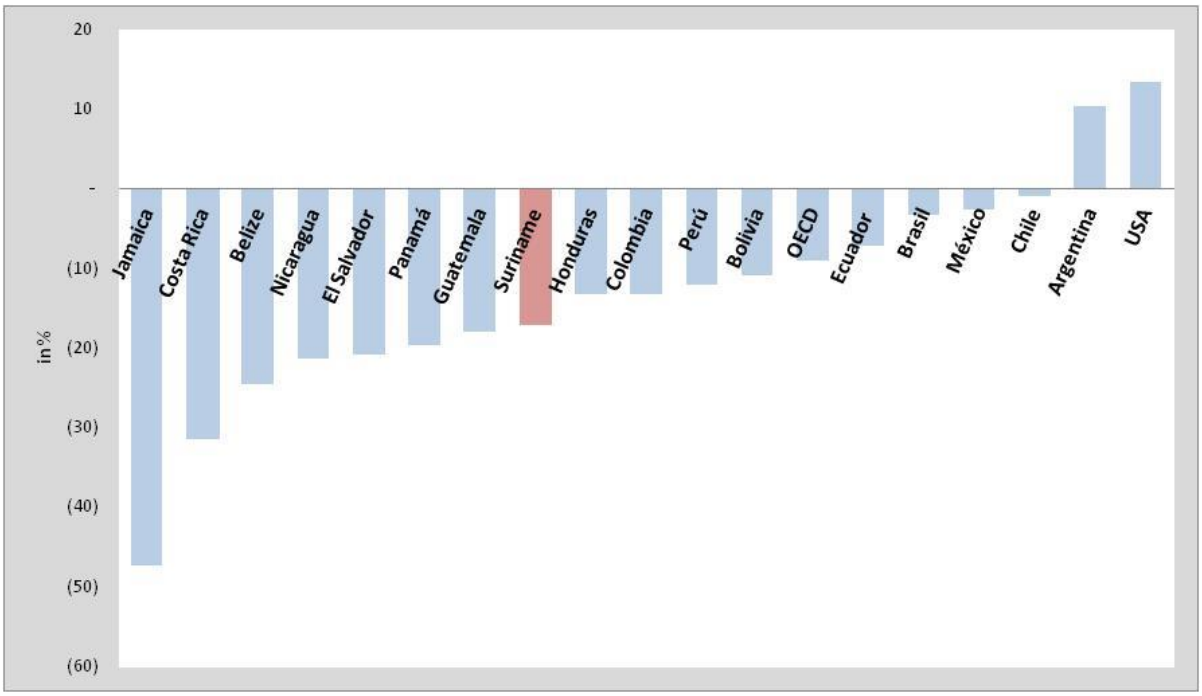
At the same time, CSCTs for rice in 2006-2011 was positive, indicating that the consumers of the main staple commodity are protected by agricultural policy measures.

In most OECD countries the consumers are taxed as well, but they usually are partly compensated for it by budget transfers through food assistance programs. In the United States for example, food assistance programs outweigh the negative transfers from consumers to producers and the consumer support becomes positive. In Suriname there are two main programs creating transfers to consumers from taxpayers: school feeding program and baby food subsidy. However, these transfers do not outweigh negative transfers from consumers to producers due to the higher prices on domestic market, mainly for livestock commodities.

Relatively high MPS levels lead to taxation of domestic consumers in Suriname, but at levels similar to the Central American countries, including Guatemala and Honduras, as follows from Figure 34.

[49] OECD (2012b)

Figure 36. Consumer Support Estimate (Percentage) in Suriname and selected countries* in 2009-2011, %



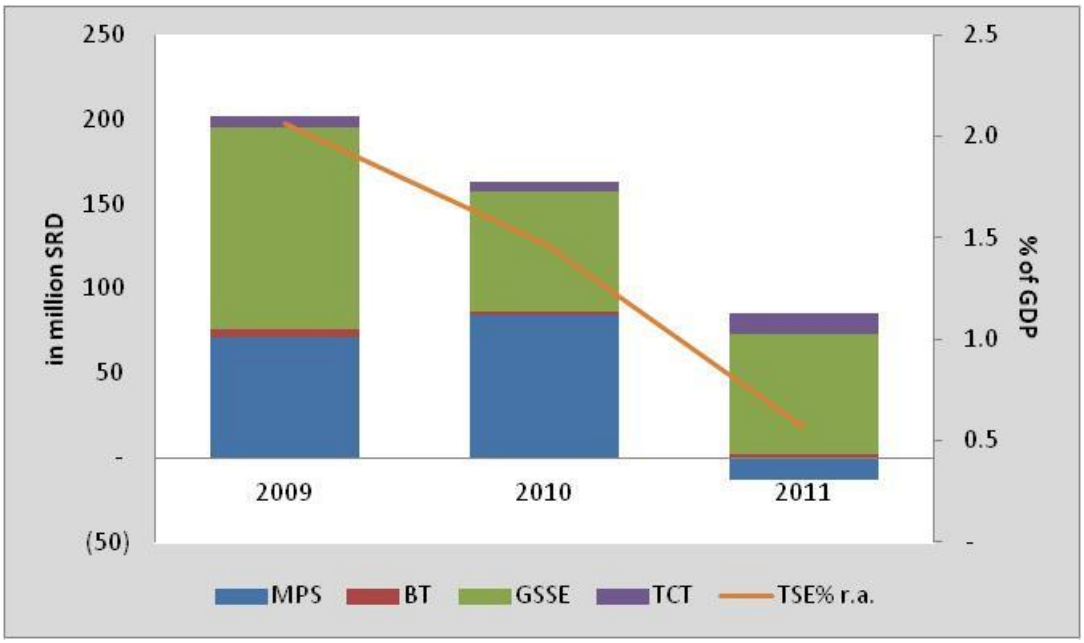
*Belize-2008,
Bolivia, Columbia, Costa Rica, Honduras, Panama, Peru - 2008-2009,
Jamaica, Guatemala, Ecuador, Brasil - 2008-2010
El Salvador, Nicaragua - 2009-2010
Source: consultant's estimation, IDB database, OECD PSE database

3.7 Estimates of Total Support to the Agricultural Sector

The Total Support Estimate (TSE) is the sum of the support to producers, general services and consumers, and reflects all the transfers that result from agricultural policy. The TSE is usually estimated in percentage form as a share in GDP to demonstrate the burden of agriculture-related transfers on the economy.

In 2009, the Total Support to agriculture in Suriname reached just over SRD 200 million in 2009, and decreased to SRD 72 million by 2011 (see Figure 35). The reduction of TSE was caused by both a decrease in Market Price Support by a reduction in budget transfers. As specified above, this was also reflected in a strong decrease of the budget of the Ministry of Agriculture as a result of the termination of Dutch development assistance and lower bauxite revenues.

Figure 37. Suriname: Total Support Estimate, 2009-2011, mn SRD

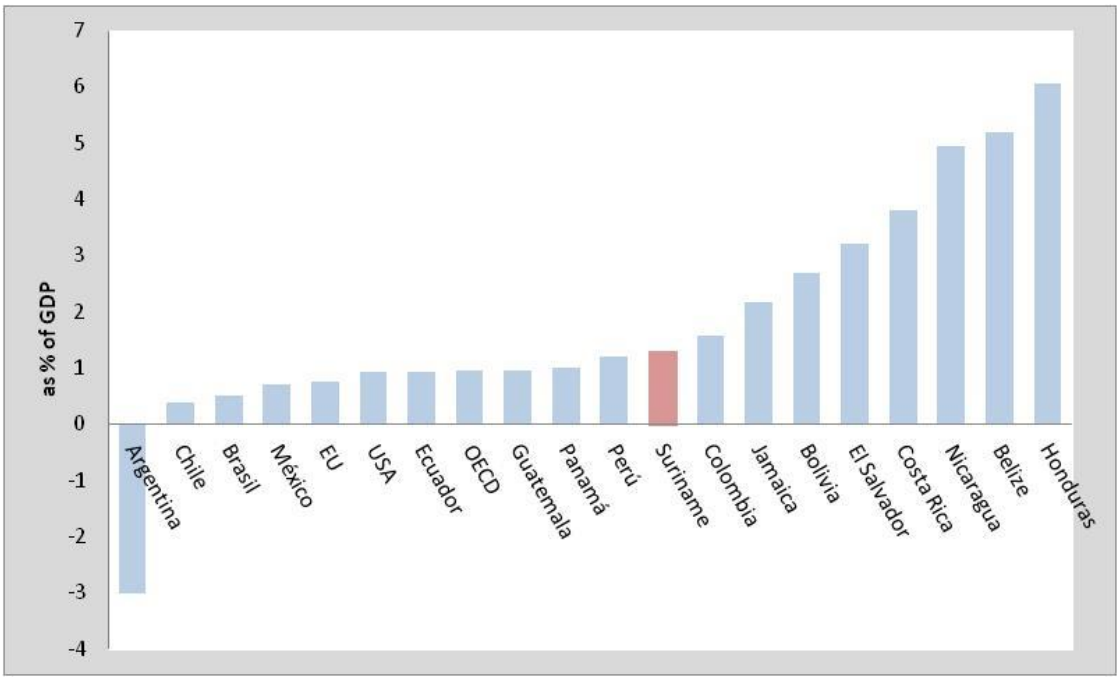


Source: consultant's estimation

Though Market Price Support is the key driver of support to the sector in 2010, in other years GSSE plays the most important role. This is a sign of efficiency of distribution of the budget funds for support to agriculture, as this kind of transfers has proven to be most effective in developing long-term competitiveness. However, infrastructure development is still insufficient and more transfers are required to support agricultural sector competitiveness on the sufficient level.

In international perspective, TSE as a percent share of GDP in Suriname was 1.31% average in 2009-2011, which is higher than in OECD, EU, Brazil, USA and Ecuador, and close to the levels of Colombia (see Figure 38).

Figure 38. Total Support Estimate (Percentage) in Suriname and selected countries* in 2009-2011, %



*Beilize-2008,
Bolivia, Columbia, Costa Rica, Honduras, Panama, Peru - 2008-2009,
Jamaica, Guatemala, Ecuador, Brasil - 2008-2010
El Salvador, Nicaragua - 2009-2010
Source: consultant's estimation, IDB database, OECD PSE database

4. Conclusions

The Government of Suriname employs various policy instruments in support of the agricultural sector, including trade policies and supportive public expenditure measures. This results in overall levels of support to the agricultural sector in Suriname that are positive throughout the period under review and average for the Latin American and Caribbean region. In other words, agricultural policy in Suriname results in support to producers, who are getting higher prices and budget transfers that increase their gross receipts.

As far as the composition of the PSE, most of it comes in the form of Market Price Support, while budget transfers sum up to less than 10% of total producer support. Moreover, the share of budgetary transfers in support to producers was reduced sharply in 2010 following the budget cuts as a result of the termination of Dutch development assistance and decreasing Government revenues from the bauxite sector. The market price support can be explained only partly by explicit policy measures, such as the import tariff for poultry products or the Government-set minimum producer prices for milk. As is the case in many developing countries, price gaps between international reference prices and domestic farm-gate prices are also the result of the structure and development of the value chain. The detailed case study for rice demonstrates how highly negative price gap is partly explained by overcapacity in the rice processing sector. Generally, however, domestic price trends in Suriname follow changes in international market prices. This shows that price changes are transmitted to producers.

Though overall support to producers exists, the differences between subsectors are significant:

Rice producers in Suriname receive positive market price support in 2010, and negative market price support in others – most notably in 2011. When budgetary transfers are taken into account and analysed for the years 2009 - 2011, overall support to rice – the so-called single commodity transfers - remains negative in 2009 and 2011. However, most public expenditure in support of the rice subsector is classified as support to general services, which is not commodity specific. If these budgetary expenditures, such as public investment in irrigation, drainage or research, are included in the SCTs, rice support levels turn positive, with the exception of 2011. In other words, the negative price gap that producers face is largely offset

by government expenditure to the sector, particularly in areas that generate long-term effects and positively affect its competitiveness.

PSE brings to light the positive price gap between domestic and reference prices resulting from the public policy interventions as well as from the deficiencies of market infrastructure, mainly excessive import costs. While the economy of Suriname is open and import tariffs are low, barriers to imports are created by the bureaucratic and institutional obstacles to trade.

In general, livestock products receive higher levels of support than crops. Though support levels for various other commodities were higher, the most supported commodity in total value terms is poultry. As further set out in a more detailed analysis of the poultry value chain in Annex II, protection levels are higher than the ad valorem tariff of 20% that is applied to imports of poultry meat products. Our analysis suggests that the difference consists of relatively high margins for poultry importers as a result of their powerful position in the value chain. This protection is funded by consumers, who pay higher prices for their chicken than they should on the basis of international reference prices. It also results in a negative overall consumer support estimate (CSE).

Support to general services, creating transfers to the agricultural sector, and not to individual farmers, is provided in the forms of infrastructure development (rural roads and irrigation and drainage, inspection services (food safety, phytosanitary and veterinary health protection measures), as well as research and development and education and training. The share of support provided to agriculture in the form of general services is about 40% of total transfers to agriculture, which is higher than in most Latin American and Caribbean countries, and close to the levels in Chile and US. Investment in general services, and especially in market and rural infrastructure, enhances competitiveness of domestic production, stimulates more efficient production decisions and promotes long-term economic growth. It must be noted though that irrigation infrastructure represents a large share of the general services support.

Whether the spending on general services is generating the desired effects, and whether it addresses the major constraints faced by producers is an issue that should be analysed more in detail. However, despite the relatively high GSSE estimates, reports suggest that increased GSSE expenditure, target to infrastructure (irrigation and drainage, roads, as well as soft

infrastructure, such as access to credit and information), research and development, are needed to increase the sector's competitiveness in the long run.

The Total Support estimate, or overall value of the transfers created as a result of national agricultural policy, reached SRD 200 million in 2009, before dropping to SRD 67 million in 2011. The average annual level of support amounts to 1.31% of Suriname's GDP, which is average among the countries of the Latin American and Caribbean region, and which is similar to those levels observed in Colombia.

5. Policy Recommendations

The Government of Suriname uses a variety of policy instruments that affect the country's agricultural sector. The instruments applied include traditional trade policy measures, such as import tariffs, but also direct payments to producers, state ownership, tax exemptions for inputs, subsidized credit, price policies, food subsidies, and government support for rural infrastructure, irrigation, research and training.

The broad mix of policy instruments and changing levels of public sector intervention in the agricultural sector result in a policy environment that creates space for ad-hoc and discretionary measures, such as the subsidy provided to rice producers in early 2013. Our analysis indicates that changes in price transmission between the international rice market and domestic producers are mainly the result of over-capacity among rice processors, and – to a lesser extent - inefficient transport networks. The Government can achieve long-term and more sustainable gains in competitiveness for the rice subsector if support was provided through support to general services, including through infrastructure and irrigation development, better access to credit and increased research expenditure, rather than through production subsidies as provided in 2013. Besides the limited long-term effect of such a measure, it also creates distorted market signals that block farmers from receiving reliable market signals. In addition, the design of the policy measure (a subsidy per bag of paddy produced) made productive farmers receive more per ha than farmers with lower productivity levels. The latter group, however, would benefit more from the subsidy as less productive farmers require capital for productivity-enhancing investments.

