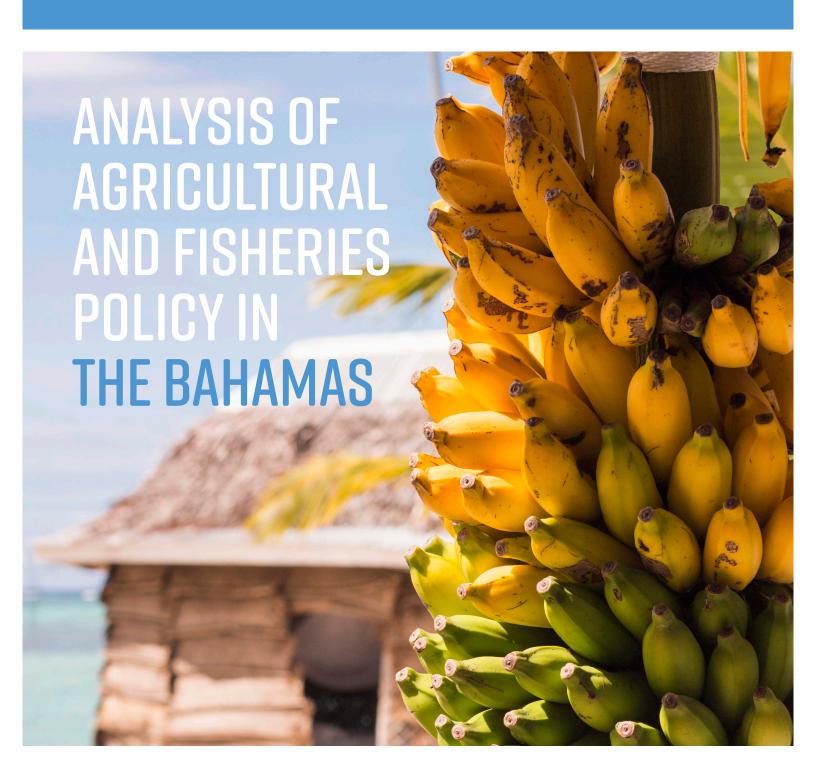
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ANALYSIS OF AGRICULTURAL AND FISHERIES POLICY IN THE BAHAMAS

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THE AUTHORS WISH TO THANK
THE GOVERNMENT OF THE BAHAMAS
FOR ITS COLLABORATION, THERESE
TURNER-JONES AND PEDRO MARTEL
FOR THE INSTITUTIONAL SUPPORT
PROVIDED WITHIN THE IDB, SERGIO
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FIRST DRAFT, AND JUAN JOSE EGAS,
TOMAS DUTRA AND YOLANDA VALLE
PORRUA FOR THEIR LOGISTICAL
AND EDITORIAL SUPPORT.

ABSTRACT

Although agriculture and fisheries account for only 1.6% of the GDP of the Bahamas, they produce 3% of all jobs and are important for the diversification of the economy. The Government of the Bahamas supports agriculture through a combination of value chain development measures, research and extension services, infrastructure development, and border protection. Support to producers averaged 19.08% of gross farm receipts in 2012-2014, and a significant share of support (29%) was provided in the form of transfers to general services. At the same time, total transfers arising from agricultural policy reached only 0.28% of the national GDP. Reducing barriers to trade, reducing regulations and streamlining access to incentives for farmers, and improving information services will help increase the efficiency and competitiveness of the agricultural sector.

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ABBREVIATIONS AND ACRONYMS

AC | All commodities

ACP | African, Caribbean, and Pacific group of States

BAIC | Bahamas Agricultural and Industrial Corporation

BAMSI | Bahamas Agriculture and Marine Science Institute

BT | Budget transfer

CAHFSA | Caribbean Agricultural Health and Food Safety Agency

CARDI | Caribbean Agricultural Research and Development Institute

CARICOM | Caribbean Community and Common Market

CDB | Caribbean Development Bank

CET | Common external tariff

CPA | Caribbean Poultry Association

CSCT | Consumer Single Commodity Transfer

CSE | Consumer Support Estimate

DMR | Department of Marine Resources

DOA | Department of Agriculture

EPC | Effective Protection Coefficient

ERP | Effective Rate of Protection

ERP | Effective Rate of Protection

EU | European Union

FAO | Food and Agriculture Organisation of the United Nations

FDI | Foreign direct investment

FSE | Fisheries Support Estimate

FSSE | Fisheries General Services Support Estimate

FTA | Free trade agreement

GDP | Gross Domestic Product

GSSE | General Services Support Estimate

IDB | Inter-American Development Bank

IMF | International Monetary Fund

IUU | Illegal, unreported, and unregulated (fishing)

LAC | Latin America and the Caribbean

MAMR | Ministry of Agriculture and Marine Resources

MPS | Market Price Support

NPC | Nominal Protection Coefficient

NRP | Nominal Rate of Protection

NRP | Nominal Rate of Protection

ODA | Official development aid

OECD | Organization for Economic Cooperation and Development

PSE | Producer Support Estimate

SCT | Single Commodity Transfer

SPS | Sanitary and phytosanitary

TSE | Total Support Estimate

USAID | United States Agency for International Aid

USDA | United States Department of Agriculture

VAT | Value added tax

WDI | World Development Indicators

WEF | World Economic Forum

WTO | World Trade Organization

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INTRODUCTION

This report presents the results of a quantitative assessment of agricultural policy monitoring, applying the Producer Support Estimates (PSE) methodology to measure the level of agricultural support. The results of the estimates contribute to the IDB's Agrimonitor database and cover the time period of 2010-2014.

This is the first application of the PSE methodology to the agricultural sector of The Bahamas, as well as the first attempt in the Caribbean region to adapt the methodology to analyze the fisheries subsector.

The first chapter of this report presents a brief overview of agricultural policy, focusing on the alignment between the policy goals declared by the government and actions taken to support the sector.

The second chapter presents the results of the estimates and international comparisons, showing the level and structure of agricultural support in The Bahamas compared to other countries in the region. A brief description of the value chains for selected commodities is presented as part of the PSE estimates to better reflect the structure of these value chains. This analysis also helps the reader interpret the PSE indicators, especially where these indicators might reflect market related factors that are not fully explained by explicit policy interventions.

The report concludes with recommendations for policy enhancement based on the insights provided by the quantitative analysis presented in previous chapters.

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REGION TO ADAPT THE
METHODOLOGY TO ANALYZE
THE FISHERIES SUBSECTOR.

1. OVERVIEW OF AGRICULTURAL POLICY



1.1. AGRICULTURE'S ROLE IN THE ECONOMY OF THE BAHAMAS

AGRICULTURE IS IMPORTANT FOR DIVERSIFICATION OF THE ECONOMY

The economy of The Bahamas relies mostly on tourism (about 80% of GDP) and financial services (15% of GDP). The economic slowdown in The Bahamas continued in 2016 for the fourth year in a row (real GDP decreased by 1.7% in 2015 and 0.2% growth was reported in 2016), reflecting a decrease in construction and a mod-

erate growth in tourism and financial services sectors. In 2017, the country was affected by multiple hurricanes, which led to decline in tourism; at the same time, several large-scale investment projects and post-hurricane rebuilding supported the construction sector.

The inflation rate remains moderate (CPI was 1.9% in 2016), but the unemployment rate is in the double digits, reaching 30% among young people (under 25). The poverty rate is estimated to be at 12.5%, but is higher in some rural areas (17.2% in the Family Island region).¹

Agriculture and fisheries are not major contributors to the GDP of the Bahamas. In 2015, agriculture accounted for only 0.7% of GDP, and together with fisheries, it accounted for 1.6% of GDP.

Agriculture's share in total employment is moderate: 3% of the active population is employed in agriculture (Table 1), but this share is higher than in some other Caribbean countries (Figure 2). Seventeen percent of the total population lives in rural areas and, in some rural areas, agriculture and fisheries are still the main sources of employment. Most food (92%²) is imported. However, the fisheries and vegetables subsectors are export-oriented.

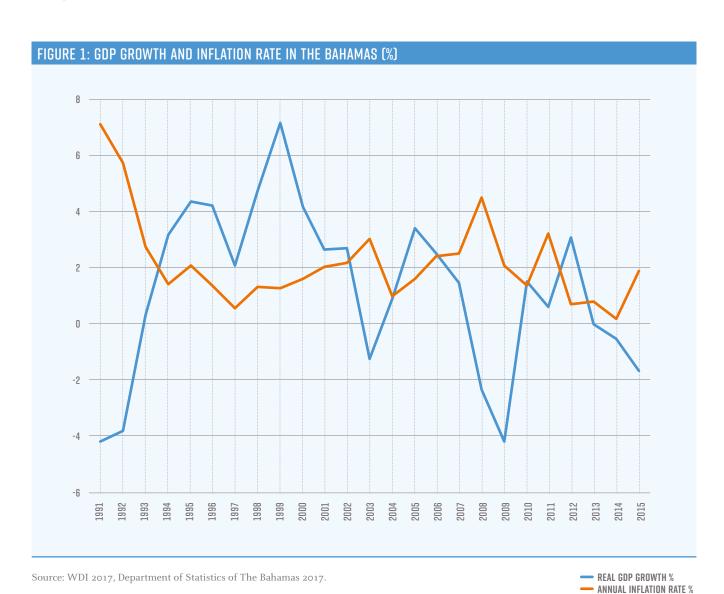
TABLE 1: SELECTED MACROECONOMIC INDICATORS, THE BAHAMAS					
INDICATOR	UNIT	1995	2010	2015	
GDP (CONSTANT 2006 PRICES)	B\$ MN	5,759	7,680	7,793	
GDP GROWTH	%	4.37	1.50	(1.66)	
GDP PER CAPITA (CONSTANT 2006 PRICES)	B\$ MN	20,555	22,139	23,950	
LE POPULATION	'000 PERSONS	280	361	370	
% POPULATION IN URBAN AREAS	%	80.96	82.55	82.87	
SHARE OF AGRICULTURE AND FISHING IN GDP	%	3.34	2.10	1.60	
SHARE OF AGRICULTURE IN GDP	%	N/A	0.80	0.70	
SHARE OF AGRICULTURE IN EMPLOYMENT	%	4.30	3.70	3.00	
FOOD EXPORTS (% OF MERCHANDISE EXPORTS)	%	71.85	25.15	20.12*	
FOOD IMPORTS (% OF MERCHANDISE IMPORTS)	%	18.76	17.53	16.05*	
TRADE (% OF GDP)	% OF GDP	104.46	89.99	93.43	
AGRICULTURAL LAND	SQ. KM	120	150	140*	
SHARE OF ARABLE LAND	% OF LAND AREA	0.6	0.9	0.8*	

 $^{(\}mbox{\ensuremath{^{\ast}}})$ WDI 2013. Source: WDI 2017, Department of Statistics of The Bahamas 2017.

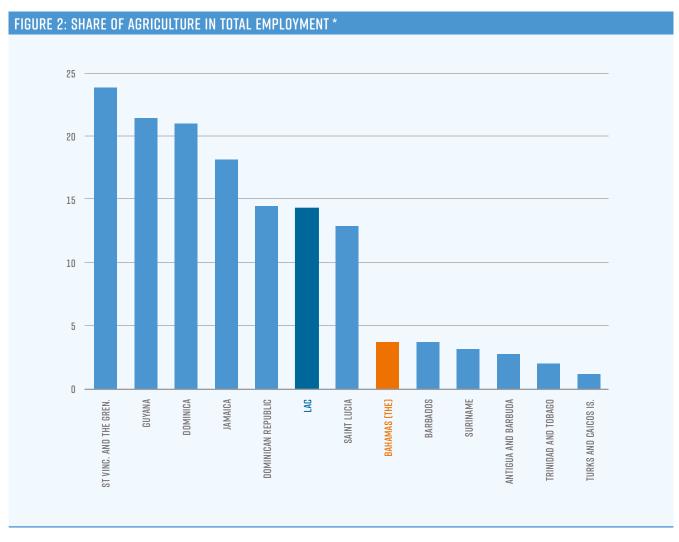
¹ Department of Statistics of The Bahamas, 2016. National poverty line set at \$11.64 per day.

² FAOSTAT, 2015.

At the same time, the country's endowment of agricultural lands and marine resources makes agriculture and fisheries development a viable option for diversification of the economy. However, the small size of the country and its limited water resources mean that while agricultural growth can be achieved in some niche subsectors, the country will still have to rely on imports for most of its food supplies. Agricultural land is concentrated on the New Providence, Abaco, Andros, and Grand Bahama islands³, while consumption takes place mostly on New Providence and Grand Bahama islands, making the efficiency of inter-island transportation crucial.



³ The land is available for farming, but the soil require fertilization and irrigation as it is highly alkaline and does not retain water. Meanwhile, Abaco, Andros, and Grand Bahama have ample fresh water for irrigation. Therefore, extension services are crucial for educating farmers on proper land management.

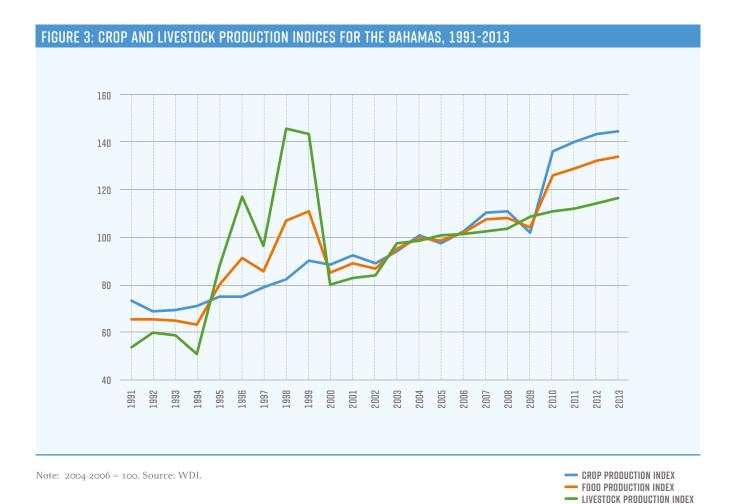


(*) GUY-2002, VCT, TCA-2008, DOM, TTO-2014, DMA-2001, LCA-2006, BHS-2011, other countries-2013.

Source: World Bank Data Bank, Central Statistical Office Trinidad & Tobago.

BOTH CROP AND LIVESTOCK PRODUCTION ARE GROWING

Both agricultural and food production in The Bahamas increased significantly in the 2000s. Although it remains a small part of the economy, crop and livestock production has been growing over the past 15 years (Figure 3). Crop farming mainly produces citrus fruit and vegetables (tomatoes and onions are produced mainly for local consumption, but there are plans for them to be exported) and the livestock sector consists almost entirely of poultry production.



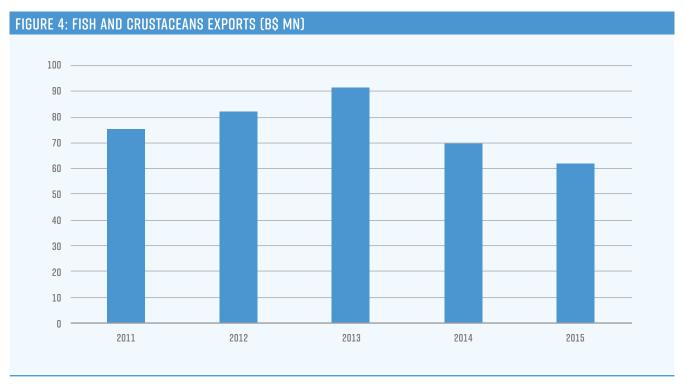
THE ROLE OF FISHERIES IN TRADE IS IMPORTANT

The role of agriculture and fisheries in trade is more important than in production. Agri-food products represent 15% of total merchandise export earnings⁴ (which is slightly lower than the average in LAC countries, 23%). Fish and crustaceans account for over 90% of agri-food exports and are exported to the EU, USA, and Canada. However, the volume and value of fish exports, has decreased in recent years (Figure 4).

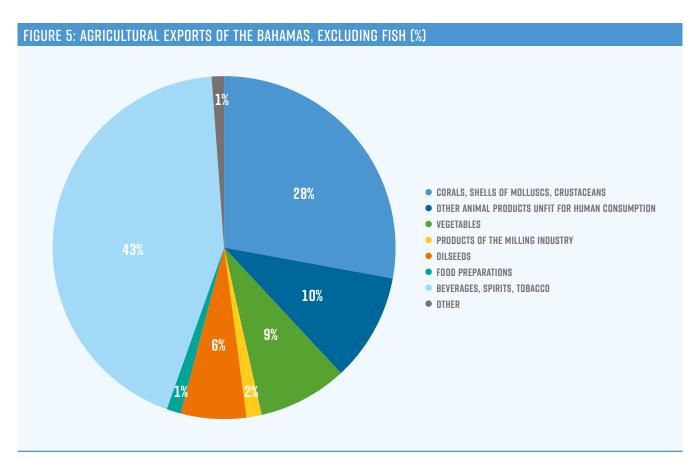
Citrus, avocadoes, and papaya used to be included as exports, but the export of these commodities ceased due to several pest incidents and extreme weather events.⁵

 $^{^4}$ At the same time, merchandise exports account for only 15% of total exports, and travel services for 76% of exports of goods and services (Bs3.416 billion in 2015).

⁵ The citrus canker outbreak in 2005 nearly destroyed the citrus subsector; The Bahamas have been very vulnerable to hurricanes, affected by major weather events approximately every three years.

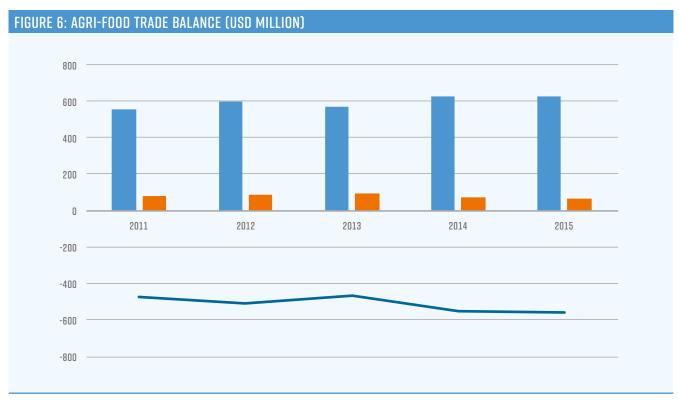


Source: UN Comtrade 2017.



Source: UN Comtrade 2017.

The Bahamas is a net importer of agri-food products: the country imports meat and dairy, fruit and vegetables, prepared food, and beverages. The agri-food import bill increases constantly, reaching US\$623 million in 2015.6



Source: UN COMTRADE database.

AGRI-FOOD IMPORTS (USD MN)
AGRI-FOOD EXPORTS (USD MN)
AGRI-FOOD TRADE BALANCE (USD MN)

1.2. CHALLENGES FACING THE AGRICULTURAL SECTOR

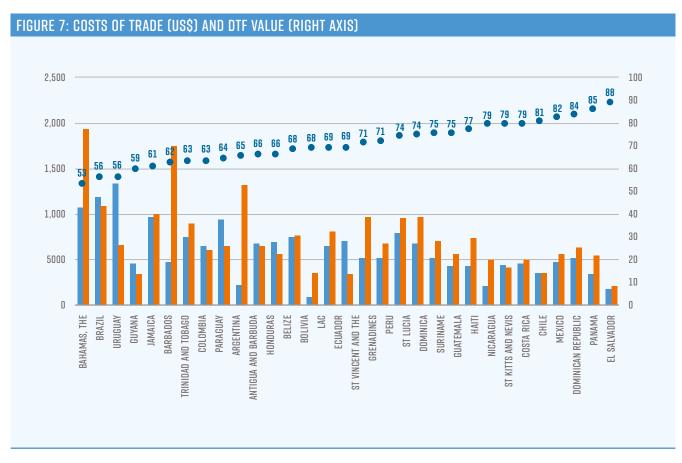
VERY HIGH COSTS OF CROSS-BORDER TRADE

Despite the reputation of being an investor's paradise, The Bahamas keeps slipping in the global business environment ratings and does not participate in the Global Competitiveness Report, which, together with unimpressive credit ratings,⁷ creates difficulties in attracting foreign investments.

⁶ UN COMTRADE Database, 2017.

⁷ S&P: BB+, Moody's: Baa3 (2017).

The Bahamas ranks 121 out of 190 economies in the World Bank's Doing Business Report, one of the poorest results in the region (LAC). It is also ranked 152 on ease of trading across borders (costs, timing, and procedures for exports and imports), with a DTF⁸ of 53.07, the lowest (worst performance) among LAC countries (Figure 7). This issue is recognized by the Government, which recently introduced electronic customs processing. This measure, however, has not affected its overall performance in the World Bank's Doing Business Report yet.



Source: World Bank. 2017.

COST TO EXPORT (US\$)
COST TO IMPORT (US\$)
DTF

⁸ DTF - The distance to frontier score is an estimate of the level of regulatory performance of the country / region on a scale from 0 to 100, where 0 represents the lowest performance and 100 represents the "frontier" —the best performance (World Bank, 2014).

INFRASTRUCTURE DIFFICULTIES SPECIFIC TO AGRICULTURE

The government has endeavored to invest in infrastructure development in recent years, including the rehabilitation of roads and the upgrading of port facilities and airports. However, the lack of infrastructure in the Family Islands⁹ is still an issue (CDB, 2012).

Because The Bahamas is an archipelago of small islands, transportation of agricultural production between islands is a serious issue for marketing and trade. While the port infrastructure is well developed, transportation costs remain extremely high, and in some instances, transportation between islands is even more costly than transportation to export destinations (FAO, 2009).

The high costs of transporting agricultural goods between the islands and the lack of local roads, storage facilities, and irrigation infrastructure are obstacles for agricultural competitiveness.

LACK OF HUMAN CAPITAL

Difficulties in attracting labor—especially young people—to agriculture is identified by the government as a major constraint on the sector's development (Government of The Bahamas, 2016). Agriculture currently relies mostly on immigrant labor. In order to address this issue, the government has built an agricultural and marine school (BAMSI) (see section 1.4.1).

SMALL SIZE OF THE ECONOMY

The small size of the economy makes The Bahamas vulnerable to external shocks, such as fluctuations of world food and agricultural inputs' prices, especially in the USA, which is the main consumer of travel and financial services.

LAND TENURE ISSUES

Ninety percent of agricultural land is owned by the government and leased for agricultural purposes. Land tenure, land use planning, and land management have been identified as critical issues to be addressed (IDB 2013, Government of The Bahamas, 2016a). The absence of land titles creates disincentives for investors and leads to difficulties accessing credit.

 $^{^{\}rm 9}$ Bahamian islands with the exception of New Providence Island and Grand Bahama Island.

CLIMATE CHANGE IS A THREAT TO AGRICULTURE

Changing climate and increasingly intense weather events will have a potentially negative effect on agriculture. The fisheries subsector has also been negatively affected by infrastructure losses following storms, as well as by rising ocean temperatures.

LACK OF SUSTAINABLE MANAGEMENT OF FERTILIZERS

While water for irrigation is available on most islands, much of the country's water supply depends on tiny water lenses floating on salt water. The water is very close to the surface and susceptible to contamination with agrochemicals, so a lack of sustainable fertilizers management damages water quality across the islands.