Table 12. Overview of applied policy instruments and suggested improvements

Commodity	Instrument	Planned objective	Recommendations/Suggested changes	Potential effects or intended benefit	Beneficiaries	Other effects
Rice	Incentive or compensation payment for fuel: Production Subsidy paid out on the basis of bags of paddy produced	Compensation payment for high production costs	Discontinue subsidy payments and invest in general services (in particular: seed research, water infrastructure and improved accessibility of port of Nickerie).	Increased competitiveness in medium and long term.	Rice farmers	Better research capacity and infrastructure also benefits other subsectors;
			In case of subsidy, choose different design: area payment (per hectare) or focus on smallholder farmers	Increase efficiency, equity; reduce rice producers debt levels and raise credit standing; increase producers' capacity to invest in productivity-enhancing technologies	Small farmers; Producers with smaller investment capacity	
Banana	State Ownership of SBBS	Ensure continuity of the banana sector in Suriname	Privatization of the SBBS to be completed; Investment in Port of Nickerie to lower transport costs from the Nickerie Estate.	Increase competitiveness and lower costs in banana subsector; Improve long term sustainability	Employees of SBBS (2,400)	Rural employment; Improved fiscal position; Generation of foreign exchange earnings
Milk	Price policy	Compensate high cost in milk production chain and fierce competition from milk powder imports	Gradually eliminate intervention in prices; Substitute for investment in higher quality and productivity (through targeted On Farm Services and General Services), in particular in training and capacity development, quality	Reduce subsector inefficiencies; Lower consumer/retail prices; Increase milk farmers' productivity; Reduce stagnation in milk production	Consumers Tax payers Milk producers in the long term	Reduce government-dependency; Increase the subsector's innovation capacity

			assurance, access to credit and disease control;			
Poultry	Import Tariff	Protect domestic producers.	Government should avoid increasing the import tariff, as proposed by producers. Instead, it should increase public investment in research for domestic production of feed components, e.g. in partnership with international partners such as EMBRAPA, to lower feed costs; Enhance quality control to maintain consumer premiums for (high-quality) local chicken.	Lower poultry farmers' cost of production; Strengthen quality of locally produced chicken.	Producers Consumers	
Cassava	Subsidized Credit (Government-backed loan)	Develop a new agricultural value chain; Increase cassava production, processing and consumption; Reduce wheat imports.	Sources suggested that the Government acquired ownership of cassava-processor IAP. This report recommends to avoid state-ownership.	Ensure efficiency.	Consumers Cassava producers (long term) Taxpayers	Improved fiscal position; Increased private investment and entrepreneurship in cassava subsector; Growth of agribusiness sector.
	Informal Price Policy	Increase cassava production; Increase cassava producers' incomes	Abolish the 'guaranteed buying price' for raw cassava that was announced by Government officials.	Ensure sustainability of cassava production and processing. Avoid penalization of consumers through high cassava-flour prices;	Consumers Cassava producers (long term)	

Source: Author's elaboration

Even though poultry subsector stakeholders have repeatedly called on the Government to increase protection of poultry producers against lower-priced imports from Brazil and the United States, our analysis shows that poultry producers are already among the largest beneficiaries of agricultural producer support in Suriname. This support is almost exclusively funded by consumers, who pay higher prices than they should on the basis of international market prices for poultry meat. Increased tariffs would drive up poultry prices and would put the bill for increased protection of poultry producers with Surinamese households – for whom poultry is the main source of animal protein. In addition, such a measure would not incentivize investments to increase cost-effectiveness and efficiency in the sector. Instead, the focus of the Government should be on tackling the sector's constraints to increased competitiveness, for example through a coordinated effort to promote the production of quality feed components in Suriname. This will create sustainable benefits for the poultry value chain through reduced costs of production (not only for meat but also for eggs), which should result in lower prices for consumers, who still have a strong preference for the quality and taste of locally produced chicken.

As our analysis shows, the milk sector in Suriname is receiving significant support and the Government-set retail prices are above international reference prices. However, the support has not translated into growth of domestic milk production or import substitution. On the contrary, imports continue to rise despite the protection, which comes at a high cost for both consumers (through high milk prices) and taxpayers (through losses at the parastatal Melkcentrale). Therefore, it should be concluded that the current policy framework does not generate effects that are coherent with the Government's policy objectives. In order to increase competitiveness in the dairy value chain, reduce costs and increase the chances for privatisation of the Melkcentrale by 2015, a desire expressed by the Government, the current framework of price policies should be reconsidered. Rather, the Government should assess how it can strengthen its support to private-sector led organization of the sector and better overall product quality standards. Some stakeholders suggested that the Government should increase the tariff for imported milk. This report advises against such a measure. Evidence shows that higher import duties will significantly harm consumers as retail prices of milk – as well as other dairy products, which are often produced with imported milk powder – will increase further. Higher import duties will also reduce the incentive for farmers and processors to produce more efficiently, and weaken the competitiveness of the milk subsector in Suriname.

A stronger and more competitive agricultural sector in Suriname also requests a different role for the Government. Traditionally, agriculture was strongly driven by the public sector, as is still shown by the large number of parastatals active in various key agricultural value chains. Now, Government has indicated that it wishes to shift to a role that is more facilitative and to create an enabling policy framework that fosters private investment. This requires better capacity of the Government to generate increased linkages between public investment in research, extension or infrastructure and the needs of producers. The developments in the cassava subsector highlight a large disconnect between public investment in processing, research programmes and the constraints faced by private investors interested in the subsector. The Ministry of Agriculture should strengthen its capacity to carry out sector-wide coordination and to create public-private partnerships. The research team found during its missions to Suriname that sector stakeholders generally consider agriculture as a business; in this perspective, it is important that the Government not only reduces its involvement in the agricultural sector through state-owned companies and foundations that operate in a broad number of value chains (including rice, bananas, milk, citrus, cassava, fish) but also improves the general business environment to improve the ease of doing business in the country.

Overall, the research team found it difficult to assess the levels and composition of the Ministry of Agriculture's support to general services, in particular to research and development. This is the result of the absence of a coherent Research and Development programme in the agricultural budget. Rather, allocations to research activities are divided over a variety of budget programmes, including the 'National Rice Research Institute', 'Institutional Design' and 'Livestock'. Coherent and effective support to the agricultural sector to enhance its competitiveness should include a well-designed research programme that has its own budget allocation. Therefore, a specific research programme in the Ministry of Agriculture's budget should be considered.

Finally, our study has found that the Government of Suriname lacks sufficient policy monitoring capacity to assess, on a structural basis, how its agricultural policy framework translates into positive or negative support for producers in its most important value chains. This limits the capabilities of institutions to make sure that policies contribute to the stated policy objectives of the Government, and that policies affecting prices are coherent with public expenditure in support of the sector. In order to strengthen the policy monitoring function in the Ministry of Agriculture and increase the availability of evidence for decision-making, it is

recommended that capacity is built within a department/unit in the Ministry of Agriculture and that this unit will carry out an annual updating of the Producer Support Estimates and its consequent implications for agricultural policy. This is particularly important since during this study, PSEs could only be calculated for the 2009 – 2011 period due to the limited availability of budget data. Updating the indicators would to identify trends and track how policy changes are affecting those on which agricultural growth and development in the country depend most – Surinamese producers themselves.

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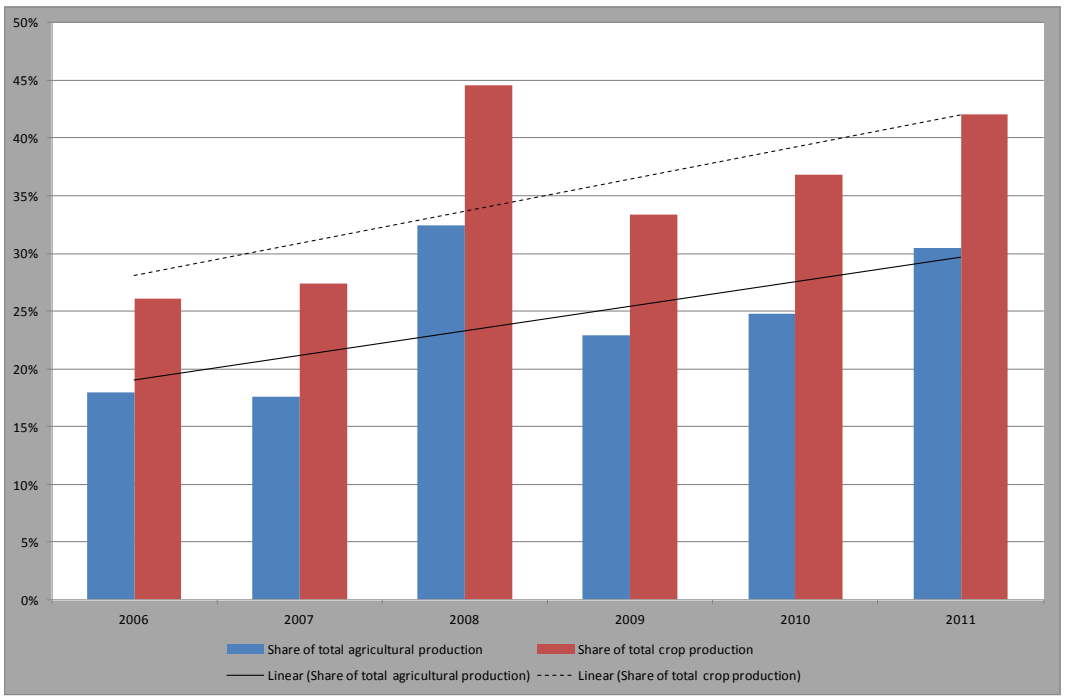
Annex I: Summary overview of the rice value chain in Suriname

Rice is one of the major crops in Suriname, during the period 2006-2011 according to the Ministry of Agriculture it represented 25 per cent of the total value of agricultural production and 36 per cent of the value of crop production. The share of rice in total agricultural production has been steadily increasing during the whole study period (figure A.1).

Figure A.1. Share of rice in total agricultural and crop production (2006-2011)



Source: Ministry of Agriculture, Animal Husbandry and Fisheries.

Rice area under production stands at 30 000 has which have a turnover ratio between 1.1 and 1.2 (10 to 20 per cent of the total area is harvested two seasons per year) which leads to an overall harvested area of 50 000 has on average (FAOSTAT, 2012). The potential turnover ratio stands at 1.6, this turnover ratio was already achieved in the past and is the objective of the white paper on rice. Paddy rice yields stand at 4 tonnes per hectare (FAOSTAT, 2012).

Rice production has stabilized around 140 000 tonnes of milled equivalent (figure A.2). Of this, on average 36 per cent is exported, mainly via the port of Paramaribo following the closure of the Nickerie port due to the clogging of the access to the river from the sea.

As follows from Table A.1, yields of paddy production in Suriname averaged 4.13 metric ton per hectare, which is below the world average of 4.43 ton/ha and also below the levels realized in several countries in the region, such as Jamaica (4.31) and Brazil (4.9). Despite its relatively high level of mechanization, productivity levels are also lower than in Guyana (4.51 tons/ha), which has climate and soil conditions very similar to Suriname. These low yields increase the unit cost of production . Research indicates that the main reasons for low yields are found in the quality of seed, the availability of working capital and the quality of water infrastructure and management.[50] In addition, as indicated below, producers are also affected by the high milling costs that are the result of underutilization of existing rice milling capacity.

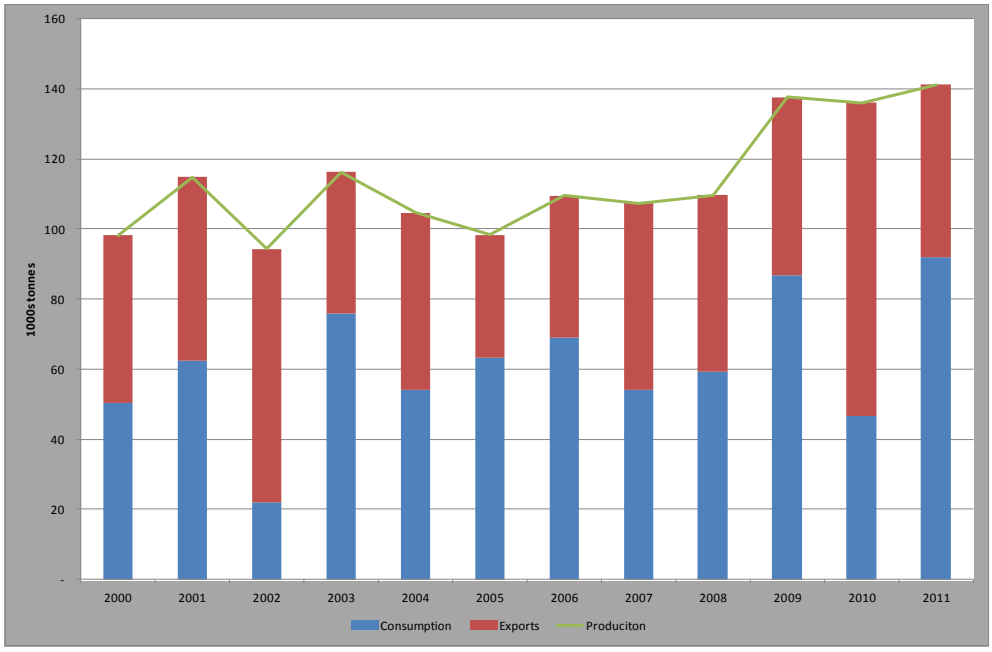
Table A.1: Rice yields in international perspective, in metric ton/hectare, 2011

Rice (paddy), yield in ton/ha, 2011	
Brazil	4.9
Colombia	3.96
Costa Rica	3.44
Dominican Republic	5.01
French Guyana	2.49
Guatemala	3.1
Guyana	4.51
Jamaica	4.31
Nicaragua	5.03
Suriname	4.13
Thailand	2.97
United States	7.92
Venezuela	5.7
Vietnam	5.54
World Average	4.43

Source: FAOSTAT

Rice is a main component of the agricultural exports of Suriname representing on average 38 per cent of total foreign exchange earnings from agricultural exports.

Figure A.2. Production, consumption and exports of rice (milled equivalent) 2000-2011

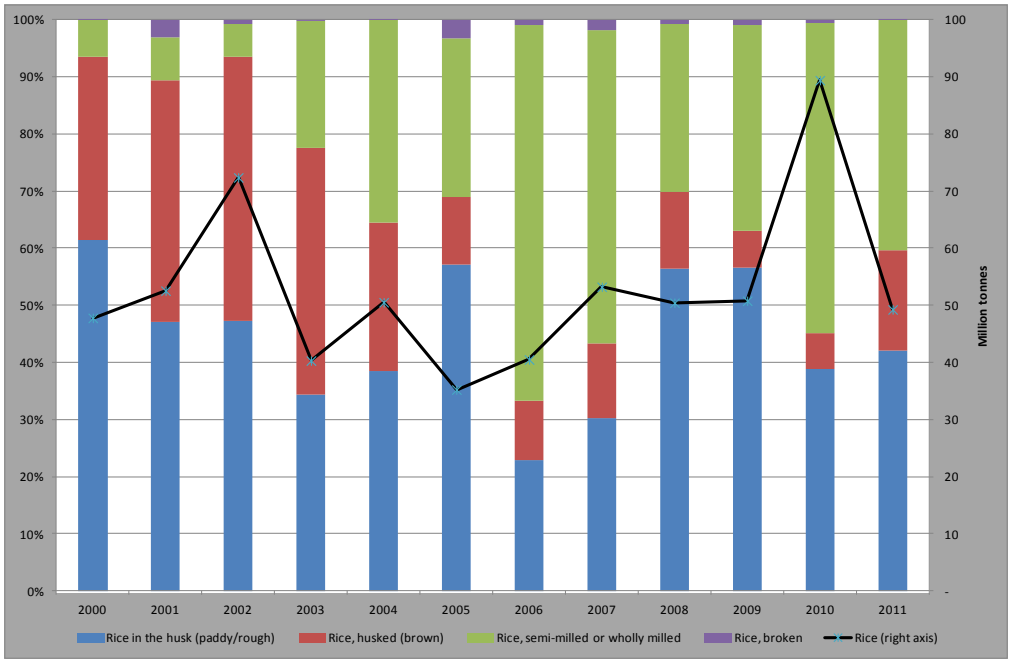


Source: FAOSTAT

[50] Poerschke (2005)

Rice exports are split between processed rice (milled/broken)which represents during the period 2000-2011 on average 58 per cent of total rice exports in volume and non-processed rice (paddy/husked) covering the remaining 42 per cent (figure A.3). However, the share of milled rice in total export is increasing and since 2008, this type of rice is the one showing the highest export figures.

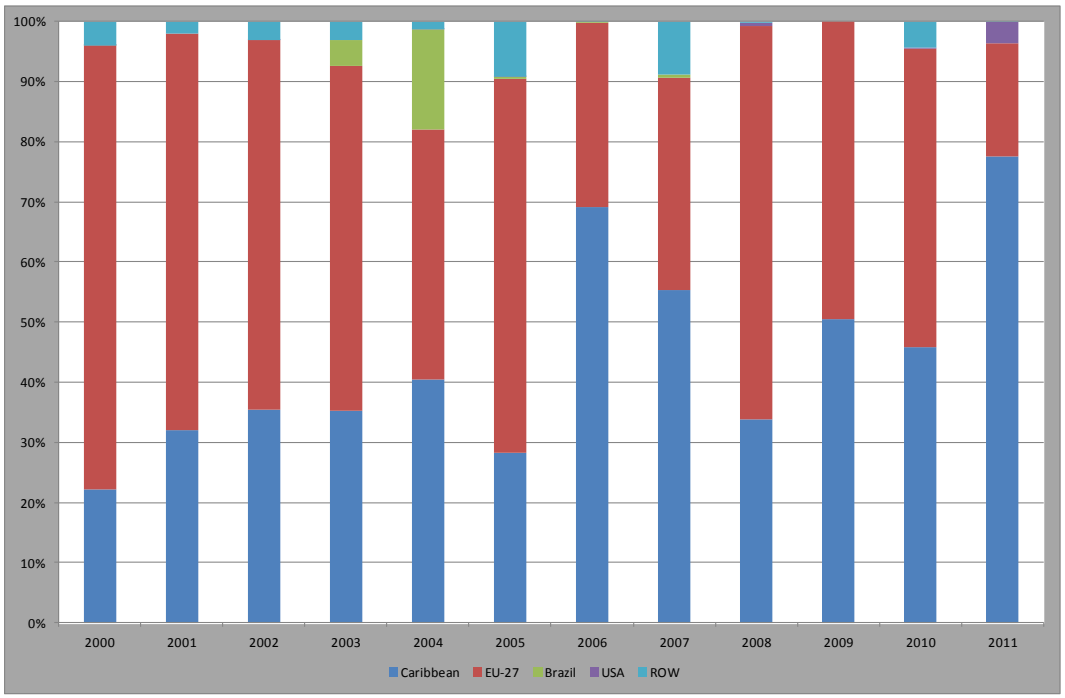
Figure A.3. Rice exports by type of rice (2000-2011).



Source: UN COMTRADE

Rice exports during the period 2000-2011 were destined mainly to the EU-27 (51 per cent of total exports), however the share of exports towards the Caribbean has been increasing steadily from 22 per cent in 2000 to 77 per cent in 2011 (figure A.4).

Figure A.4. Rice exports by destination (2000-2011)

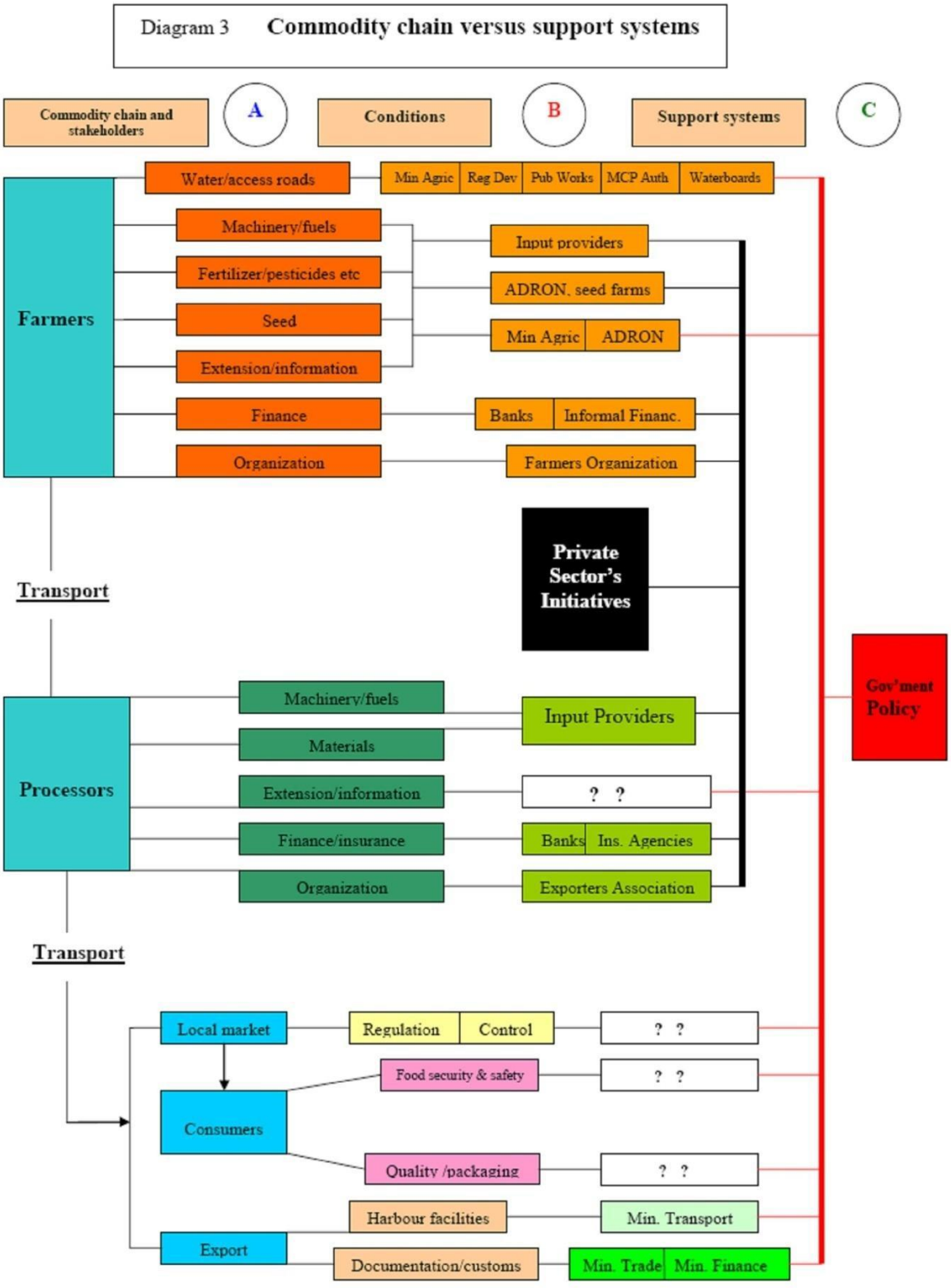


Source: UN COMTRADE

Rice production is centered in the western part of Suriname (Nickerie) with a very high level of mechanization. Rice is harvested by farmers and sold at the farm gate to millers. There are approximately 18 rice mills in Suriname, five big mills and 13 smaller one. The five big mills process more rice than the 13 small ones together. The biggest company produces and processes rice, Manglie's Rice Company Ltd. Overall there seems to be a significant over-capacity in the milling sector, we have not been able to assess overall capacity utilization however the mill we visited used 20 per cent of its capacity in 2012, this idle capacity raises the unit costs of milling by 15 per cent.

Rice is loaded in 79 kg bags of wet paddy which corresponds to 70 kg of dry paddy which results in 51 kg of milled rice (conversion factor of 0.65 from paddy to milled rice). In addition to these 51 kg of milled rice the paddy rice generates 19 kg of other types of rice which are sold at the domestic market. An overview of the rice value chain and support systems to the sector is provided in Figure A.5 below.

Figure A.5: Overview of the rice value chain and existing support systems



Source: Graanoogst (2007)

The marketing costs associated with transporting, processing and handling rice from the farm gate to the border include the following components:

- Transport from the farm gate to the mill
- Drying
- Milling
- Loading to truck
- Transport to point of export
- Inspection and fumigation by Ministry of Agriculture, Animal Husbandry and Fisheries
- Loading to boat
- Customs duties

In addition we discount from the access costs the value of the by-products, which is equivalent to adding the value of the by-products to the reference price.

There are no specific price or trade policies applied to rice. However, the government sometimes interferes in the setting of the rice price announcing what it believes to be a fair price. The last such case occurred in 2012 when the government announced a price below the market price that existed at the moment. This interference has been the justification used by farmers to demand the compensation payment which was set by the Government in 2013. While this might be true, the level of the payment was set based on budget availability rather than on an independent analysis of the impact of the government on the rice price.

The rice subsector does receive significant resources from the treasury. As shown in Annex VII besides public expenditure included in the SCT estimates reported in the PSE calculations (including only the expenditure on the Foundation of the National Rice Institute) one can assign additional expenditures to rice based on the relative importance of the rice subsector with regards to water and drainage infrastructure as well as some specific projects and the reactivation of the water boards. With these expenditure in mind we have calculated a revised SCT for the years for which public expenditure data is available (2009-2011).

Data sources

Based on the information gathered in secondary sources and during the interviews in Suriname during the period 24-29 June 2013 the following data sources and assumptions have been used for the calculation of the MPS for rice.

Benchmark price: unit value of exports for milled rice as reported by UN Comtrade for commodity HS 10.06.30.00 "*Rice semi-milled or wholly milled*".

Exchange rate: as reported by IMF.

Marketing costs: as reported by the Surinamese Federation of Rice growers, N.V. Sun Rice and CMA CGM Suriname N.V. All costs have been modified to refer to paddy rice using the quantity adjustment factor when relevant. The different components are reported in table A.1. We have not varied the costs during the study period as during the interviews it seemed that the rates have been more or less fixed during the last years and they do not follow the CPI global trend.

Table A.2. Components of marketing costs used for the calculations of the reference price at the farm gate.

Cost component	Unit	Cost per unit	Conversion factor	Cost per tonne of paddy (SRD)*	Notes
1. Transport from farm gate to mill	SRD per bag of paddy	3.25	12.66	41.14	Average of cost during dry season (1 SRD per bag) and cost during rainy season (5.5 SRD per bag)
2. Drying	USD per tonne of milled rice	5.00	0.65	9.04	
3. Milling	USD per tonne of milled rice	5.00	0.65	9.04	
4. Depreciation	SRD per tonne of milled rice	0.28	0.65	0.18	Assumes processing of 80 000 bags of paddy a year
5. Loading	USD per tonne of milled rice	4.50	0.65	4.52	
6. Transport to Paramaribo	USD per container of milled rice	500	0.03	45.18	
7. Customs	USD per tonne	4	0.65	7.23	Administrative procedures
8. Tax	SRD per tonne	10	0.65	6.50	Inspection, fumigation and funding of research
9. Margins	15 per cent of paddy purchase plus all costs	Varies per year	1.00	Varies per year	
10. By-products	SRD per bag of paddy	13.7	4.43	61.89	

Conversion factor notes: 12.66 bags of paddy make one tonne of paddy / one tonne of paddy makes 650 kg of milled rice and 350 kg of by-products / 1 container carries 20 tonnes of milled rice

* Exchange rate from USD to SRD is 2.78 for 2006-2010 and 3.25 for 2011.

Source: own elaboration based on personal interviews with agents in the value chain

Table A.3. Marketing costs used in the analysis

	2006	2007	2008	2009	2010	2011
Marketing costs for rice from farm to export via port of Paramaribo (SRD per tonne of paddy)	120.83	128.33	207.83	153.83	165.83	212.79

Source: Table A.1[1+2+3+4+5+6+7+8+9-10]

Comparing these costs to those reported in the World Bank Doing Business indicators, we can see that the reported items seem to underestimate the costs of exports by 18.5 USD per tonne of milled rice[51]. However the results of our analysis don't change much when this is incorporated and therefore we have used the data during the personal interviews with value chain agents.

Domestic price at farm gate: as reported by the Ministry of Agriculture, Animal Husbandry and Fisheries.

[51] Our interviews only captured a cost of 4 USD per tonne for export procedures while doing business includes costs for documentation preparation and port handling. We assume that the cost of transport from Nickerie to Paramaribo include the costs of handling in the port.

Quantity adjustments: one tonne of wet paddy is equivalent to 650 kg of milled rice. One bag of paddy rice is equivalent to 79 kg of paddy rice. One container carries 20 tonnes of milled rice.