LIMITED AGRICULTURAL AND FOOD INSPECTION SERVICES

Limited availability of internationally acceptable certification is an obstacle to exploring export markets for the Bahamian producers. Lack of sanitary and veterinary services makes the sector vulnerable to pests and diseases.

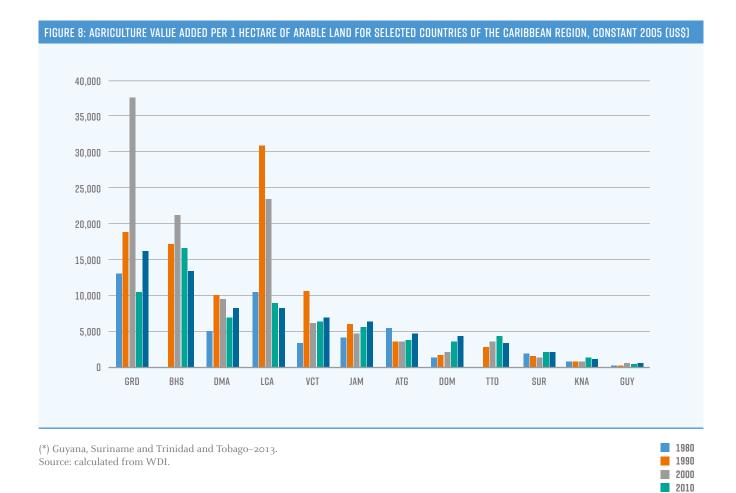
LACK OF INFORMATION

Lack of information is a major challenge for agriculture and fisheries in The Bahamas. No information on agricultural commodity production or prices is collected or disseminated to market players. This situation hampers competition; it is an obstacle to sustainable resource management and, also, since the government does not have detailed sector statistics, an obstacle to effective policy design and efficient use of public funds.

LOW COMPETITIVENESS

While low taxes and flexible immigration laws provide a favorable environment for business development, high energy costs, high labor costs, and lack of infrastructure and services lead to high production costs. Productivity is high in some subsectors, such as citrus fruit production, but remains low in vegetable production.

2014



1.3. STRATEGIC OBJECTIVES OF AGRICULTURAL POLICY, MAIN DOCUMENTS, IMPLEMENTING INSTITUTIONS

A MAJOR STRATEGIC PLAN IS UNDER DEVELOPMENT

After the change of government in 2012, agriculture and fisheries received much more public policy attention, with a focus on human capital development and support for innovation.

At present, the country's general development strategy is described in the 2012 document "Vision 2030: Charting a Course of Change in The Bahamas." Agriculture and marine resources development are included among the development priorities, i.e. realizing Grand Bahama's agricultural potential, development of agriculture on Family Islands, encouraging food processing, and developing export-oriented agriculture.

The vision document mentions an "import substitution strategy" (PLP 2012) called **"Grow what we can; buy what we must"** and proposes the following actions for achieving this result:

- Improving the agricultural and fishery extension services.
- Introducing new technologies and innovations.
- Promoting science-based and environmentally friendly production.
- Developing agroprocessing.
- Ensuring food safety.
- Cooperating with the importing countries to ensure market access for the Bahamian fruits and vegetables.

Based on Vision-2030, a 20-year plan called **Rebuilding Bahamian Agriculture** was developed in 2013 by the Ministry of Agriculture, Marine Resources, and Local Government (Eneas 2013). The plan established the following goals:

- Create jobs.
- Encourage foreign and domestic investments.
- Attract young people and women to the agricultural sector.

The plan suggested an administrative reform, capacity-building for the Ministry, infrastructure development, and the promotion of new technologies. Some of the proposed objectives—such as attracting foreign investors and increasing the attractiveness of agricultural employment—lack specific execution mechanisms. The total costs of execution for the 20-year plan is estimated to be between \$14 million and \$16 million, mostly for capital investments. However, no cost breakdown by program or estimation methods have been made publicly available.

¹⁰ Annual capital budget of MAMR was B\$2.9 million in 2013, when the plan was adopted.

A NEW STRATEGIC PLAN ACKNOWLEDGES THE IMPORTANCE OF AGRICULTURAL DEVELOPMENT

The new strategic long-term plan for the development of The Bahamas, called the National Development Plan, or Vision 2040, is currently under development. It is a major initiative, supported by IDB, and currently in the final stage of development. It will define short, medium, and long-term (for 25 years) goals, as well as strategies for achieving them.¹¹

AGRICULTURE IS CONSIDERED IMPORTANT FOR THE FOOD BILL REDUCTION AND FOR THE DIVERSIFICATION OF THE ECONOMY

Under Vision 2040, achieving food security is one of the strategies for eliminating poverty. The actions proposed address all aspects of agricultural sector development: new technologies and innovations; enhanced land policy, investment in agricultural storage facilities, and expanded financial support to agriculture.

Agribusiness and fisheries are among the new growth sectors important for achieving diversification of the economy. Support measures include funding for The Bahamas Agriculture and Marine Science Institute (BAMSI), improving logistics, enhancing human resources development, taking risk management measures, organizing farmers, and providing incentives to local and foreign investors.

Creating an "enabling macroeconomic environment" for the development of agriculture and fisheries is also mentioned as a diversification strategy. It would be achieved through tax incentives; strengthening standards; strengthening competitiveness with trade agreements; technical cooperation; training and investment into the sector, and improved land management.

The list of the "measures" included in Vision-2040 is comprehensive. However, they lack specific actions and often describe the government's best intentions without spelling out the actions and resources required to achieve them.

[&]quot; While this document is not directly connected to any party or administration, its development still may be affected by the change of government in 2017.

RECENT SHORT-TERM POLICY DOCUMENTS, ON THE OTHER HAND, RARELY MENTION AGRICULTURE

Although the government's short-term development goals are detailed in the Budget Communication documents, agriculture is rarely mentioned in such documents. Agricultural development is considered in the framework of the human capital development strategy (BAMSI) and the development of small and medium-sized enterprises.

5-YEAR PLAN ANNOUNCED FOR 2017-2021

A new 5-year agricultural policy plan called Agri-Vision 2021 was developed by The Bahamas Agriculture and Marine Science Institute (BAMSI). The plan aims to ensure The Bahamas' food and nutritional security by ensuring the competitiveness of Bahamian agriculture and achieving import substitution. The core of the plan is the Associated Farmer Programme (see section 1.4.1).

INTERNATIONAL COOPERATION PLAYS AN IMPORTANT ROLE

While the 2010-2014 Country Strategy with the Inter-American Development Bank (IDB) did not directly mention agriculture among its goals, the sector benefitted indirectly from infrastructure improvement and small and medium-sized enterprise development. The 2013-2017 Country Strategy with the IDB mentions food security among the dialogue areas.

The Bahamas benefitted from cooperation with the EU during 2008-2013 in the framework of the 10th European Development Fund. The European Union invested in infrastructure and assisted in the development of the Family Islands.

FAO assists the country in policy formulation, trade promotion, and technical guidance to agriculture and fisheries. The Caribbean Development Bank assists Bahamian agriculture in developing its climate change adaptation and risk mitigation strategies. The Inter-American Institute for Corporation in Agriculture (IICA) assists in food policy formulation, value chain development, capacity building, and productivity improvement.

THE MINISTRY OF AGRICULTURE AND MARINE RESOURCES (MAMR) IS THE MAIN ADMINISTRATOR OF AGRICULTURE AND FISHERIES

The MAMR's mission is to ensure the sustainable development of agriculture and fisheries: "To enhance the ability of the farming and fisheries sectors to fuel economic development, so as to improve the quality of life, by channeling human, financial and technical resources into areas where competitive advantages exist; and to provide the enabling regulatory environment for the protection and preservation of the national agricultural and marine resources for the future."

The Department of Agriculture (DOA) is a subdivision of MAMR responsible for research, food safety, inspection services, and extension. Its mission is: "To create an environment, through structural change, and to enhance the sustainable development of the land and water resources of The Bahamas, so as to reduce food imports and expand linkages to manufacturing and tourism, in order to ensure that agricultural development will be a catalyst for future economic growth and development."

The Department of Marine Resources (DMR) promotes sustainability in its mission: "To develop the fisheries sector through sustainable use and integrated management of the fishery resources, coastal zone, and marine environment for the well-being of Bahamians." 12

The Bahamas Agricultural and Industrial Corporation (BAIC) is a parastatal agency established in 1981 and financed by budget funds. It is responsible for agricultural development and is involved in producing, marketing, and processing agricultural products. BAIC provides services to farmers, such as training and input supply. Its activities are not described in detail in any planning or monitoring documents and the breakdown of its budget is not publicly available.

The Bahamas Agriculture and Marine Science Institute (BAMSI),

established in 2013, is another statutory body, providing tertiary education in agriculture and marine sciences and vocational training for farmers. BAMSI is also directly involved in agricultural production. It owns an 800-acre research and demonstration farm in North Andros, which is also used for commercial activities. BAMSI produces fruit, vegetables, and livestock and is engaged in agro-processing its own products and the ones it purchases. There is very limited information on the quantities and values produced and marketed by BAMSI and its role in the country's agricultural output.

¹² Government of the Bahamas 2017. Draft Estimates of Revenue & Expenditure, 2016-2017.

1.4. OVERVIEW OF POLICY PROGRAMS AND ACTIONS

THE GOVERNMENT SUPPORTS AGRICULTURE THROUGH BAMSI

Before 2013, the major policy programs for agriculture were the Packing Houses and Production Exchanges and the development of the Family Islands, supported by the Family Island Development Encouragement Act, according to which the equipment imported for construction and land clearing for farming on those islands was exempt from tariffs and duties.

Starting in 2013, the government redirected its attention to human capital development and the promotion of innovations in agriculture. Its main policy action was the construction and funding of the new agricultural higher education and research facility: BAMSI. It has cost more than B\$20 million since 2013, more than the total annual agricultural budget in previous years. BAMSI is a higher education center, a research center, and a producer of fruit, vegetables and livestock. In addition to providing extension and training services, BAMSI operates tutorial farms, which are involved in commercial activities. BAMSI also provides inputs and purchases output from farmers who fulfil their technology requirements.

The government directly participates in agricultural production through BAMSI, BAIC, and public-private partnerships.

The policy programs conducted by MAMR and its departments, as well as by BAIC and BAMSI, are summarized in Table 2.

TABLE 2: POLICY PROG	RAMS AND ACTIONS, 2010-2017
POLICY	DESCRIPTION
VALUE CHAIN SUPPORT	• PRODUCE EXCHANGE AND PACKING HOUSES: GUARANTEED PURCHASE OF FARM OUTPUT (WITH AN ANNUAL LIMIT PER FARMER). THE 20-YEAR PLAN PROPOSED AN UPGRADE OF THE PACKING HOUSES TO AGRIBUSINESS CENTERS ON EAST GRAND BAHAMA AND ABACO.
	• PACKAGING, SORTING AND GRADING OF THE CROPS AT THE PRODUCE EXCHANGE
	• BAMSI'S ASSOCIATED FARMER PROGRAM: BAMSI PROVIDES INPUTS AND PURCHASES OUTPUT FROM FARMERS WHO FULFIL THEIR TECHNOLOGY REQUIREMENTS.
INPUT SUPPLY	• THE FISH AND FARM STORE: INPUTS FOR PURCHASE.
	• STORE ON CREDIT LOANS (CREDIT FOR INPUTS, DOWN PAYMENT REQUIRED).
	• BAMSI PROVIDES INPUTS TO FARMERS ENROLLED IN ITS ASSOCIATED FARMER PROGRAM.
	• DEVELOPMENT OF THE FAMILY ISLANDS (DUTY-FREE IMPORTS OF INPUTS AND MACHINERY).
MARKETING	• AGRIBUSINESS EXPOS.
	• FARMERS MARKET AT GLADSTONE ROAD AGRICULTURAL CENTRE (GRAC).
TRAINING	• CAPACITY BUILDING PROGRAM.
	BAIC TRAINING PROGRAMS.
	BAMSI HIGHER EDUCATION, TRAINING PROGRAMS AND COMMERCIAL DEMONSTRATION FARM.
RESEARCH AND DEVELOPMENT	• IMPROVED VARIETIES OF PLANTS AVAILABLE FOR PURCHASE FROM GLADSTONE ROAD AGRICULTURAL CENTRE (GRAC).
	• HOT PEPPER SEED PRODUCTION (IN COOPERATION WITH FAO).
	BIOTECHNOLOGY UNIT FOR PLANT PROPAGATION/PRODUCTION.
	• EMBRYO TRANSFER PROGRAM (SINCE 2007).
	• RESEARCH AT BAMSI AND EXTENSION SERVICES FOR FARMERS.
INFRASTRUCTURE	• ESTABLISHING SLAUGHTERING AND PROCESSING FACILITIES ON NORTH ANDROS, ELEUTHERA, LONG ISLAND.
DEVELOPMENT	• LOCAL ROADS CONSTRUCTION AND REHABILITATION.
POVERTY REDUCTION	• BACKYARD GARDENING PROGRAMME (SINCE 2008): ATTEMPT TO INCREASE FOOD PRODUCTION BY URBAN HOUSEHOLDS (THROUGH TRAINING).
	• FOOD SAFETY NET PROGRAMS FOR CONSUMERS.
	• CORN MILLS FOR RURAL COMMUNITIES.
TRADE POLICY	• AVERAGE IMPORT DUTY FOR AGRICULTURAL COMMODITIES IS 20.5%.
	• NEGOTIATIONS ON JOINING THE WTO ARE ONGOING.
	• MAMR SUGGESTS INCREASING TRADE PROTECTION TO SUPPORT LOCAL PRODUCTION.

Source: prepared by the author.

1.4.1. DOMESTIC AGRICULTURAL POLICY

1.4.1.1. PRODUCE EXCHANGE AND PACKING HOUSES

PUBLIC MARKETING SYSTEM DOES NOT SOLVE THE MARKETING PROBLEM

Because the marketing difficulties remain among the major constraints on agriculture development in The Bahamas, the government created a network of produce exchanges and packing houses where farmers can sell their products and receive a guaranteed price set by the Department of Agriculture. The MAMR also attempts to establish a quality control system at the packing houses, along with grading and packaging the commodities.

The limit per farmer is B\$9000.00 per year, and the payment is not issued immediately at the delivery, thus limiting the system's effect. Farmers consider the prices at the packing houses to be below market.¹³ Packing house operations are financed from the budget (B\$1.5 million to B\$2million per year were allocated to it during 2010-2014).

1.4.1.2. SUBSIDIZED LOANS

LACK OF ACCESS TO CREDIT REMAINS A CONSTRAINT

Loans to the agricultural and fisheries sectors are provided by commercial banks and the Bahamas Development Bank (BDB) at market interest rates. Lack of access to credit, exacerbated by uncertainty surrounding landowner rights, is one of the constraints to agricultural development.

The Stores-on-Credit Programme, administered by MAMR, is aimed at helping farmers obtain production inputs. The program requires a 25% down payment from farmers.

A program started by BAMSI in cooperation with the BDB will provide small loans (B\$10,000 limit) for purchasing fixed inputs, such as machinery and irrigation systems. The loan rate will be prime plus 2%.

 $^{^{13}}$ Market prices are not collected or reported by MAMR or its subsidiaries for The Bahamas.

1.4.1.3. INPUT SUPPLY

THE PUBLIC SUPPLY SYSTEM IS THE ONLY SOURCE OF SOME INPUTS

Animal feed is mainly made available by the government-owned feed mill. While the Ministry of Agriculture declares that the prices of the animal feed it provides are lower than market prices, this is difficult to prove due to a lack of statistical data on the animal feed prices.

The Fish and Farm Store, operated by MAMR, sells agricultural inputs like pesticides, fertilizers, seeds, irrigation supplies, fencing, and packaging material to farmers at cost. Farmers may pay cash for the inputs or use a loan obtained through the Stores-on-Credit Programme (down payment is required).

BAMSI also supplies farm inputs to farmers, but it requires the farming technology be approved by BAMSI.

1.4.1.4. FISCAL POLICY: TAX CONCESSIONS

INCENTIVES ARE ABUNDANT, BUT NOT SPECIFIC TO AGRICULTURE

Under its long-term economic policy, The Bahamas collects neither income nor corporate taxes. This incentive is general for business in The Bahamas, and not specific to agriculture. However, in order to increase budget revenues, a value added tax (VAT) was introduced in 2015 at 7.5% (0% for exported goods).

¹⁴ http://stat.wto.org/TariffProfiles/BS_e.htm

1.4.2. AGRO-FOOD TRADE POLICY & REGULATIONS

TRADE PROTECTION FOR SOME AGRI-FOOD COMMODITIES REMAINS HIGH IN THE BAHAMAS

The country maintains import duties to protect domestic agriculture: the average tariff protection for agricultural products is 20.5% (31.7% for fish and fish products). However, this is lower than the average tariff for non-agricultural products, which, as of 2015, stood at 36.1%. The Bahamas has participated in the CARIFORUM–EC Economic Partnership Agreement since 2008. The Bahamas has a WTO observer status, while the admission process is ongoing.

FARM INPUTS CAN BE IMPORTED DUTY-FREE

The inputs for farming (fertilizers, herbicide, fungicide, insecticides, chicks and feed for poultry) can be imported duty-free, however, the process is not automatic and requires some bureaucratic procedures. The farmer must apply to DOA for the duty exemption, and then DOA conducts a farm visit to verify eligibility.

FISHERY EQUIPMENT CAN BE IMPORTED DUTY-FREE

Some equipment for fisheries (traps, fish trap materials, fishing vessels, engines for fishing vessels, bait, feed, fishing gear, freezing units, navigational equipment, reverse osmosis machines, ice-making machines, and fishing vessels) are exempt from duty payment.

TABLE 3: IMPORT DUTIES FOR SELECT AGRI-FOOD PRODUCTS IN THE BAHAMAS (%)				
COMMODITY	TARIFFS	COMMODITY	TARIFFS	
GRAPEFRUIT	0%, FROZEN WITH ADDED SUGAR 5%	POULTRY MEAT	10-30%	
ORANGES	0%, FROZEN WITH ADDED SUGAR 5%	CRAWFISH	35%	
BANANAS	0%	CRAB	35%	
MANGO	0%, FROZEN WITH ADDED SUGAR 5%	CONCH	35%	
TOMATOES, ONIONS AND OTHER VEGETABLES	10%	SNAPPER	35%	
VEGETABLE PRESERVATIONS	35%	GROUPER	35%	
AVOCADOS	0%	OTHER MEAT	0-25%	
EGGS	30%	FLOUR	35%	
FRUIT TREES	25%	GRAINS	0%	
MILK, YOGURT, CHEESE	10%	COFFEE	0%	
BUTTER	0%	SUGAR	0%	
HONEY	35%	PREPARED FOOD	0-75%	

Source: Government of The Bahamas.

1.4.3. AGRICULTURAL DEVELOPMENT SUPPORT

1.4.3.1. RESEARCH, DEVELOPMENT, AND EXTENSION

IMPROVING EXTENSION SERVICES PLAYS AN IMPORTANT ROLE IN GOVERNMENT'S AGRICULTURAL DEVELOPMENT PLANS

The geographical characteristics of The Bahamas present a challenge to extension services , as the extension officers have to travel between the islands, leading to additional costs. The government trains extension officers and attempts to improve the availability of the services across the islands.

AGRICULTURAL FOUCATION IS AMONG THE POLICY PRIORITIES

The government points to the low level of human capital, especially on the Family Islands, as one of the obstacles to agricultural development.¹⁵ In order to address this issue, the Bahamas Agriculture and Marine Science Institute (BAMSI) was established in September 2013, a new regional tertiary-level academic organization that offers agricultural and marine education and training.

1.4.3.2. INSPECTION SERVICES

FOOD AND AGRICULTURAL SAFETY IS A MAJOR FACTOR OF INTERNATIONAL COMPETITIVENESS

Agricultural inspection services are the responsibility of the Department of Agriculture, which provides pest and disease control by performing plant health surveys, controlling the safety of imports.

The Department of Marine Resources is responsible for ensuring that marine products meet export market requirements. BAMSI helps to ensure access to export markets by providing training in agricultural and fisheries product safety standards. The Bahamas participates in the Caribbean Agricultural Health and Food Safety Agency (CAHFSA).

International funds were also directed towards food safety in the form of assistance to Food Safety and Technology Laboratories and expanding the testing capacity at the Food Technology and Safety Laboratory (FSTL) (through an IDB project for laboratory equipment and an IAEA project for heavy metal testing).

¹⁵ Government of The Bahamas 2016.

1.4.3.3. MARKETING AND INFORMATION

LACK OF INFORMATION IS A MAJOR CONSTRAINT ON AGRICULTURAL DEVELOPMENT

Lack of market information on local prices and production is a major obstacle for the development of agriculture as neither farmers, nor the government can make informed and efficient decisions.

1.4.4. FISHERIES SUPPORT POLICY

Fisheries subsector policy includes:

- Sustainable resource use regulations (permits, restrictions)
- Incentives (duty-free imports of inputs);
- Import tariffs on products;
- · Research and development;
- Education and training.

1.4.4.1. SUSTAINABLE USE OF MARINE RESOURCES

Fishing does not require any license but is limited to Bahamian citizens (with the exception of sport fishing). Operating seafood processing plants requires licenses from the Department of Marine Resources. Inspection and certification of fishery products are also performed by the Department of Marine Resources.

Sustainability is at the core of The Bahamas' fisheries policy, and a number of restrictions are in place to ensure sustainability and avoid overfishing. Fishing methods and fishing periods are regulated for most species. The sustainable use of fisheries resources is supported region-wide by the Caribbean Regional Fisheries Mechanism (CRFM).

The Marine Stewardship Council (MSC) certification is an environmental label confirming that the seafood was managed in a sustainable manner. Obtaining the MSC certification is crucial for Bahamian fisheries to preserve and expand their access to export markets. Since 2009, through the Fisheries Improvement Project, the Department of Marine Resources, together with Bahamas Marine Exporters Association and with support of the World Wildlife Fund, has been introducing sustainable fishing practices, fighting illegal, unregulated, and unreported (IUU) fishing, and started addressing deficiencies in spiny lobster management in order to obtain the MSC certification.

CATCH CERTIFICATION PROGRAM: All exports of seafoods from The Bahamas to any member state of the European Union will have to be accompanied by a catch certificate. The catch certification program was initiated in 2010 in order to provide such certification and fight IUU.

NASSAU GROUPER: The sustainable management of the Nassau grouper project was specially designed to address deficient management of the Nassau grouper resources.

1.4.4.2. FISHERIES TRADE POLICY

THE FISHERIES SUBSECTOR IS PROTECTED BY THE IMPORT TARIFF:

Nearly all fish and crawfish items imported to The Bahamas are subject to a 35% import tariff.

DUTY-FREE IMPORTS OF INPUTS: Tax exemptions are provided for import of fixed and variable inputs for fisheries, such as traps, fish trap materials, fishing vessels and fishing gear, engines for fishing vessels, bait, feed, freezing units, navigational equipment, reverse osmosis machines, and icemaking machines.

EXPORT REGULATIONS: The export of seafood is licensed, and export duties are applied for crawfish, conch, and sponge. A levy of 8 cents USD per pound of exported whole lobster and 25 cents per pound of exported lobster meat or tails is applied.