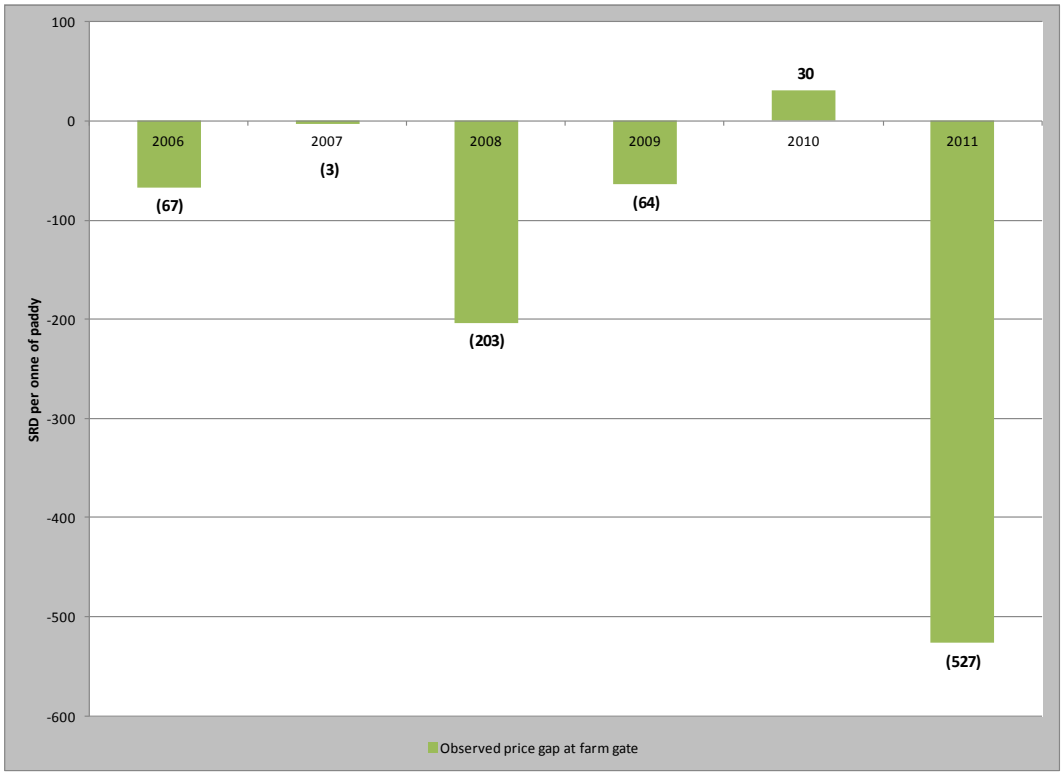
With this data the price gap between the domestic farm gate and the reference price is calculated as shown in table A.3 and is represented in figure A.6.

Table A.4. Calculation of price gap for rice in Suriname (2006-2011)

	2006	2007	2008	2009	2010	2011
1. Benchmark price (USD / tonne of milled rice)	292.14	288.34	736.67	430.25	429.08	799.74
2. Exchange rate (SRD/USD)	2.78	2.78	2.78	2.78	2.78	3.25
3. Conversion factor (paddy rice to milled rice)	0.65	0.65	0.65	0.65	0.65	0.65
4. Marketing costs (SRD per tonne of paddy rice)	120.83	128.33	207.83	153.83	165.83	212.79
5. Reference price at farm gate (SRD per tonne of paddy) *([1]*[2]*[3]-[4])*	407.07	392.71	1,123.33	623.64	609.52	1,476.65
6. Farm gate price (SRD per tonne of paddy)	340.00	390.00	920.00	560.00	640.00	950.00
7. Price gap *([6] – [7])*	(67.07)	(2.71)	(203.33)	(63.64)	30.48	(526.65)

Source: own elaboration

Figure A.6. Price gap for rice in Suriname (2006-2011)



Source: own elaboration

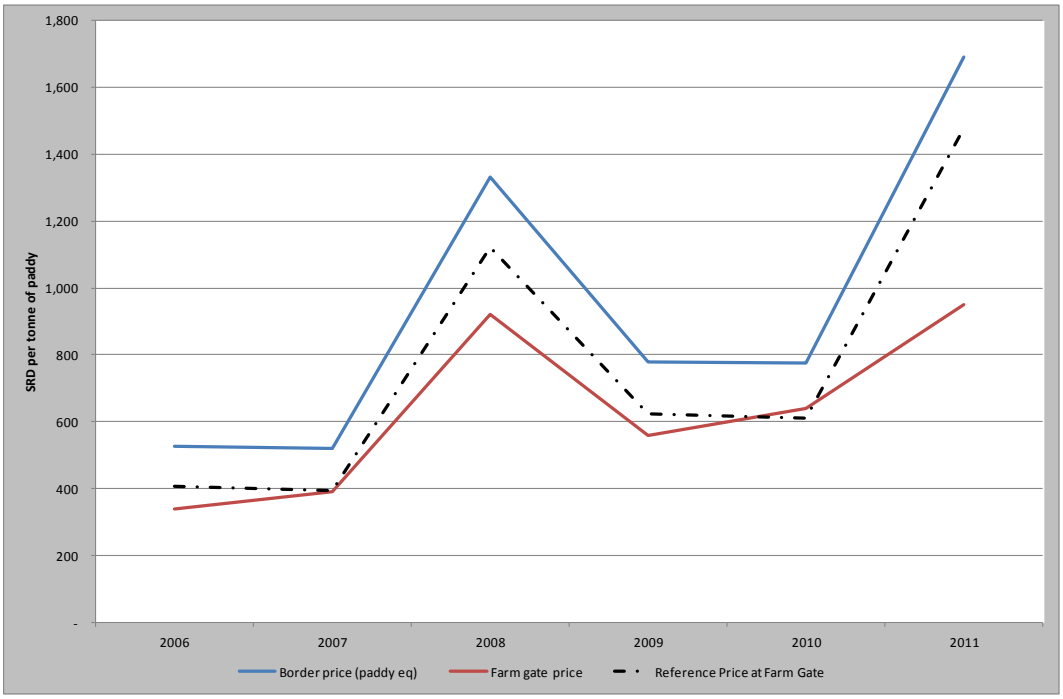
The results show that most of the years farmers perceive a price for rice that is below its international undistorted potential. The price farmers are not realizing is below 20 per cent of the actual farm gate price with the exception of 2011 when it spikes to 55 per cent. This

situation might be due to prices for farmers being set before the devaluation of the SRD and prices of exports realized after the devaluation. If one takes into account this (i.e. does the calculation with the old exchange rate) the price farmers are not realizing is higher than the preceding years (30 per cent) but the spike is less abrupt.

We are not aware of any explicit policy affecting rice in the period under review besides the limited export tax (6.5 SRD per tonne of paddy). Moreover, the export tax is not clearly a tax as it is used to fund the rice research institute and provide fumigation and inspection services. Therefore, the negative price difference detected is related to excessive marketing costs in the value chain as the value chain seems to be pretty integrated, with domestic prices following the same trend as international ones (figure A.7). These excessive marketing costs would be mainly related to the low capacity utilization.

In order to improve the prices received by farmers the objective of the white book of increasing production by raising the turnover ratio seems to be key. This would reduce excessive processing costs due to capacity utilization. Exports directly from the port of Nickerie would increase prices for farmers but not significantly as the difference in costs between both export routes have been estimated as 21 SRD per tonne of paddy (1.7 SRD per bag of paddy). This cost saving does not seem significant enough as to justify the investment in particular taking into account the risk of salinization of production plots which has been raised in the environmental impact assessment of this investment option.

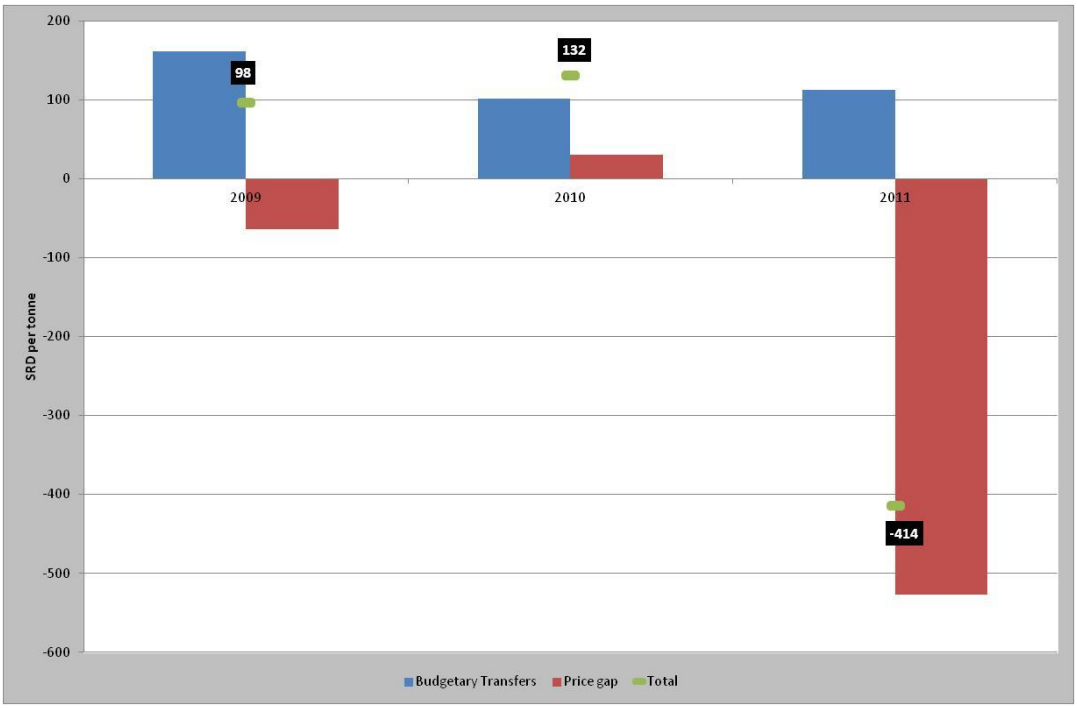
Figure A.7. Benchmark price, farm gate price and reference price for rice in Suriname (2006-2011).



Source: own elaboration

As mentioned, in addition to the calculation of the price gap we have also tried to approximate an estimate of global public expenditure in support of the rice subsector by deviating from OECD's PSE recommendations and assigning part of expenditure that would fall into the general service support category to rice. For the three years were data on public expenditure is available we can see that in 2009 the support provided via public expenditure more than offsets the negative price gap leading to a SCT estimate of 98 SRD per tonne of rice. In 2010 the public expenditure further reinforces the positive price gap and in 2011 it cannot compensate the very negative price gap.

Figure A. 8. Price gaps, public expenditure in support of the rice subsector and SCT estimates in Suriname (2009-2011).

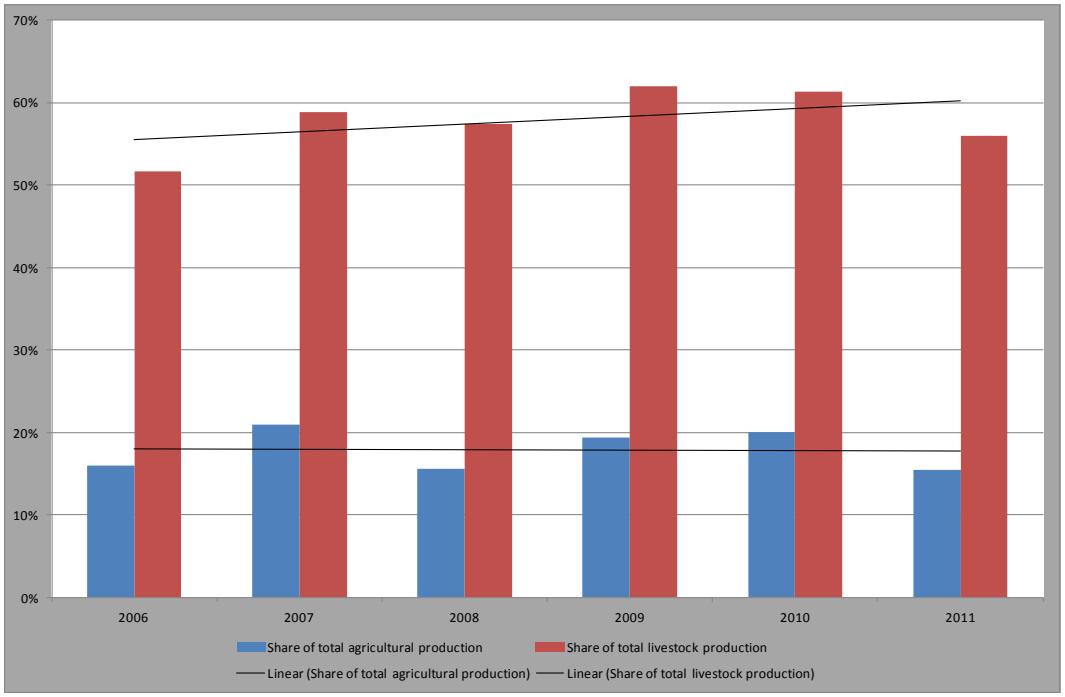


Source: own elaboration

Annex II. Summary overview of the poultry value chain in Suriname and calculation of price gaps

Poultry is the main livestock product in Suriname. During the period 2006-2011 it has represented 58 per cent of the value of total livestock production and 18 per cent of the value of total agricultural production. The share of poultry in total agricultural production has fluctuated between 15 and 20 per cent during the whole study period while it follows an increasing trend with regards to total livestock production (figure B.1)

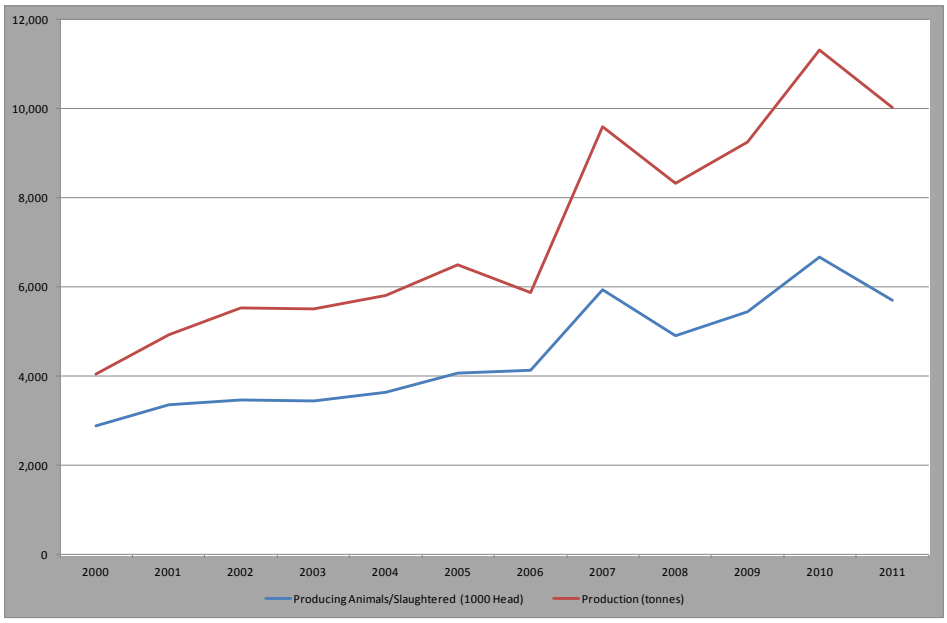
Figure B.1. Share of poultry in total agricultural and livestock production (2006-2011)



Source: Ministry of Agriculture, Animal Husbandry and Fisheries.