1.4.4.3. RESEARCH, EDUCATION AND TRAINING

BAMSI IS THE MAJOR PROVIDER OF RESEARCH AND EDUCATION SERVICES

BAMSI is the main entity providing knowledge generation and transfer services to the fisheries sector. This includes higher education, like associate degrees in marine science and vocational training in aquaculture. Research and extension include ongoing studies on Nassau grouper aggregations and queen conch populations. Planned research will include studies on sponges, bonefish, and spiny lobster.

The Department of Marine Resources also conducts fisheries research and undertook a major research project on lionfish, an invasive species affecting the Bahamas. It is also involved in educational activities for fishermen.

2. EVALUATION OF SUPPORT TO AGRICULTURE



2.1. METHODOLOGY

The application of the Producer Support Estimate (PSE) methodology following the adjustments developed by the OECD (OECD, 2010) provides a standardized, quantitative method of measuring the support provided to the agricultural sector. It has officially been calculated by the OECD for various countries since 1987.

The methodology comprises a set of indicators measuring the transfers to and from economic agents that come from agricultural policy. Transfers to agricultural producers that benefit individual farmers or groups of farmers are measured by the

Producer Support Estimate (PSE). Transfers that benefit the agricultural sector as a whole, rather than individual farmers, are measured by the General Services Support Estimate (GSSE). Transfers to the first consumers of agricultural production (agro-processors) are included in the Consumer Support Estimate (CSE). PSE, GSSE, and budget transfers in CSE are combined to provide a measurement of total policy transfers to the agricultural sector, called the Total Support Estimate (TSE). Single commodity transfers (SCT) estimate the effect of the support policy on individual commodities. PSE, CSE, and SCT are often measured in percentage form. PSE% and SCT% measure the share of transfers in total farm receipts (receipts from output plus the budget transfers); CSE% measures the share of transfers to (from) consumers over consumption expenditures at farm gate. See Annex 1 for the glossary of the indicators used in this section.

The PSE indicator measures transfers to producers arising from agricultural policy and focuses on two components of support: 1) support to producer prices, measured by Market Price Support (MPS), and 2) support through budget transfers (BT). The price support policy analysis is based on comparing the observed market conditions with a benchmark situation. The aggregated effect of the policy in the supply-demand model is measured by the price ratios between the with and without program situation. Thus, output producers' prices (farm gate prices) are compared with the prices that would be expected if there were no policy interventions, e.g. market equilibrium, or reference prices. Usually, international prices are used as reference prices. The effect of public policy is measured by the difference between market and reference prices. If the difference between market and reference output prices is positive, it means that policy causes benefits to producers. If negative, it means that policy is leading to an implicit taxation of farmers.

2.2. DATA DESCRIPTION AND ANALYSIS

The study covers the 2010-2015. The indicators for agricultural commodities were calculated for 2010-2014 and, for fisheries, for 2010-2015. The MAMR and the DMR were the main sources of the data used in the PSE calculations reported in this chapter. MAMR provided data on domestic (produce exchange) and international prices, as well as volume and values of international trade. The production quantities were sourced from FAOSTAT (2017). The fish landing volumes and values were provided by the DMR.

Excess feed costs were not calculated, because imported corn is the main input in animal feed, and the use of domestically produced crops in livestock production is negligible.

The level of support to the fisheries subsector is not part of the OECD PSE methodology and was not estimated for Caribbean countries before. Budget transfers to fisheries were estimated following the OECD FSE methodology. ¹⁶ Price support (MPS) for fisheries is not calculated by the OECD. However, it is present among the FSE categories. MPS for fisheries in The Bahamas was calculated by applying the PSE methodology principles in the same way they are used for agriculture. The MPS approach does not take into account the effect of the support to fisheries on fisheries resources, and therefore does not provide a full picture of the policy implication for the sector. This is the first attempt to apply the MPS methodology to the fisheries sector in the LAC region. The results of estimations including fisheries are presented separately in this report, in order to ensure comparability of the results for agriculture with other countries in the region.

DATA LIMITATIONS

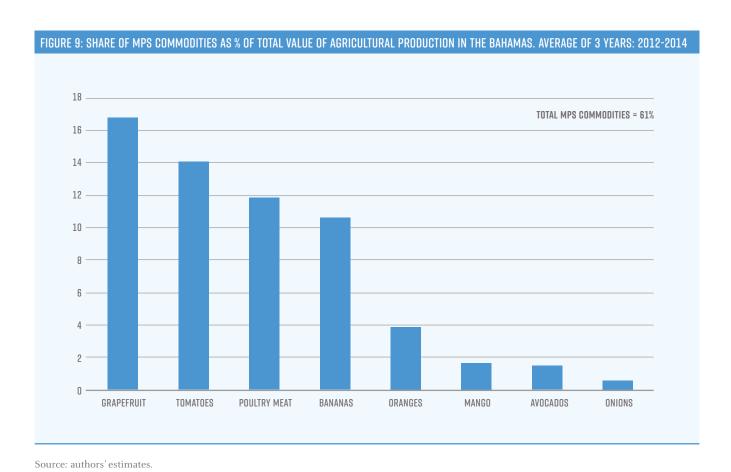
In The Bahamas, there is no price information system for agricultural producers. MAMR does not collect or disseminate agricultural production or price information. Domestic prices used in the study were produce exchanges prices, where only limited amounts of crops are sold. Grapefruit prices were estimated.¹⁷ The only source of the production volumes data is the estimates made by the FAO in the FAOSTAT database. The budget support analysis was limited by the lack of detail on available budget reports, especially with regard to the budgets of parastatals (BAMSI, BAIC). The duty-free supply of farm and fishery inputs, a preferential treatment for agriculture compared to other sectors, was not included in the analysis. While the data availability for the PSE estimate for The Bahamas was limited and the accuracy of the available data was limited as well, this report is based on the best data available to MAMR. Data constraints substantially limit the ability of the MAMR to develop, analyze and improve agricultural policies.

¹⁶ OECD, 2015.

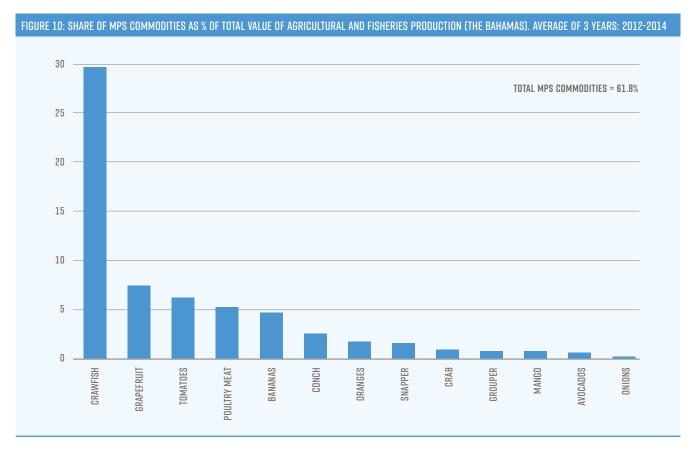
 $^{^{\}scriptscriptstyle 17} According to MAMR, grape fruit prices used in this study may be slightly overestimated.$

POULTRY, TOMATOES AND GRAPEFRUIT DOMINATE THE VALUE OF AGRICULTURAL PRODUCTION

The selection of commodities attempted to include both standard MPS commodities (those likely receiving some sort of price protection) and the most potentially competitive commodities. The OECD recommends that the average share of the sum of the values of the selected set of representative commodities (MPS commodities) in the total value of agricultural production for the last 3 years be not less than 70%, and the share of each selected commodity be greater than 1%. Eight agricultural commodities were selected for the by-commodity analysis. Since available production data was very limited, the total value of production in this study remains below the OECD's threshold, standing at 61%. Although their share in total output was below 1%, onions were included to increase coverage. In the future, updates of the study could benefit from expansion of the list of MPS commodities, ¹⁸ if the necessary data becomes available.



¹⁸ Pineapple, coconut, cassava, honey are among the potential MPS commodities.



Source: authors' estimates.

CRAWFISH DOMINATES AGRICULTURE AND FISHERIES OUTPUT

If fisheries are included, the share of MPS commodities in the value of total agriculture and fisheries production increases slightly to 61.8%, with crawfish being the predominant one (30% of total production value, Figure 10).

REFERENCE PRICES WERE ADJUSTED FOR MARKETING MARGINS

Farm-gate prices are average prices received by producers at the produce exchanges, except for grapefruit and poultry. ¹⁹ This information has been provided by the MAMR and obtained through interviews with farmers (poultry, tomatoes).

¹⁹ Grapefruit prices were estimated based on the price of oranges. The source for poultry price was BAIC (2011) and estimated based on the 2011 price and average annual CPI.

The reference prices used were average trade unit value of import (CIF) for imported commodities and of export (FOB) for exported commodities. However, alternative sources of reference prices were used if available trade information was not consistent or volumes of trade were very small. A marketing margin adjustment was applied to the border prices, in order to make those prices comparable with domestic prices measured at the farm gate (Table 4).

In accordance with the OECD methodology, negative price gaps for imported commodities were set to zero if they were considered to reflect factors other than agricultural policies.

COMMODITY	REFERENCE PRICE	SOURCE	MARGIN ADJUSTMENT
GRAPEFRUIT (IMPORTED)	AVERAGE PRICE OF US EXPORTS (US FOB)	UN COMTRADE	ADJUSTED FOR TRANSPORTATION FROM US TO THE CARIBBEAN AND FOR PROCESSING AND HANDLING
ORANGES (IMPORTED)	AVERAGE PRICE OF US EXPORTS (US FOB)	UN COMTRADE	ADJUSTED FOR TRANSPORTATION FROM US TO THE CARIBBEAN AND FOR PROCESSING AND HANDLING
BANANAS (IMPORTED)	AVERAGE PRICE OF US IMPORTS (US CIF)	UN COMTRADE	ADJUSTED FOR TRANSPORTATION FROM US TO THE CARIBBEAN AND FOR PROCESSING AND HANDLING
MANGO (IMPORTED)	AVERAGE CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION AND HANDLING
TOMATOES (IMPORTED)	AVERAGE CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION AND HANDLING
ONIONS (IMPORTED)	AVERAGE CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION AND HANDLING
AVOCADOS (IMPORTED)	AVERAGE PRICE OF DOMINICAN REPUBLIC EXPORTS (DR FOB)	AGRIMONITOR DATABASE DOMINICAN REPUBLIC	ADJUSTED FOR TRANSPORTATION FROM DOMINICAN REPUBLIC TO THE BAHAMAS, TRANSPORTATION AND HANDLING
POULTRY MEAT (IMPORTED)	WEIGHTED AVERAGE WHOLE POULTRY CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION, HANDLING, PROCESSING, PORT EXPENSES
CRAWFISH (EXPORTED)	AVERAGE FOB EXPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION, HANDLING, PROCESSING, PORT EXPENSES
CRAB (EXPORTED)	AVERAGE FOB EXPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION, HANDLING, PROCESSING, PORT EXPENSES
CONCH (EXPORTED)	AVERAGE FOB EXPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION, HANDLING, PROCESSING, PORT EXPENSES
SNAPPER (IMPORTED)	AVERAGE CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION AND HANDLING
GROUPER (IMPORTED)	AVERAGE CIF IMPORT PRICE, THE BAHAMAS	GOVERNMENT OF THE BAHAMAS	ADJUSTED FOR TRANSPORTATION AND HANDLING

Source: prepared by the authors.

BUDGETARY SUPPORT INFORMATION WAS OBTAINED FROM THE ESTIMATE OF EXPENDITURES DOCUMENTS

When no other indications or insights are available for programs of support where both components of PSE and GSSE are included, 50% of costs have been attributed to GSSE and 50% of costs to the PSE. If a major part of the spending can be identified as a budget transfer to individual producers, all program findings have been treated as such (PSE); and if the majority of funding is general services support, as GSSE.

Support to agro-processing, forestry, non-agricultural purposes and administrative costs were excluded from the PSE/GSSE calculation.²⁰ However, the administrative expenditures closely linked to providing services to agriculture, such as salaries of the inspection officers, were included. Fishery support programs are included in the FSE indicators. The TSE and PSE for agriculture do not include support to fisheries subsector, unless explicitly indicated otherwise. Rural development expenditures were included only if they were mainly benefiting agricultural producers, and not the general rural population, according to the general principle of the PSE methodology.

Transfers to support agro-processing were not included in the estimates unless they were used for the facilities using mostly locally produced agricultural commodities.

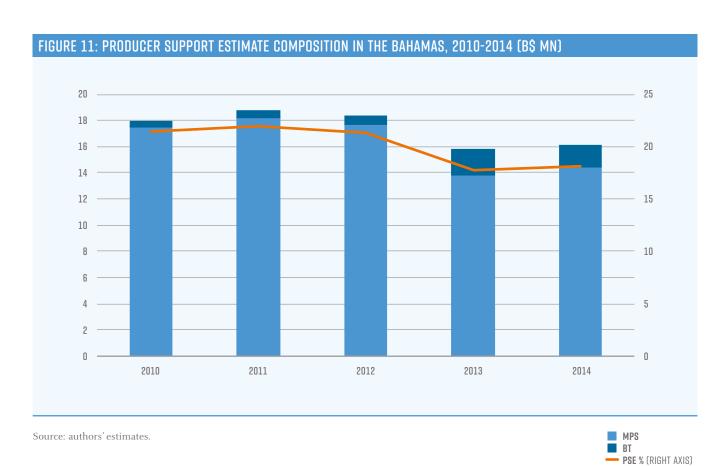
The budget is assumed to have been evenly spent over the course of the year, and thus spending was redistributed to obtain calendar year data.

 $^{^{\}scriptscriptstyle 20}$ As required by the OECD PSE methodology.

2.3. RESULTS: LEVEL AND STRUCTURE OF SUPPORT TO PRODUCERS DATA DESCRIPTION AND ANALYSIS

THE PSE ACCOUNTED FOR A RELATIVELY HIGH PROPORTION OF GROSS FARM RECEIPTS

The PSE, or value of the transfers farmers in The Bahamas receive from agricultural support policies, was, on average, 19.08% of gross farm receipts in the latest three years of the study (2012-2014). The PSE is dominated by MPS, with budget transfers to individual farmers (BT) being almost non-existent. In 2013-2014, MPS decreased, while BT increased (Figure 11). Shifting the focus from price support to the less distorting types of budget support is a positive trend, given international evidence on the respective effectiveness of those interventions.



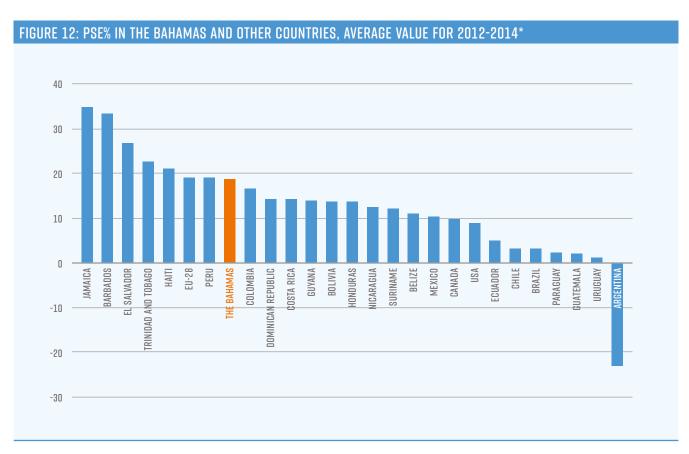
²¹ This estimate includes only direct transfers from budget and does not include the revenue foregone from the duty-free imports of inputs.

	UNIT	2010	2011	2012	2013	2014
TATAL VALUE OF RECOURTION (AT FARM A CATE)						
TOTAL VALUE OF PRODUCTION (AT FARM GATE)	MN B\$	82.96	84.83	85.39	87.30	86.83
I.1. OF WHICH, SHARE OF MPS COMMODITIES (%)	% NAN DO	59.87	63.97	65.77	61.15	56.26
TOTAL VALUE OF CONSUMPTION (AT FARM GATE)	MN B\$	110.62	112.39	111.33	127.57	141.69
VALUE OF CONSUMPTION (FARM GATE): STANDARD MPS COMMODITIES	MN B\$	66.23	71.90	73.22	78.01	79.72
1.PRODUCER SUPPORT ESTIMATE (PSE)	MN B\$	17.92	18.80	18.32	15.88	16.08
A. SUPPORT BASED ON COMMODITY OUTPUTS	MN B\$	17.50	18.16	17.68	13.79	14.40
A1. MARKET PRICE SUPPORT	MN B\$	17.50	18.16	17.68	13.79	14.40
GRAPEFRUIT	MN B\$	2.98	4.31	6.12	1.29	0
ORANGES	MN B\$	1.22	0.81	0.08	0.05	0
BANANAS	MN B\$	1.96	1.69	1.59	2.02	2.19
MANGO	MN B\$	0	0	0	0	0
TOMATOES	MN B\$	1.54	2.07	2.23	2.33	2.23
ONIONS	MN B\$	0	0	0	0	0
AVOCADOS	MN B\$	0.15	0.02	0	0	0.77
POULTRY MEAT	MN B\$	2.61	2.72	1.61	2.75	2.92
NON-MPS COMMODITIES	MN B\$	7.02	6.54	6.05	5.36	6.31
A2. PAYMENTS BASED ON OUTPUT	MN B\$	-	-	-	-	-
B. PAYMENTS BASED ON INPUT USE	MN B\$	0.42	0.57	0.57	2.08	1.68
B1. VARIABLE INPUT USE	MN B\$	0.42	0.54	0.54	0.46	0.46
B2. FIXED CAPITAL FORMATION	MN B\$	-	0.01	0.01	1.00	0.00
B3. ON-FARM SERVICES	MN B\$	-	0.02	0.02	0.62	1.22
C. PAYMENTS BASED ON CURRENT A/AN/R/I, PRODUCTION REQUIRED	MN B\$	-	0.08	0.08	-	-
C1. BASED ON CURRENT RECEIPTS/INCOME		=	0.08	0.08	-	-
2 PERCENTAGE PSE	%	21.49	22.00	21.30	17.76	18.17
GENERAL SERVICES SUPPORT ESTIMATE (GSSE)	MN B\$	3.02	3.82	4.42	9.95	6.97
H. AGRICULTURAL KNOWLEDGE AND INNOVATION SYSTEM	MN B\$	0.08	0.22	0.22	5.87	4.45
H1. AGRICULTURAL KNOWLEDGE GENERATION	MN B\$	0.08	0.22	0.22	0.17	0.25
H2. AGRICULTURAL KNOWLEDGE TRANSFER	MN B\$	-	-	-	5.70	4.20
I. INSPECTION AND CONTROL	MN B\$	0.01	0.10	0.10	0.07	0.07
I1. AGRICULTURAL PRODUCT SAFETY AND INSPECTION	MN B\$	-	-	-	-	-
12. PEST AND DISEASE INSPECTION AND CONTROL	MN B\$	0.00	0.09	0.09	0.06	0.06
13. INPUT CONTROL	MN B\$	0.01	0.01	0.01	0.01	0.01
J. DEVELOPMENT AND MAINTENANCE OF INFRASTRUCTURE	MN B\$	0.84	0.76	1.02	1.43	1.40
J1. HYDROLOGICAL INFRASTRUCTURE	MN B\$	-	-	-	-	-
J2. STORAGE, MARKETING AND OTHER PHYSICAL INFRASTRUCTURE	MN B\$	0.69	0.59	0.84	1.23	1.20
J3. INSTITUTIONAL INFRASTRUCTURE	MN B\$	0.15	0.18	0.18	0.20	0.20
J4. FARM RESTRUCTURING	MN B\$					
K. MARKETING AND PROMOTION	MN B\$	2.08	2.73	3.08	2.57	1.05
K1. COLLECTIVE SCHEMES FOR PROCESSING AND MARKETING	MN B\$	2.01	2.62	2.91	2.41	0.62
K2. PROMOTION OF AGRICULTURAL PRODUCTS	MN B\$	0.07	0.12	0.17	0.16	0.43
CONSUMER SUPPORT ESTIMATE (CSE)	MN B\$	(24.59)	(25.48)	(21.71)	(20.87)	[25.49]
O. TRANSFERS TO PRODUCERS FROM CONSUMERS (-)	MN B\$	(17.50)	(18.16)	(17.68)	(13.79)	(14.42)
TRANSFERS TO PRODUCERS FROM CONSUMERS OF WHICH, MPS COMMODITIES	MN B\$	10.48	11.62	11.63	8.43	8.12
P. OTHER TRANSFERS FROM CONSUMERS (-)	MN B\$	(7.09)	(7.32)	(4.03)	(7.13)	(11.14)
OTHER TRANSFERS FROM CONSUMERS OF WHICH, MPS COMMODITIES	MN B\$	4.25	4.68	2.65	4.36	6.27
Q. TRANSFERS TO CONSUMERS FROM TAXPAYERS	MN B\$	-	-	-	0.05	0.05
Q.1.COMMODITY SPECIFIC TRANSFERS TO CONSUMERS	MN B\$	-	-	-	-	-
Q.2.NON-COMMODITY SPECIFIC TRANSFERS TO CONSUMERS	MN B\$	-	-	-	0.05	0.05
R. EXCESS FEED COST	MN B\$	-	-		-	-
2 PERCENTAGE CSE	%	(22.23)	(22.67)	(19.50)	(16.37)	(17.99)
CONSUMER NAC	MN B\$	1.29	1.29	1.24	1.20	1.22
TOTAL SUPPORT ESTIMATE (TSE)	MN B\$	20.94	22.62	22.74	25.87	23.10
S. TRANSFERS FROM CONSUMERS	MN B\$	24.59	25.48	21.71	20.92	25.54
T. TRANSFERS FROM TAXPAYERS	MN B\$	3.44	4.46	5.07	12.08	8.70
U. BUDGET REVENUES (-)	MN B\$	(7.09)	(7.32)	(4.03)	(7.13)	(11.14)
E%	%	0.26	0.29	0.27	0.30	0.27

Source: authors' estimates.

While the size of the agricultural sector is very small in the Bahamas, the support to farmers amounts to a relatively high share of gross farm receipts. The PSE% has demonstrated a tendency to decrease in recent years, and on average in 2012-2014 was close to PSE% in the EU, but higher than in USA and Canada (Figure 12).

A much higher PSE% is observed in other Caribbean countries, such as Jamaica, Barbados, Trinidad and Tobago and Haiti, but the PSE% is lower (slightly above 10%) in Suriname, Belize, and the Dominican Republic. At the same time, PSE per hectare reached US\$2,935 in 2014, which is much higher than in other Caribbean countries (i.e. in Jamaica PSE per hectare was US\$627 in 2014).



(*) Dominican Republic, Trinidad and Tobago, OECD countries 2013-2015, Uruguay 2011-2013, Costa Rica, Ecuador, Honduras 2010-2012, El Salvador 2011-2012, Guatemala 2009-2011, Nicaragua 2009-2010, Bolivia 2008-2009.

Source: authors' estimates.