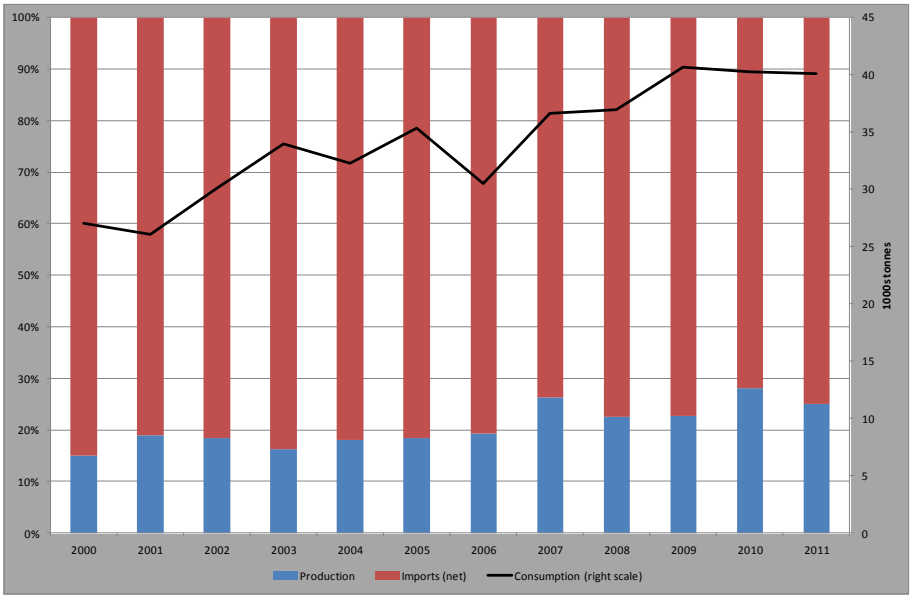
Poultry production in Suriname is mainly related to chicken (95 per cent of total slaughtered animals and meat production). There has been a clear increasing trend in production during the first years of the 21st century (figure B.2), however Suriname still falls far from covering its domestic demand for poultry with domestic production, which has reached a maximum of 30 per cent of total consumption during the period 2000-2011 (figure B.3). It should be noted that poultry consumption in Suriname is among the highest in the world with an average of 50 kg of poultry per person and year, nearly 1 kg per person and week.

Figure B.2.Trend in number of slaughtered chickens and poultry meat production in Suriname (2000-2011)



Source: FAOSTAT

Figure B.2.Production, imports and consumption of poultry in Suriname (2000-2011)

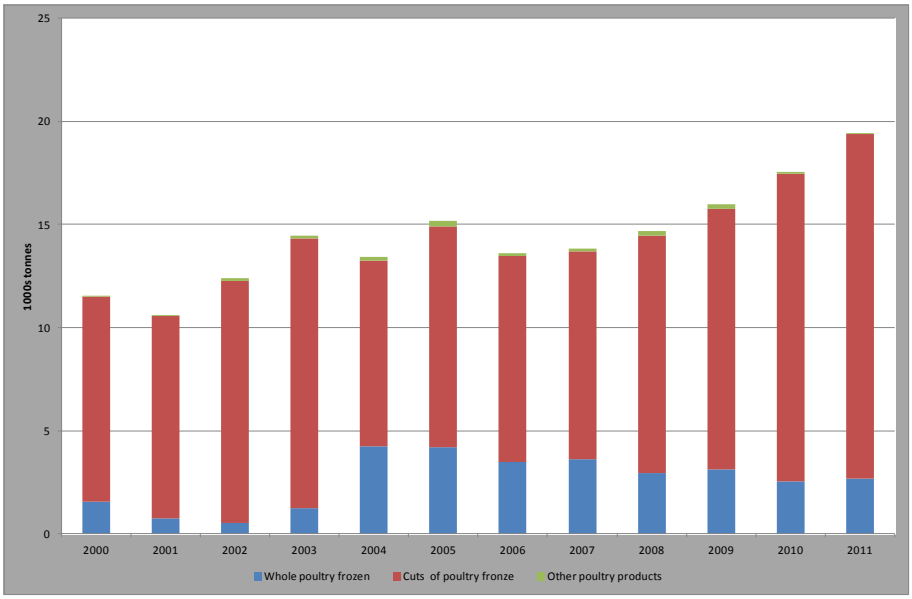


Source: FAOSTAT and UN Comtrade

Poultry is the most important agricultural imports of Suriname representing 10 per cent of total agricultural imports during the period 2000-2010 (FAOSTAT, 2013). Two main types of poultry products are imported (figure B.3): whole frozen chickens (HS 02.07.12 "*Meat of fowls of species gallus domesticus, not cut in pieces, frozen*") and frozen cuts of chicken (HS 02.07.14 "*Cuts and offals of species gallus domesticus, frozen*"). These two products represent

99 per cent of the total volume and value of imports of poultry products (HS 02.07 "*Meat, edible offal of domestic poultry*").

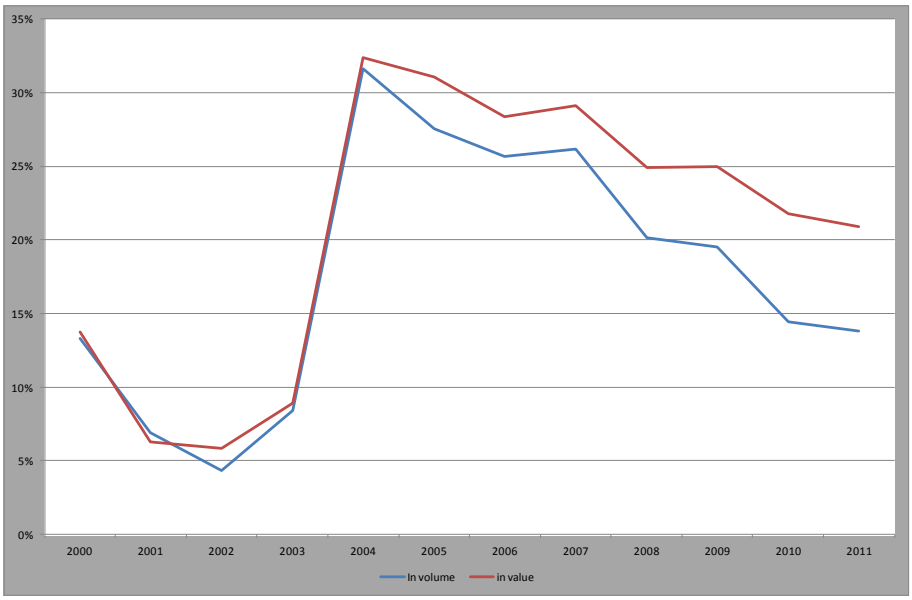
Figure B.2. Imports of poultry in Suriname by type of product (2000-2011)



Source: UN Comtrade

As shown in figure B.4. the share of whole chickens in total imports has been decreasing since 2004, however the reduction has been greater for volumes than for values, showing the relative price premium of imported whole chicken versus chicken cuts.

Figure B.3. Share of whole frozen chickens in total poultry imports in Suriname (2000-2011)



Source: UN Comtrade

When analyzing the origin of imports (figure B.4) we see that the majority of the imports of whole frozen chickens come from Brazil while imports of cuts come from the US. This information is used to select the benchmark prices for the analysis. In order to check the robustness of the results both the unit value of imports of whole frozen poultry and frozen poultry cuts are considered.

Figure B.4.a Imports of whole frozen poultry by origin to Suriname (2000-2011)

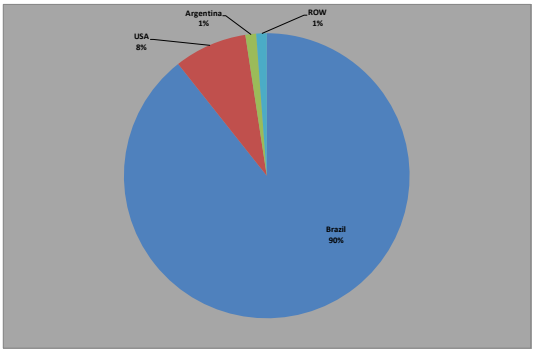
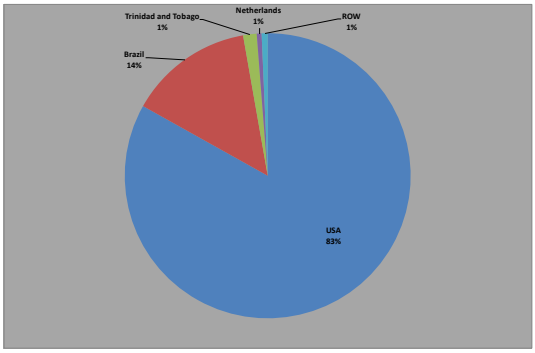


Figure B.4.b Imports of cuts of frozen poultry by origin to Suriname (2000-2011)



Source: UN Comtrade

Poultry production in Suriname is a dual system. Back-yard slaughtering is widespread with over 200 small producers. On the other side there are seven big slaughterhouses which sell to supermarkets domestic poultry. Over 500 agents are involved in this part of the value chain. Slaughterhouses provide chicks, feed and antibiotics to farmers who grow them and send them to the slaughterhouses once the growing period is completed. On average 120 000 units are grown per week. According to the association of poultry growers this means a 50 per cent capacity usage. 80 per cent of total cost of growing poultry relates to feed which is imported.

There are attempts to reduce this cost by developing local feed substitutes based on cassava by-products.

Domestic prices reported by the Ministry of Agriculture refer to carcass weight of poultry, therefore after slaughtering or ex-factory. Thus we do not need to consider slaughtering costs nor quantity adjustment factors, information gathered on these shows that they stand at 3 SRD per kg and that the quantity adjustment factor from live to carcass is 0.8.

Domestic poultry is considered of higher quality by consumers in Suriname. A quick scan of retail prices of different types of poultry in Paramaribo confirms this. The different prices according to poultry origin and the implicit quality adjustment factors are summarized in table B.1.

Table B.1. Retail prices for different origins and cuts of poultry in Suriname

Product	Price (SRD)	Unit (kg)	Price SRD per kg
Local whole chicken [1]	16.50	1.000	16.50
Brazil whole chicken [2]	21.00	1.900	11.05
Local breast [3]	28.00	1.000	28.00
US breast [4]	22.00	1.000	22.00
US legs [5]	34.00	4.540	7.49
	29.00	4.540	6.39
		Average	*6.94*
Quality adjustment factor SUR-US ([1]/[5])			2.38
Quality adjustment factor SUR-BRA ([1]/[2])			1.49
Quality adjustment factor SUR-US for breasts ([3]/[4])			1.27

Source: personal inspection of supermarkets in Paramaribo – June 2013

Taking into consideration the nature of the domestic prices, the marketing costs associated with importing poultry include the following:

a) Port handling
b) Customs handling
c) Documentation preparation
d) Storage and cooling
e) Inland transport
f) Margins

The main policy decisions affecting the poultry subsector include an ad-valorem import tariff of 20 per cent (the lowest in the Caribbean) and waiving of the import tariffs for feed (see annex D).

Data Sources

Benchmark price: two options are considered:

a. Unit value of imports from Brazil for HS 02.07.12 "*Meat of fowls of species gallus domesticus, not cut in pieces, frozen*".
b. Unit value of imports from the US for HS 02.07.14 "*Cuts and offals of species gallus domesticus, frozen*".

Exchange rate: as reported by IMF.

Marketing costs: as reported by Doing Business Indicators of the World Bank for imports in Suriname and CMA CGM Suriname N.V.

Table B.2. Components of marketing costs used for the calculations of the reference price ex factory.

Cost component	Unit	Cost per unit	Cost per tonne of poultry (SRD)*	Notes
1. Cost of imports	USD per container	815-945	113.29 – 153.56	Varies per year
2. Storage at port	USD per container and day	60	9.75	Assumes an average of three days of storage
3. Cooling at port	USD per hour and container	2.8	32.76	Assumes an average of three days of cooling at the port
4. Margins	20 per cent of import value plus all costs	Varies per year	Varies per year	

* Exchange rate from USD to SRD is 2.78 for 2006-2010 and 3.25 for 2011.

Source: own elaboration based on personal interviews with agents in the value chain

Table B.3. Marketing costs used in the analysis

		2006	2007	2008	2009	2010	2011
Marketing costs for poultry from border to markets in Paramaribo (SRD per tonne of pultry)	US	590.29	684.23	744.85	666.27	635.49	861.93
	Brazil	730.43	799.40	971.78	928.33	1,015.83	1,339.84

Source: Table B.2[1+2+3+4]

Domestic price at the farm gate: as reported by the Ministry of Agriculture, Animal Husbandry and Fisheries for carcasses.

Quality adjustment: as reported in table B.1.

With this date the price gap between the domestic carcass price and the reference price is calculated as shown in table B.4 and is represented in figure B.5 and B.6 for both options available to calculate the reference price.

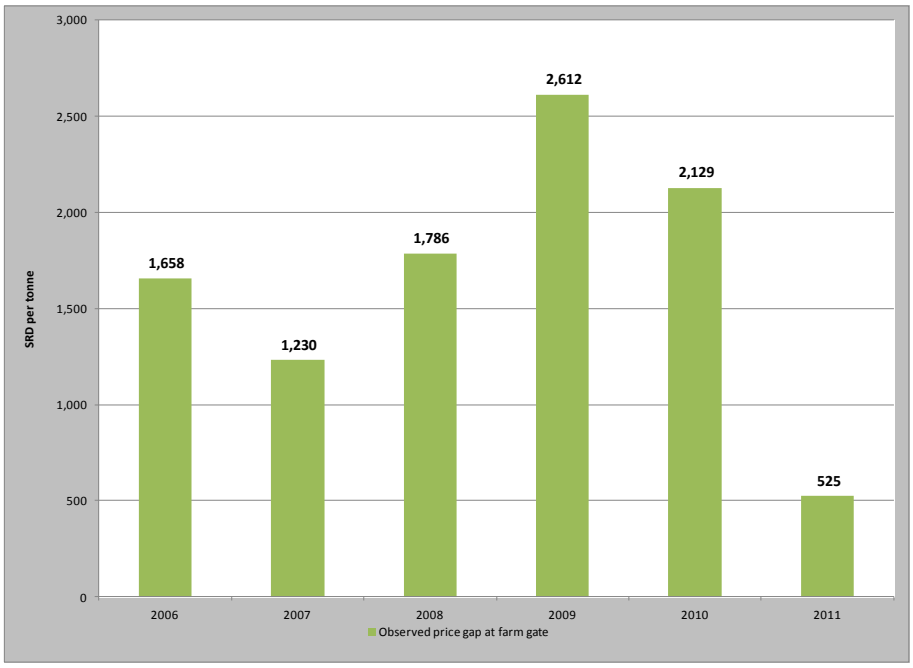
For the PSE calculations we have used the data obtained using the benchmark price for Brazil whole frozen chicken.