2.3.1. SUPPORT TO PRODUCERS BY COMMODITY

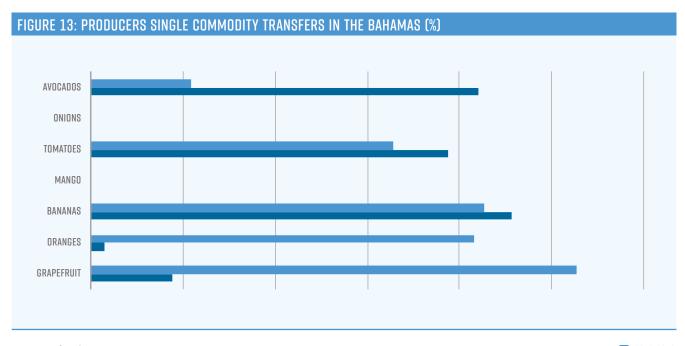
Support to producers individually and by commodity is measured by the Producers Single Commodity Transfer (SCT), which, like the PSE, consists of market price support and budget support (MPS and BT) (Table 6).

Citrus' (grapefruit and orange) SCT% was the largest SCT% of all crops in 2010-2012, but has dropped to zero in more recent years. Support for tomatoes, bananas, and avocadoes increased, while mangoes and onions did not receive any price support²² or individual budget transfers. The poultry subsector received stable and substantial support. The MPS and producer SCT for selected subsectors are summarized in Table 7 and discussed in more detail below.

TABLE 6: COMPONENTS OF PRODUCERS SINGLE COMMODITY TRANSFER IN THE BAHAMAS. MARKET PRICE SUPPORT AND BUDGET TRANSFERS BY COMMODITY (B\$ MN) 2010-2014										110-2014
	2010 2011		201	2012		L 3	2014			
	MPS	BT	MPS	BT	MPS	BT	MPS	BT	MPS	BT
GRAPEFRUIT	3.0	0.0	4.3	0.0	6.1	0.0	1.3	0.0	0.0	0.0
ORANGES	1.2	0.0	0.8	0.0	0.1	0.0	0.0	0.0	0.0	0.0
BANANAS	2.0	0.0	1.7	0.0	1.6	0.0	2.0	0.0	2.2	0.0
MANGO	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOMATOES	1.5	0.0	2.1	0.0	2.2	0.0	2.3	0.0	2.2	0.0
ONIONS	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
AVOCADOS	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.8	0.0
POULTRY MEAT	2.6	0.4	2.7	0.5	1.6	0.5	2.7	0.4	2.9	0.4

Source: author's estimations.

²² In cases where the price gap is negative, but the product is imported and there is import protection in place, the price gap is set to zero as it is considered to be non-policy related. It can be explained by other factors, such as data issues, quality differences, infrastructure deficiencies etc.



Source: authors' estimates.

2010-2012 2013-2014

SUBSECTOR	POLICY	COMMODITY-SPECIFIC SUPPORT	SUBSECTOR CHARACTERISTICS
GRAPEFRUIT And Oranges	PACKING HOUSES AND PRODUCTION EXCHANGE. ZERO IMPORT TARIFF. SUPPORT TO REPLANTING CITRUS TREES. PEST CONTROL SUPPORT (EXTENSION).	SCT WAS VERY HIGH IN 2010-2012 BUT THEN DECREASED AND BECAME ZERO IN 2014 AFTER DOMESTIC PRICES FELL.	VULNERABILITY TO DISEASES AND NATURAL DISASTERS REMAINS A MAJOR CONSTRAINT. HIGH PRODUCTIVITY.
BANANAS	PACKING HOUSES AND PRODUCTION EXCHANGE. BAMSI PROVIDES EXTENSION SERVICES AND PLANTING MATERIALS.	SCT SHOWS STABLE HIGH SUPPORT.	PRODUCTION IS RECOVERING, BUT SOME QUANTITIES ARE STILL IMPORTED. PRODUCTIVITY IS LOW.
MANGOES	PACKING HOUSES AND PRODUCTION EXCHANGE. BAMSI PROVIDES RESEARCH AND EXTENSION.	SCT SHOWS NEUTRAL POLICY EFFECT.	STABLE PRODUCTION. HIGH PRODUCTIVITY.
TOMATOES	PACKING HOUSES. FISH AND FARM STORE AND PRODUCE EXCHANGE SYSTEM. 10% IMPORT TARIFF.	POSITIVE SCT AT 19% OF GROSS FARM RECEIPTS (AVERAGE 2012-14).	PRODUCTION IS GROWING, BUT VOLATILE. YIELDS ARE RELATIVELY LOW.
ONIONS	PACKING HOUSES. FISH AND FARM STORE AND PRODUCE EXCHANGE SYSTEM. NO BORDER PROTECTION.	SCT SHOWS NEUTRAL POLICY EFFECT.	PRODUCTION IS STABLE. YIELDS ARE RELATIVELY LOW.
AVOCADOES	PACKING HOUSES. FISH AND FARM STORE AND PRODUCE EXCHANGE SYSTEM. NO BORDER PROTECTION.	SCT INCREASED IN 2014, BUT MAY REFLECT NON-POLICY MEASURES.	PRODUCTION INCREASED BUT WAS AFFECTED BY RECENT CLIMATE EVENTS. PRODUCTIVITY IS VERY COMPETITIVE.
POULTRY	IMPORT TARIFF 30%. DUTY-FREE IMPORTS OF INPUTS.	POSITIVE SCT AT 24% OF GROSS FARM RECEIPTS (AVERAGE 2012-14).	PRODUCTION INCREASED IN 2014.

Source: prepared by the authors.

2.3.1.1. CITRUS SUBSECTOR POLICY ANALYSIS

DOMESTIC POLICY INCLUDES INSPECTION SERVICES

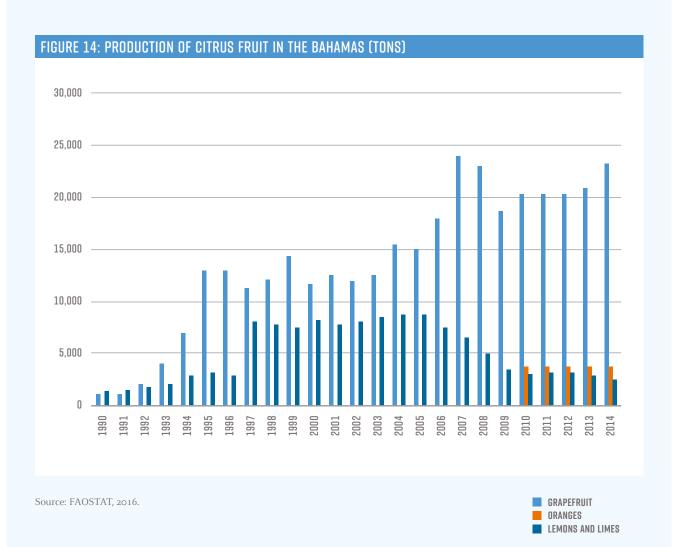
The government understands the subsector's vulnerability to pests. Replanting trees in the Family Islands also is among the government's support efforts. Trade protection is zero for fresh fruits.

BOX 1: CITRUS SUBSECTOR CHARACTERISTICS

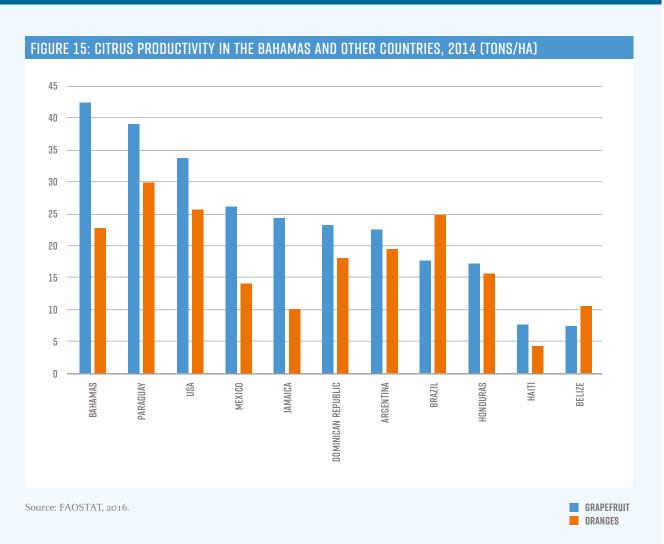
CITRUS FRUIT SUBSECTOR USED TO BE ONE OF THE SOURCES OF EXPORT REVENUE

Citrus exports stopped after the trees in The Abacos were destroyed by the citrus canker bacteria. Vulnerability to diseases remains a major constraint on citrus subsector development, and while production volumes have recovered, exports are still non-existent.

The sector's development was also adversely affected by hurricanes in recent years. At the same time, the high productivity for Bahamian grapefruit (which is the highest in the Caribbean) indicates it may have the potential to be competitive internationally.







PRICE SUPPORT DECREASE

Both grapefruit and oranges were supported by government policy in the 2010-2012. However, price support decreased over time, and by 2014 it had disappeared for both commodities. There was no commodity-specific budget support (Figure 16).



2.3.1.2. BANANAS SUBSECTOR POLICY ANALYSIS

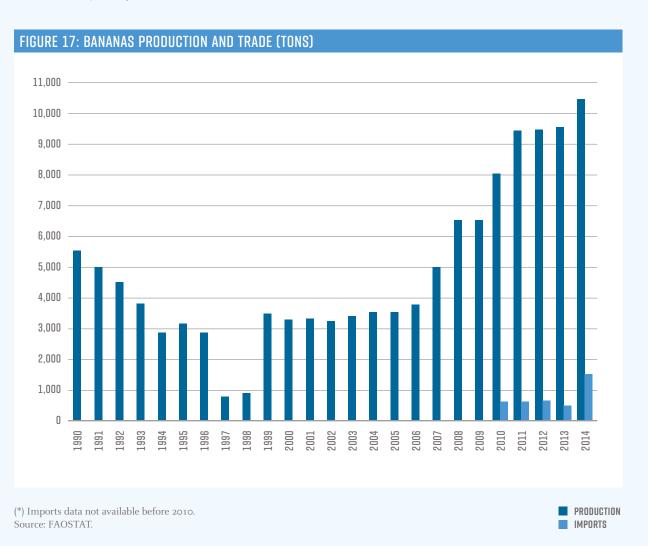
POLICY: GREENHOUSES BY BAMSI

In an attempt to revive the banana subsector, BAMSI is building greenhouses and providing farmers with planting materials. General services support consists of providing post-harvest infrastructure and marketing assistance, such as farmers markets.

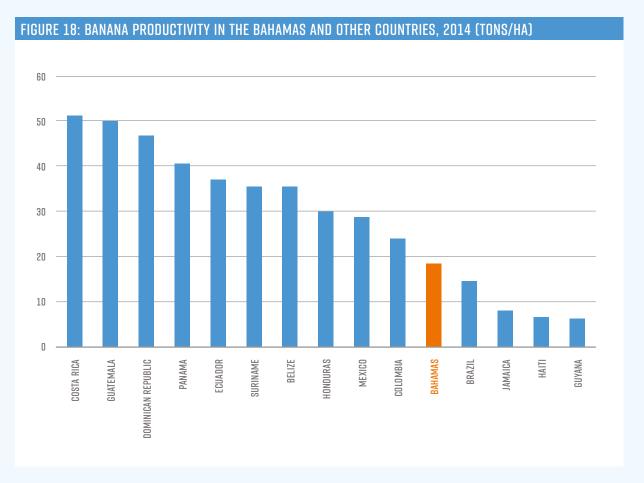
BOX 2: BANANAS SUBSECTOR CHARACTERISTICS

BANANA PRODUCTION IS INCREASING

Banana production on the Bahamas has suffered from diseases and hurricanes. Although recovery of the bananas subsector continues, bananas are still grown mostly for subsistence, and some bananas are imported for consumption by the tourist sector.