Table B.4. Calculation of price gap for poultry in Suriname (2006-2011)

BRAZIL WHOLE FROZEN CHICKEN						
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
1. Benchmark price (USD / tonne of poultry)	990.74	1,114.79	1,424.82	1,325.69	1,483.06	1,699.32
2. Exchange rate (SRD/USD)	2.78	2.78	2.78	2.78	2.78	3.25
3. Quality adjustment factor (domestic to imported poultry)	1.49	1.49	1.49	1.49	1.49	1.49
4. Marketing costs (SRD per tonne of poultry)	730.43	799.40	971.78	928.33	1,015.83	1,339.84
5. Reference price at farm gate (SRD per tonne of paddy) *([1]*[2]*[3]+[4])*	5,202.16	5,819.95	7,363.95	6,887.66	7,671.40	10,244.91
6. Ex-Factory price (SRD per tonne of poultry)	6,860.00	7,050.00	9,150.00	9,500.00	9,800.00	10,770.00
7. Price gap *([6] – [7])*	1,657.84	1,230.05	1,786.05	2,612.34	2,128.60	525.09
US CUTS OF FROZEN CHICKEN						
	2006	**2007**	**2008**	**2009**	**2010**	**2011**
1. Benchmark price (USD / tonne of poultry)	738.69	907.65	1,016.68	854.34	798.98	964.07
2. Exchange rate (SRD/USD)	2.78	2.78	2.78	2.78	2.78	3.25
3. Quality adjustment factor (domestic to imported poultry)	2.38	2.38	2.38	2.38	2.38	2.38
4. Marketing costs (SRD per tonne of poultry)	590.29	684.23	744.85	666.27	635.49	861.93
5. Reference price at farm gate (SRD per tonne of paddy) *([1]*[2]*[3]+[4])*	6,292.35	7,633.85	8,499.51	7,238.41	6,798.84	9,508.51
6. Ex-Factory price (SRD per tonne of poultry)	6,860.00	7,050.00	9,150.00	9,500.00	9,800.00	10,770.00
7. Price gap *([6] – [7])*	567.65	(583.85)	650.49	2,261.59	3,001.16	1,261.49

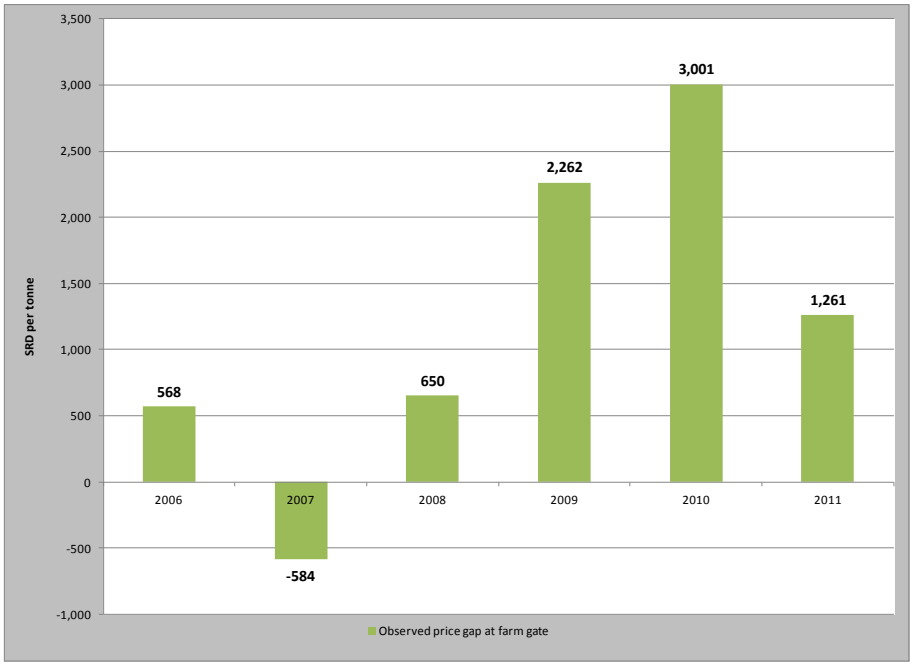
Source: own elaboration

Figure B.5. Price gap for rice in Suriname (2006-2011) [Brazil whole frozen]



Source: own elaboration

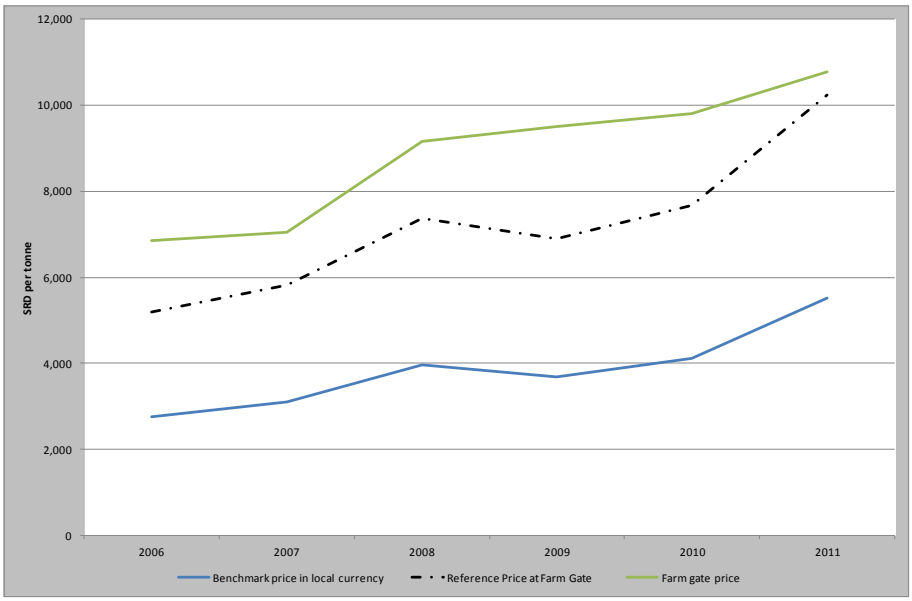
Figure B.6. Price gap for rice in Suriname (2006-2011) [US cuts frozen]



Source: own elaboration

The results show that in all cases there is a positive price gap for poultry in Suriname. Again we can see that the prices in Suriname seem to be integrated with international prices with domestic prices following the same trend as their international equivalents (figure B.7).

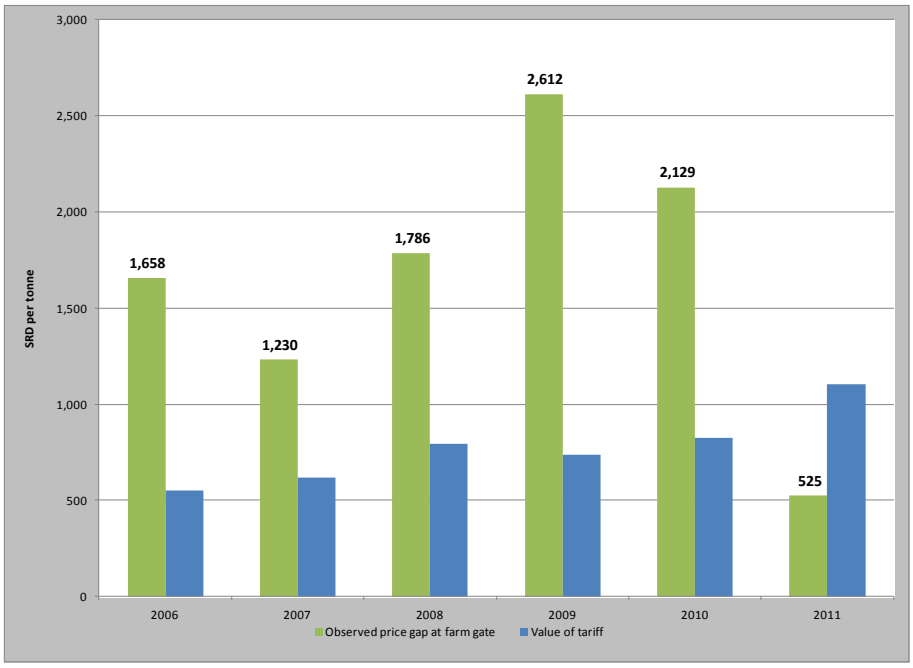
Figure B.7. Benchmark price, farm gate price and reference price for poultry in Suriname (2006-2011) [Brazil whole frozen].



Source: own elaboration

The only policy measure in place if the tariff for imports, however our price gaps are higher than the value of the tariff (figure B.8). This seems to point towards extraordinary margins by importers. For the price gap to be equivalent to the tariff margins of importers would range between 68 per cent (2009) to 11 per cent (2011) with an average value of 44 per cent.

Figure B.8. Comparison of the price gap for poultry and the value of the tariff 2006-2011 [Brazil whole frozen]



Source: own elaboration

Annex III. Summary overview of the banana value chain in Suriname

Bananas in Suriname are produced by one single company under state ownership SBBS. SBBS is in the process of privatization with several companies having shown interest but only one having made a firm offer (UNIVEC). SBBS is the result of the modernization process which followed the bankruptcy of Surland N.V. in 2002. SBBS is the largest employer in Suriname with over 2 700 employees. SBBS has two producing estates, Jarikaba and Nickerie. Both estates represent 2 365 has of which 1 962 are in production.

Table C.1. International comparison of banana yields, in ton/ha, 2011

Bananas, yield in ton/ha, 2011	
Brazile	14.56
Costa Rica	46.1
Ecuador	38.7
Guatemala	41.69
Honduras	30.06
Martinique	37.93
Suriname	41.79
World Average	20.3

Source: FAOSTAT

Both estates have state of the art facilities including modern storage facilities for chemicals, fertilizers and boxes; cableway system for harvest and airstrip for aerial applications. Most of these investments were funded by the special framework of assistance (SFA) for ACP suppliers established in 1994 which came to an end in 2008[52]. As can be seen from Table C.1, the investments have resulted in a subsector that is characterized by high productivity; compared to other major banana producing countries in Latin America, Suriname registers high yields that are below the levels of Costa Rica (46.1 ton/ha), where the banana production is dominated by large-scale producer and marketer Del Monte, but above other major producers such as Ecuador (38.7 ton/ha). Additional investments in the banana subsector of a total value of 9.3 million EUR are foreseen for the period 2013-2016 as part of the Banana Accompanying Measure (BAM) program for Suriname. Currently the main characteristics of these states are summarized in table C.2.

Table C.2. Main characteristics of SBBS Banana producing states.

	Jarikaba	Nickerie
Area (has)	1 353.0	1 012.0
Area in production (has)	985.0	977.0
Production (tonnes)	39 660.0	45 295.0
Productivity (tonnes ha^{-1})	40.3	46.4
Packing stations	5.0	5.0

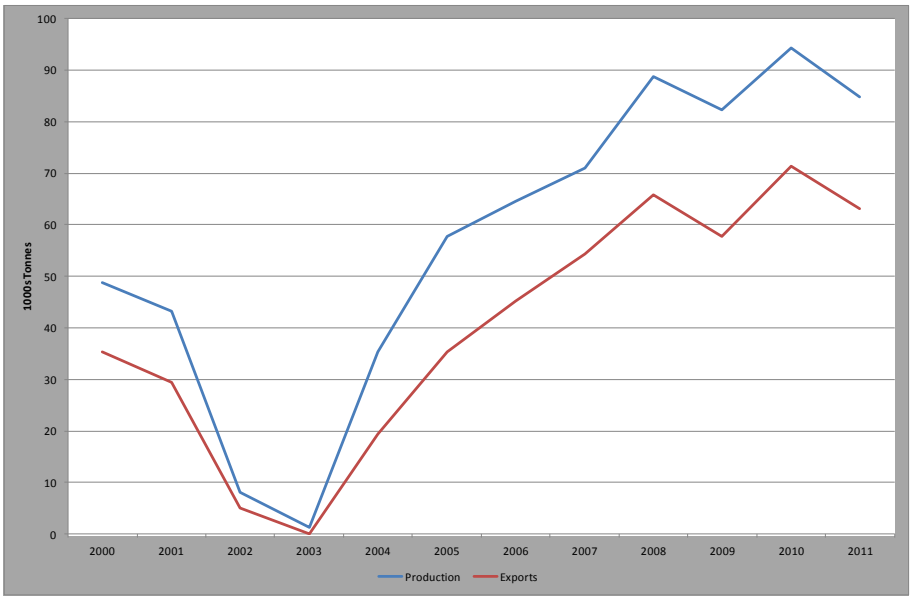
[52] From 1994 to 2008, the European Union (EU) provided temporary technical and financial assistance for traditional suppliers of bananas from African, Caribbean and Pacific (ACP) states. This assistance was intended to enable them to adapt to the new market conditions in the banana sector and to help beneficiary countries to be more competitive and/or to diversify their economies.

Drainage pumping stations	7.0	3.0
Laboratory	1.0	1.0

Source: SBBS

Banana production and exports during the 21st century has been steadily recovering from the collapse of Surland which led to nearly no production or exports in 2002 and 2003 (figure C.1). Following plantation of new trees in June 2003 production started in 2004 and current levels of production have doubled the peak of production from the 20th century.

Figure C.1. Banana production and export in Suriname (2000-2011)



Source: FAOSTAT and EC COMEXT (2011)

Over 70 per cent of production is exported mainly to the EU (93 per cent of exports) and to a lesser extent to Trinidad (7 per cent). The creation of SBBS also meant that Suriname changed its export strategy from selling FOB to a shipping and packing company to selling FOT to marketers in Europe (2) and in Trinidad (1).

There is no explicit policy on banana exports and therefore the MPS has been set to zero. There is no farm gate price however SBBS provided the study team during the mission in June 2013 with the cost structure for 2008-2012. This is reflected in table C.3.

Table C.3. Production and exports costs for banana in SBBS (USD per box).

	2008	2009	2010	2011	2012
Production cost					
Labour	3.74	3.99	0.68	3.82	3.47
Fertilizers	1.34	1.45	0.60	0.94	0.89
Chemicals	0.43	0.48	0.44	0.51	0.43
Packing materials	1.95	1.91	1.95	2.16	2.01
Fuel and Lubricants	0.43	0.39	0.31	0.41	0.29
Parts	0.28	0.07	0.08	0.23	0.13
Tools & Equipments	0.14	0.24	0.12	0.07	0.03
Fruitcare	0.29	0.36	0.27	0.28	0.25
Spraying cost	0.13	0.16	0.13	0.14	0.10
Stock diff.	- 0.02	0.05	- 0.14	- 0.13	-
Production costs capitalized (work in process)	-	- 0.52	- 0.31	- 0.02	- 0.00
Production cost stock green banana at the port	-	-	-	- 0.03	- 0.04
General expenses	0.29	0.34	0.50	0.49	0.45
Depreciation	0.05	0.13	0.24	0.32	0.28
Total production cost	**9.01**	**8.91**	**4.62**	**8.87**	**8.29**
Export cost					
Shipping	- 0.96	2.93	3.15	3.39	3.39
Custom duties Europe	-	-	-	-	-
Handling cost	0.73	0.51	0.48	0.51	0.51
Commissions	0.65	0.62	0.26	0.27	0.39
Bananas Trucking *	0.33	0.32	0.36	0.42	0.45
Inland Transport cost Ripening Europe	-	-	-	0.01	-
Insurance	0.06	0.05	0.05	0.06	0.05
Transit Europe	0.08	0.08	0.04	0.04	0.04
Plugging costs *	0.09	0.08	0.04	0.11	0.07
Custom duties transit Suriname *	0.05	0.08	0.05	0.06	0.06
Cost for Ripening in Europe	-	-	-	0.02	0.04
License	-	-	-	-	-
Others	-	-	-	-	-
Total export cost	**4.73**	**4.67**	**4.43**	**4.89**	**5.01**
TOTAL FOT Cost	**13.74**	**13.58**	**9.06**	**13.76**	**13.30**
TOTAL FOB Cost	**13.17**	**9.39**	**5.07**	**9.45**	**8.87**

Source: SBBS

Currently, SBBS is considering additional savings to reduce production costs. Actions inside the direct control of SBBS could further reduce the costs by 1.4 USD per box. These include increasing yields to 50 tons per hectare and reduction of labor costs. In addition, the increase in production would make profitable the establishment of a box factory in Suriname that would further reduce costs by 0.25 USD per box. Last, the upgrade of the Nickerie port would allow production from the Nickerie estate to be exported without transport to Paramaribo with an average saving of 0.23 USD per box. As in the case of rice, the latter cost reduction seems too low as to risk the potential environmental problems associated with it.

Annex IV: An approximation to revenue forgone by the government of Suriname in favor of the agricultural sector

There are three main areas in which the government of Suriname supports the agricultural sector by foregoing revenue that is normally applied to other activities. These include the waiving of import tariffs for agricultural inputs and machinery, the exemption of the storage fee for containers waiting for export and the exemption of the fuel tax on transport of bananas. In this annex we approximate the value of this foregone revenue and compare it to total public expenditure in support of the agricultural sector.

With regards to import duties on agricultural inputs and machinery we have considered the following products codes as exempted from import duties:

a. HS 23 "Residues and waste from the food industries, animal fodder";
b. HS 31 " Fertilizers";
c. HS 84.3X Agricultural machinery (including):
    - HS 84.32 "Agricultural, horticultural or forestry machinery for soil preparation or cultivation; lawn or sports-ground rollers";
    - HS 84.33 "Harvesting or threshing machinery, including straw or fodder balers; grass or hay mowers; machines for cleaning, sorting or grading eggs, fruit or other agricultural produce";
    - HS 84.34 "Milking machines and dairy machinery";
    - HS 84.35 "Presses, crushers and similar machinery used in the manufacture of wine, cider, fruit juices or similar beverages";
    - HS 84.36 "Other agricultural, horticultural, forestry, poultry-keeping or bee-keeping machinery, including germination plant fitted with mechanical or thermal equipment; poultry incubators";
    - HS 84.37 "Machines for cleaning, sorting or grading seed, grain or dried leguminous vegetables; machinery used in the milling industry or for the working of cereals or dried leguminous"; and
    - HS 84.38 "Machinery, not specified or included elsewhere in this Chapter, for the industrial preparation or manufacture of food or drink".

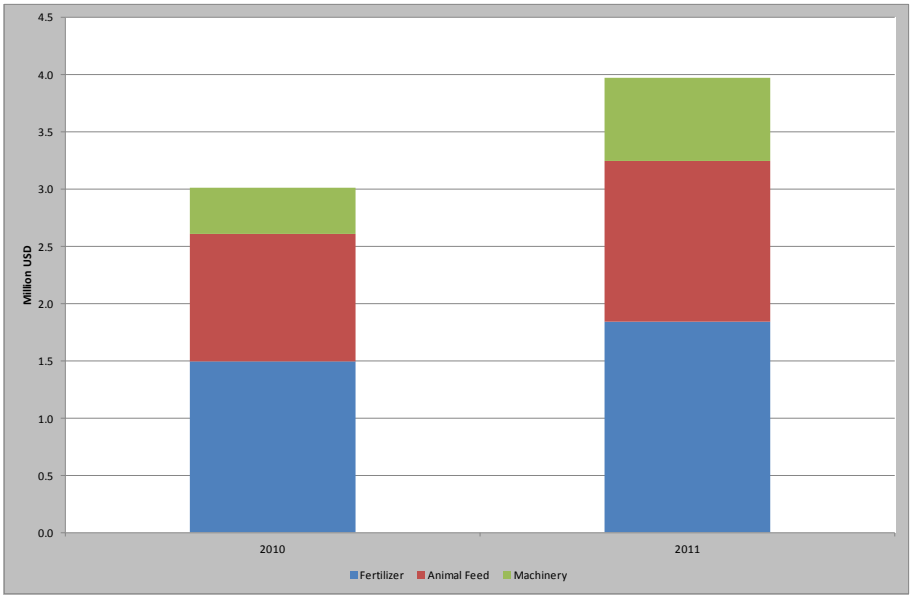
Data on the value of imports for these categories has been obtained from UN Comtrade and the value of the tariff foregone calculated. The data used is presented in table D.1. and figure D.1. Total revenue foregone is just over three million USD in 2010 and close to four million USD in 2011.

Table D.1. Value of imports and tariff revenue foregone for agricultural inputs and machinery in Suriname

Product	Year	Import value (USD)	Tariff foregone (USD)
HS 23 "Residues and waste from the food industries, animal fodder"	2010	14 976 323	1 497 632
	2011	18 425 848	1 842 585
HS 31 " Fertilizers"	2010	11 106 751	1 110 675
	2011	14 039 913	1 403 991
HS 43.3X "Agricultural machinery"	2010	4 059 106	405 911
	2011	7 296 630	729 663
TOTAL	**2010**	**30 142 180**	**3 014 218**
	2011	**39 762 390**	**3 976 239**

Source: UN Comtrade and own elaboration

Figure D.1. Tariff revenue foregone for agricultural inputs and machinery in Suriname



Source: UN Comtrade and own elaboration

To calculate the revenue foregone from the storage fee for containers in the port of Paramaribo we have assumed an average stay of 3 days for a container in the port. This is based on the fact that there is a weekly departure of a container ship for exports and assuming an even arrival of containers to the port. The daily charge for storage of a container in the port of Paramaribo stands at 20 USD. Considering that each container carries 20 tonnes and the total volume of exports of rice and banana (which represent more than 90 per cent of total agricultural exports) the following estimate can be obtained.

Table D.2. Calculation of revenue foregone from storage fee waiving at port of Paramaribo for export containers of rice and banana.

Year	Total volume of exports of banana and rice (tonnes)	Total container equivalent [volume divided by 20]	Total revenue forgone [containers multiplied by 60]
2010	70 439 + 89 414 = 159 853	7 993	479 559
2011	62 913 + 49 257 = 112 170	5 609	336 510

Source: UN Comtrade and own elaboration

Last we estimate the foregone revenue from fuel tax due to the exemption for banana exports. Data from the SBBS (number of containers) and CMA CGM N.V. (fuel cost per container) is used to estimate the total cost per year. On average the fuel cost of a container from the banana plantations to the port of Paramaribo stands at 300 USD and with an duty of fuel of 18 per cent, the foregone revenue per container is 57 USD.

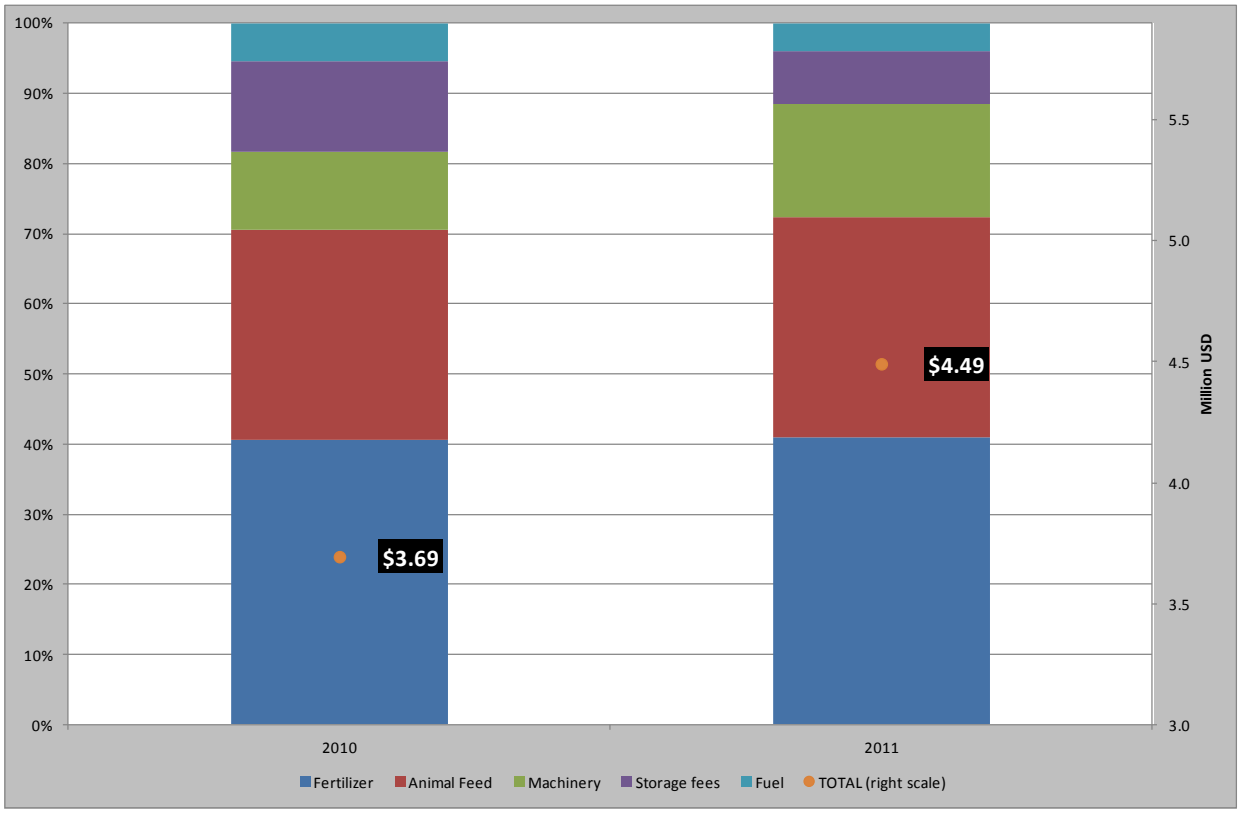
Table D.3. Calculation of revenue foregone from fuel taxes for exports of bananas in Suriname.

Year	Total volume of exports (tonnes)	Total container equivalent [volume divided by 20]	Total revenue forgone [containers multiplied by 57]
2010	70 440	3 522	200 752
2011	62 913	3 146	179 304

Source: UN Comtrade and own elaboration

The total revenue foregone is presented in figure D.2. As it can be seen the revenue foregone stands at 3.7 million USD in 2010 and 4.5 million USD in 2011. Compared to total public expenditure in support of agriculture of 26 and 22 million USD in 2010 and 2011 respectively, the share of revenue forgone represents 17 per cent of total expenditure.

Figure D.2. Revenue foregone on the agricultural sector in Suriname



Source: UN Comtrade and own elaboration

Annex V: Suriname Producer Support Estimates, Totals in National Currency

			2006	2007	2008	2009	2010	2011
I. Total value of production (at farm gate)		mn SRD	345.13	395.86	518.18	559.61	585.56	734.01
I.1. of which, Share of MPS commodities (%)		%	113.36	112.73	114.35	115.12	113.07	114.14
II. Total value of consumption (at farm gate)		mn SRD	294.65	382.85	522.64	542.74	632.88	749.60
Value of consumption (farm gate): Standard MPS commodities		mn SRD	334.02	431.59	597.64	624.80	715.59	855.63
III.1 Producer Support Estimate (PSE)		mn SRD	43.26	49.65	13.96	67.25	83.00	(15.73)
A. Support based on commodity outputs		mn SRD	43.26	49.65	13.96	62.37	81.37	(17.52)
A1. Market Price Support		mn SRD	43.26	49.65	13.96	62.37	81.37	(17.52)
Rice		mn SRD	(12.25)	(0.48)	(37.18)	(14.60)	6.91	(123.92)
Cassava		mn SRD	3.69	2.34	1.62	2.60	2.46	3.25
Bananas		mn SRD	-	-	-	-	-	-
Oranges		mn SRD	17.94	13.80	7.23	18.07	18.48	40.73
Milk		mn SRD	5.82	3.99	3.25	4.65	5.83	9.06
Beef		mn SRD	6.26	6.35	6.12	8.45	8.68	14.05
Pork		mn SRD	4.84	6.38	14.14	10.47	10.23	14.66
Poultry		mn SRD	13.60	14.53	16.62	30.12	25.34	8.31
Eggs		mn SRD	9.14	9.06	4.17	12.03	14.07	13.87
Non-MPS commodities		mn SRD	(5.78)	(6.32)	(2.00)	(9.43)	(10.63)	2.48
A2. Payments based on output		mn SRD	-	-	-	-	-	-
B. Payments based on input use		mn SRD	**-**	**-**	**-**	***4.88***	***1.63***	***1.79***
B1. Variable input use		mn SRD	-	-	-	0.23	-	-
	Stimutating private sector	mn SRD				0.23	-	-
B2. Fixed capital formation		mn SRD	**-**	**-**	**-**	**2.72**	**1.13**	**1.24**
	State Company Alliance	mn SRD				0.91	0.83	0.74
	Promotion agriculture					0.32	0.01	0.04
	Livestock: Fixed capital	mn SRD				1.50	0.30	0.46
B3. On-farm services		mn SRD	**-**	**-**	**-**	**1.92**	**0.50**	**0.55**
	Foundation for Agricultural Development Commewijne (SLOC)	mn SRD				0.11	0.14	0.15
	Foundation National Rice Institute	mn SRD				0.30	0.32	0.38
	Education	mn SRD				0.71	0.03	0.03
	Domestic Agricultural Development	mn SRD				0.22	0.02	-

	Pilot development of chains in horticulture and ornamental plants					0.57	-	-
C. Payments based on current A/An/R/I, production required		mn SRD	-	-	-	-	-	-
D. Payments based on non-current A/An/R/I, production required		mn SRD	-	-	-	-	-	-
E. Payments based on non-current A/An/R/I, production not required		mn SRD	-	-	-	-	-	-
F. Payments based on non-commodity criteria		mn SRD	-	-	-	-	-	-
F1. long-term resource retirement		mn SRD	-	-	-	-	-	-
F2. a specific non-commodity output		mn SRD	-	-	-	-	-	-
F3. other non-commodity criteria		mn SRD	-	-	-	-	-	-
G. Miscellaneous payments		mn SRD	-	-	-	-	-	-
III.2 Percentage PSE		%	**12.54**	**12.54**	**2.69**	**11.91**	**14.14**	**(2.14)**
IV. General Services Support Estimate (GSSE)		mn SRD	**-**	**-**	**-**	**119.41**	**70.57**	**71.01**
H. Research and development		mn SRD	**-**	**-**	**-**	**7.89**	**5.28**	**7.54**
	Foundation National Rice Institute					1.22	1.28	1.51
	Gender					0.14	-	-
	Institutional Design					2.05	0.01	0.42
	Livestock: Research	mn SRD				1.12	0.22	0.35
	CELOS	mn SRD				3.35	3.76	5.26
I. Agricultural schools		mn SRD	-					
J. Inspection services		mn SRD	**-**	**-**	**-**	**3.27**	**0.45**	**0.90**
	Institutional Design	mn SRD				1.03	0.01	0.21
	Livestock: Inspections	mn SRD				2.25	0.45	0.69
K. Infrastructure		mn SRD	**-**	**-**	**-**	**103.28**	**63.10**	**57.67**
	Infrastructure maintenance	mn SRD				8.47	5.18	8.81
	Multipurpose Corantijn Project	mn SRD				3.02	-	-
	Land Reclamation	mn SRD				1.80	1.50	0.50
	Reactivation of Water Boards	mn SRD				7.61	1.61	0.35
	Agricultural Infrastructure and export promotion	mn SRD				-	-	-
	Maintenance irrigation and drainage works	mn SRD				5.73	5.02	8.83
	Improvement irrigation and drainage works	mn SRD				65.20	48.55	36.00
	Verkaveling	mn SRD				0.47		0.75
	Land Registration and Information System GLIS	mn SRD				5.51		
	Maintenance of roads and irrigation	mn SRD				5.47	1.25	2.42

L. Marketing and promotion		mn SRD	**-**	**-**	**-**	**-**	**-**	**-**
M. Public stockholding		mn SRD	**-**	**-**	**-**	**-**	**-**	**-**
N. Miscellaneous		mn SRD	**-**	**-**	**-**	**4.97**	**1.74**	**4.91**
	Agricultural Census	mn SRD				4.97	-	-
	Waterboards	mn SRD				-	1.74	4.91
V.1 Consumer Support Estimate (CSE)		mn SRD	**(15.03)**	**(82.33)**	**(74.39)**	**(127.32)**	**(138.82)**	**(35.88)**
O. Transfers to producers from consumers (-)		mn SRD	(46.82)	(49.79)	(27.39)	(66.36)	(77.59)	(11.81)
Transfers to producers from consumers of which, MPS commodities		mn SRD	53.08	56.13	31.32	76.39	87.73	13.48
P. Other transfers from consumers (-)		mn SRD	(28.48)	(32.52)	(45.51)	(66.46)	(67.81)	(31.68)
Other transfers from consumers of which, MPS commodities		mn SRD	32.28	36.66	52.04	76.50	76.68	36.16
Q. Transfers to consumers from taxpayers		mn SRD	**-**	**-**	**-**	**6.07**	**6.32**	**12.57**
Q.1.Commodity specifc transfers to consumers		mn SRD	-					
Q.2.Non-commodity specific transfers to consumers		mn SRD	-	-	-	6.07	6.32	12.57
	School feeding					2.80	6.32	10.00
	Babyfood Subsidy					3.28		2.57
R. Excess feed cost		mn SRD	(0.49)	(0.02)	(1.49)	(0.58)	0.28	(4.96)
V.2 Percentage CSE		%	**(5.10)**	**(21.51)**	**(14.23)**	**(23.72)**	**(22.16)**	**(4.87)**
V.3 Consumer NAC			1.05	1.27	1.17	1.31	1.28	1.05
VI. Total Support Estimate (TSE)			43.26	49.65	13.96	192.73	159.89	67.85
S. Transfers from consumers			14.54	82.31	72.90	132.81	145.41	43.49
T. Transfers from taxpayers			(3.56)	(0.15)	(13.43)	126.37	82.30	56.04
U. Budget revenues (-)			32.28	(32.52)	(45.51)	(66.46)	(67.81)	(31.68)

Annex VI: Suriname Producer Support Estimates, Totals in US Dollar

			2006	2007	2008	2009	2010	2011
I. Total value of production (at farm gate)		mn USD	124.15	142.40	186.40	201.30	210.63	225.85
I.1. of which, Share of MPS commodities (%)		%	113.36	112.73	114.35	115.12	113.07	114.14
II. Total value of consumption (at farm gate)		mn USD	105.99	137.71	188.00	195.23	227.65	230.65
Value of consumption (farm gate): Standard MPS commodities		mn USD	120.15	155.25	214.98	224.75	257.41	263.27
III.1 Producer Support Estimate (PSE)		mn USD	15.56	17.86	5.02	24.19	29.86	(4.84)
A. Support based on commodity outputs		mn USD	15.56	17.86	5.02	22.43	29.27	(5.39)
A1. Market Price Support		mn USD	15.56	17.86	5.02	22.43	29.27	(5.39)
Rice		mn USD	(4.41)	(0.17)	(13.38)	(5.25)	2.49	(38.13)
Cassava		mn USD	1.33	0.84	0.58	0.93	0.88	1.00
Bananas		mn USD	-	-	-	-	-	-
Oranges		mn USD	6.45	4.96	2.60	6.50	6.65	12.53
Milk		mn USD	2.09	1.43	1.17	1.67	2.10	2.79
Beef		mn USD	2.25	2.28	2.20	3.04	3.12	4.32
Pork		mn USD	1.74	2.30	5.08	3.77	3.68	4.51
Poultry		mn USD	4.89	5.23	5.98	10.84	9.11	2.56
Eggs		mn USD	3.29	3.26	1.50	4.33	5.06	4.27
Non-MPS commodities		mn USD	(2.08)	(2.27)	(0.72)	(3.39)	(3.83)	0.76
A2. Payments based on output		mn USD	-	-	-	-	-	-
B. Payments based on input use		mn USD	-	-	-	1.75	0.59	0.55
B1. Variable input use		mn USD	-	-	-	0.08	-	-
B2. Fixed capital formation		mn USD	-	-	-	0.08	-	-
	State Company Alliance	mn USD	-	-	-	0.98	0.41	0.38
	Stimutating private sector	mn USD	-	-	-	0.33	0.30	0.23
	Promotion agriculture	mn USD	-	-	-	0.12	0.00	0.01
	Livestock: Fixed capital	mn USD	-	-	-	0.54	0.11	0.14
B3. On-farm services		mn USD	-	-	-	0.69	0.18	0.17
	Foundation for Agricultural Development Commewijne (SLOC)	mn USD	-	-	-	0.04	0.05	0.05
	Foundation National Rice Institute	mn USD	-	-	-	0.11	0.12	0.12
	Education	mn USD	-	-	-	0.26	0.01	0.01
	Domestic Agricultural Development	mn USD	-	-	-	0.08	0.01	-
	Pilot development of chains in horticulture and ornamental plants	mn USD	-	-	-	0.21	-	-

C. Payments based on current A/An/R/I, production required		mn USD	-	-	-	-	-	-
D. Payments based on non-current A/An/R/I, production required		mn USD	-	-	-	-	-	-
E. Payments based on non-current A/An/R/I, production not required		mn USD	-	-	-	-	-	-
F. Payments based on non-commodity criteria		mn USD	-	-	-	-	-	-
F1. long-term resource retirement		mn USD	-	-	-	-	-	-
F2. a specific non-commodity output		mn USD	-	-	-	-	-	-
F3. other non-commodity criteria		mn USD	-	-	-	-	-	-
G. Miscellaneous payments		mn USD	-	-	-	-	-	-
III.2 Percentage PSE		%	12.54	12.54	2.69	11.91	14.14	(2.14)
IV. General Services Support Estimate (GSSE)		mn USD	-	-	-	42.95	25.39	21.85
H. Research and development		mn USD	-	-	-	2.84	1.90	2.32
	Foundation National Rice Institute	mn USD	-	-	-	0.44	0.46	0.46
	Gender	mn USD	-	-	-	0.05	-	-
	Institutional Design	mn USD	-	-	-	0.74	0.00	0.13
	Livestock: Research	mn USD	-	-	-	0.40	0.08	0.11
	CELOS	mn USD	-	-	-	1.21	1.35	1.62
I. Agricultural schools		mn USD	-	-	-	-	-	-
J. Inspection services		mn USD	-	-	-	1.18	0.16	0.28
	Institutional Design	mn USD	-	-	-	0.37	0.00	0.06
	Livestock: Inspections	mn USD	-	-	-	0.81	0.16	0.21
K. Infrastructure		mn USD	-	-	-	37.15	22.70	17.74
	Infrastructure maintenance	mn USD	-	-	-	3.05	1.86	2.71
	Multipurpose Corantijn Project	mn USD	-	-	-	1.09	-	-
	Land Reclamation	mn USD	-	-	-	0.65	0.54	0.15
	Reactivation of Water Boards	mn USD	-	-	-	2.74	0.58	0.11
	Agricultural Infrastructure and export promotion	mn USD	-	-	-	-	-	-
	Maintenance irrigation and drainage works	mn USD	-	-	-	2.06	1.81	2.72
	Improvement irrigation and drainage works	mn USD	-	-	-	23.45	17.46	11.08
	Verkaveling	mn USD	-	-	-	0.17	-	0.23
	Land Registration and Information System GLIS	mn USD	-	-	-	1.98	-	-
	Maintenance of roads and irrigation	mn USD	-	-	-	1.97	0.45	0.74
L. Marketing and promotion		mn USD	-	-	-	-	-	-
M. Public stockholding		mn USD	-	-	-	-	-	-
N. Miscellaneous		mn USD	-	-	-	1.79	0.63	1.51
	Agricultural Census	mn USD	-	-	-	1.79	-	-
	Waterboards	mn USD	-	-	-	-	0.63	1.51
V.1 Consumer Support Estimate (CSE)		mn USD	(5.41)	(29.62)	(26.76)	(45.80)	(49.93)	(11.04)

O. Transfers to producers from consumers (-)		mn USD	(16.84)	(17.91)	(9.85)	(23.87)	(27.91)	(3.63)
Transfers to producers from consumers of which, MPS commodities		mn USD	19.09	20.19	11.27	27.48	31.56	4.15
P. Other transfers from consumers (-)		mn USD	(10.24)	(11.70)	(16.37)	(23.91)	(24.39)	(9.75)
Other transfers from consumers of which, MPS commodities		mn USD	11.61	13.19	18.72	27.52	27.58	11.13
Q. Transfers to consumers from taxpayers		mn USD	-	-	-	2.18	2.27	3.87
Q.1.Commodity specifc transfers to consumers		mn USD	-	-	-	-	-	-
Q.2.Non-commodity specific transfers to consumers		mn USD	-	-	-	2.18	2.27	3.87
	School feeding	mn USD	-	-	-	1.01	2.27	3.08
	Babyfood Subsidy	mn USD	-	-	-	1.18	-	0.79
R. Excess feed cost		mn USD	(0.18)	(0.01)	(0.54)	(0.21)	0.10	(1.53)
V.2 Percentage CSE		%	(5.10)	(21.51)	(14.23)	(23.72)	(22.16)	(4.87)
V.3 Consumer NAC		mn USD	0.38	0.46	0.42	0.47	0.46	0.32
VI. Total Support Estimate (TSE)		mn USD	15.56	17.86	5.02	69.33	57.52	20.88
S. Transfers from consumers		mn USD	27.09	29.61	26.22	47.77	52.31	13.38
T. Transfers from taxpayers		mn USD	(1.28)	(0.05)	(4.83)	45.46	29.60	17.24
U. Budget revenues (-)		mn USD	(10.24)	(11.70)	(16.37)	(23.91)	(24.39)	(9.75)

Annex VII: Estimation of Rice Support including General Services for Rice

According to conventional OECD methodology, budget financing that does not create transfers to individual producers are allocated to the general services support and are not allocated to any specific subsector or commodity. However, due to the importance of the rice subsector in Suriname, there are some types of transfers which, while not creating transfers to individual rice producers, benefit the rice subsector significantly more than other areas of agricultural production.

Such transfers include irrigation transfers to Nickerie district, financing of rice research activities by ADRON and the development of water boards. Therefore, in this section SCT for rice is estimates as if those transfers to general services would be treated as transfers to rice producers and thus allocated to rice SCT. Budget transfers included in this estimation in addition to the rice SCT according to conventional methodology, are described in Table 13.

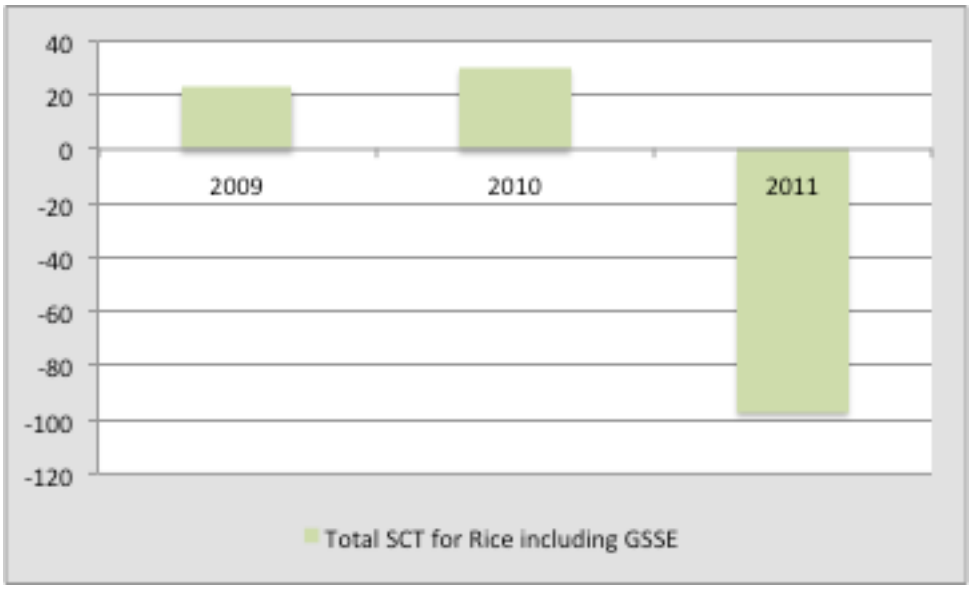
Table 13. Suriname: Rice-related GSSE transfers

GSSE	Budget transfers, mn SRD			Organization	Description	Allocated to rice SCT, %
	2009	2010	2011			
Foundation National Rice Institute	1.2	1.3	1.5	LVV	Main function is research, however it also provides services to producers, such as information dissemination and seed distribution. Inspection services.	100
Infrastructure maintenance	8.5	5.2	8.8	LVV	Roads and drainage infrastructure	70
Multipurpose Corantijn Project	3.0	0	0	LVV	The Multi-Purpose Corantijn Project in the district of Nickerie includes the construction of a 66 km irrigation canal to bring water to existing and projected new areas to produce an increased 12,500 ha of rice (paddy) and raise cropping intensity from 1.22 to 1.90.	100
Reactivation of Water Boards	7.6	1.61	0.4	LVV	Infrastructure	100
Maintenance irrigation and drainage works	5.7	5.02	8.8	MINISTRY of PUBLIC WORKS	Regular maintenance of locks, consorts and pumps, maintenance of canals in Paramaribo and the districts, maintenance of electrical systems	5
Improvement irrigation and drainage works	65.2	48.5	36.0	MINISTRY of PUBLIC WORKS	Improvement of de-watering of Paramaribo and dewatering in the districts; reconstruction of Nanni Water Works and Arawarra Locks.	25
Waterboards	0	1.74	4.9	MINISTRY OF REGIONAL DEVELOPMENT	Establishment of water boards: 3/4 of funds destined for Nickerie (rice production), 1/4 other districts	100

Source: Ministry of Finance

Estimation of rice SCT where the transfers to general services support are added to the transfers to rice producers leads to increase in the estimated SCT by 20 to 34 million SRD and SCT for rice becomes positive in 2009 and 2010, while in 2010-2011 it is negative in spite of the increase in transfers (Figure 39).

Figure 39. Suriname: Rice SCT calculated including GSSE transfers, %



Source: author's estimation

Main reason for decrease in rice SCT in 2011 in this scenario is not only the large price gap between domestic prices and international prices, but also the decrease in budget transfers to irrigation programs compared to 2009. This estimation demonstrates, that while rice producers were implicitly penalized through lower prices in two of the three years of our analysis, they benefit from the general services support provided by the Government, which is the most efficient way of creating long-term positive effects to strengthen competitiveness in the rice subsector.