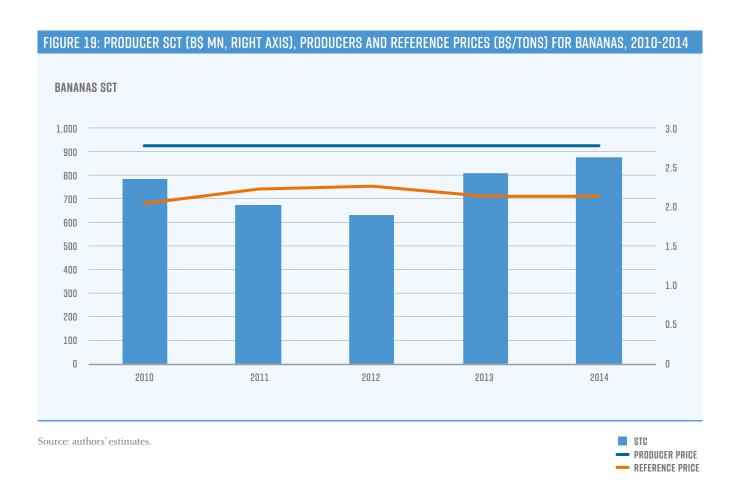
BOX 2: BANANAS SUBSECTOR CHARACTERISTICS



Source: FAOSTAT, 2016.

BANANA PRODUCERS RECEIVED POLICY SUPPORT

The prices received by the banana farmers for their output were higher than the reference prices during the period of study (Figure 19). There was no product-specific budget support for banana farmers.



2.3.1.3. MANGOES SUBSECTOR POLICY ANALYSIS

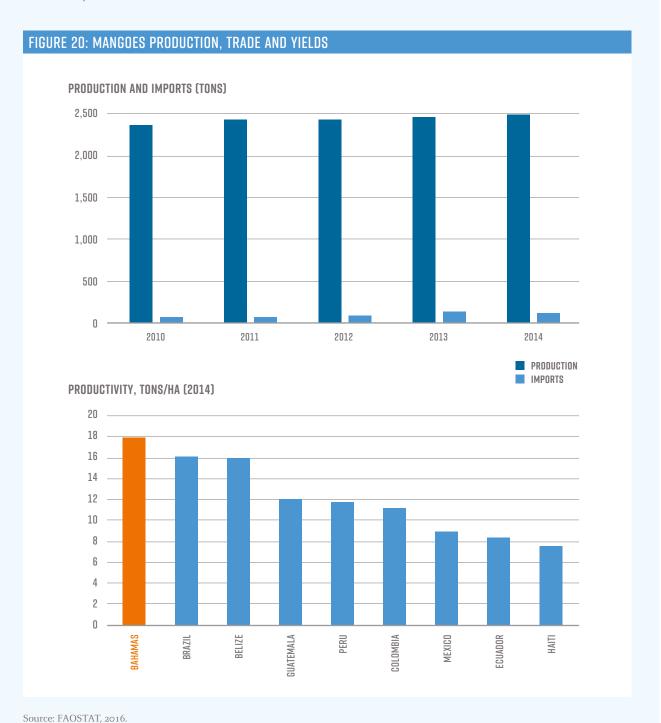
PACKING HOUSES AND BAMSI RESEARCH ARE MAIN POLICY SUPPORT MEASURES

Similar to other crop producers, mango farmers may sell their output to the packing houses. At the same time, the prices at those packing houses were lower than the reference prices. However, since many non-policy factors contribute to this price difference —such as unquantifiable quality differences, infrastructure underdevelopment, and data limitations— we set the price gap to zero and consider the policy effect to be neutral. BAMSI also provides research and extension services.

BOX 3: MANGOES SUBSECTOR CHARACTERISTICS

PRODUCTION IS STABLE AND MEETS DEMAND

Production volumes of mangoes are stable. Mangoes are not exported and imported ones account for only about 5% of local consumption. High productivity compared to major regional producers indicates potential competitiveness.



2.3.1.4. TOMATOES, ONIONS AND AVOCADOES SUBSECTORS POLICY ANALYSIS

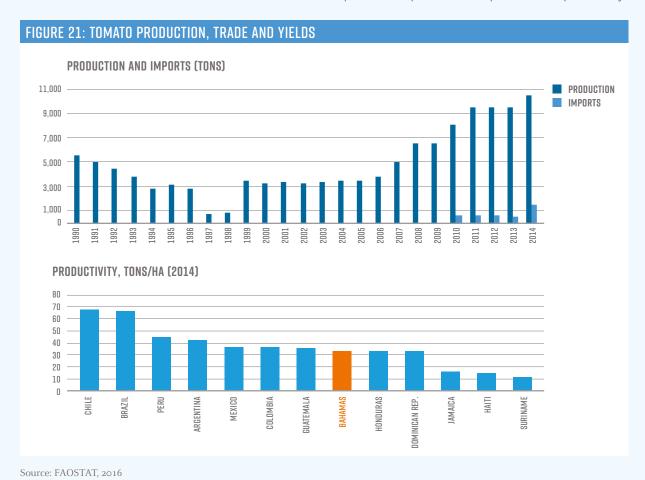
SUPPORT ALONG THE VALUE CHAIN INCLUDES INPUTS AND PACKING HOUSES

Infrastructure provided by the government for vegetable and avocado producers includes the packing houses, fish and farm store, and the produce exchange system. Whereas the goal is to penetrate export markets, export volumes remain negligible compared to the production and import ones, which is partly explained by an increasing domestic demand. The import tariff for tomatoes was 10%, for onions 5%, and for avocadoes 0%.

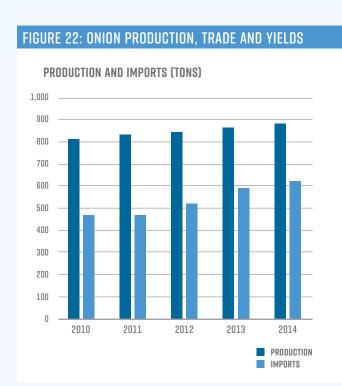
BOX 4: VEGETABLES SUBSECTORS CHARACTERISTICS

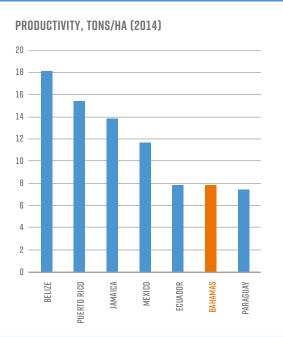
IMPORTS HAVE BEEN INCREASING STEADILY

Demand for vegetables in The Bahamas is growing, and both production and imports are increasing in an attempt to meet it. Tomatoes, avocadoes, and onions are the main vegetables grown in The Bahamas, and while currently they are mostly sold locally, there is potential for export expansion. This potential will require increased productivity.

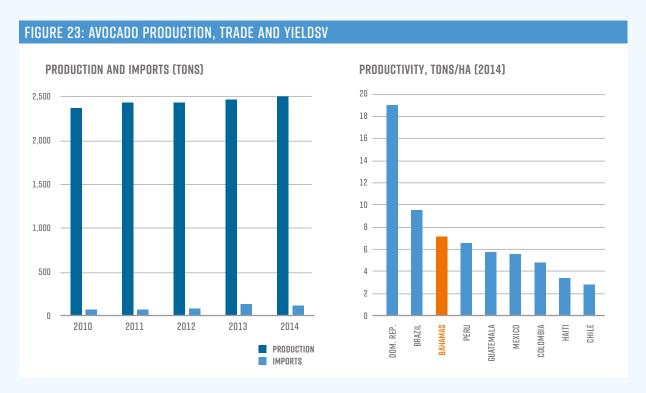


BOX 4: VEGETABLES SUBSECTORS CHARACTERISTICS





Source: FAOSTAT, 2016



Source: FAOSTAT, 2016

ONLY TOMATOES RECEIVED SUBSTANTIAL PRICE SUPPORT

Tomatoes were supported by policy, while support to avocadoes was much lower (it increased in 2014 when the buying price at produce exchange almost doubled) and onions did not receive price support at all.²³ There were no commodity-specific budget transfers for any of the vegetables or avocadoes (Figure 24).

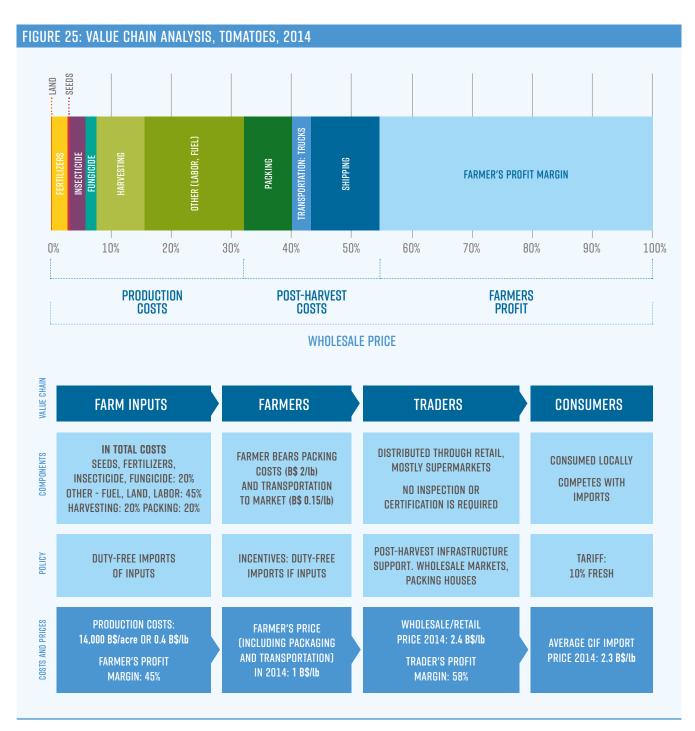


Source: authors' estimates.

²³ Negative price gap for onions is considered non-policy related.

THE VALUE CHAIN ANALYSIS OF THE TOMATOES SUBSECTOR REVEALED HIGH PROFITABILITY

Tomato production is labor intensive, with additional labor costs required for harvesting and packing. Packing costs are high relative to other production costs (B\$2 per box of 25 lb of tomatoes). The profitability of tomatoes production is 58%.



2.3.1.5. LIVESTOCK SUBSECTOR POLICY ANALYSIS

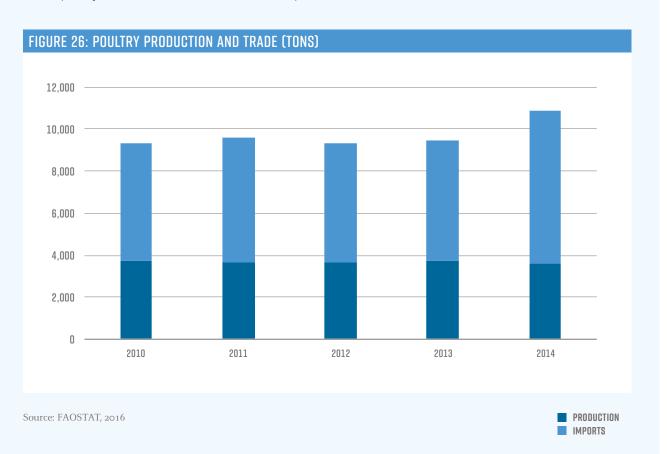
IMPORT PROTECTION WAS THE MAIN POLICY MEASURE FOR POULTRY

The tariff on imported poultry varies between 0 and 30%, depending on the type of meat. While import licensing was cancelled in 2010, import permits are required. Imports of chicken from Brazil, one of the main suppliers in the period of study, was banned in 2017 for safety reasons. Inputs, such as chicks and feed are imported duty-free. However, duties need to be paid first, and the process of obtaining the compensation is lengthy.

BOX 5: LIVESTOCK SUBSECTOR CHARACTERISTICS

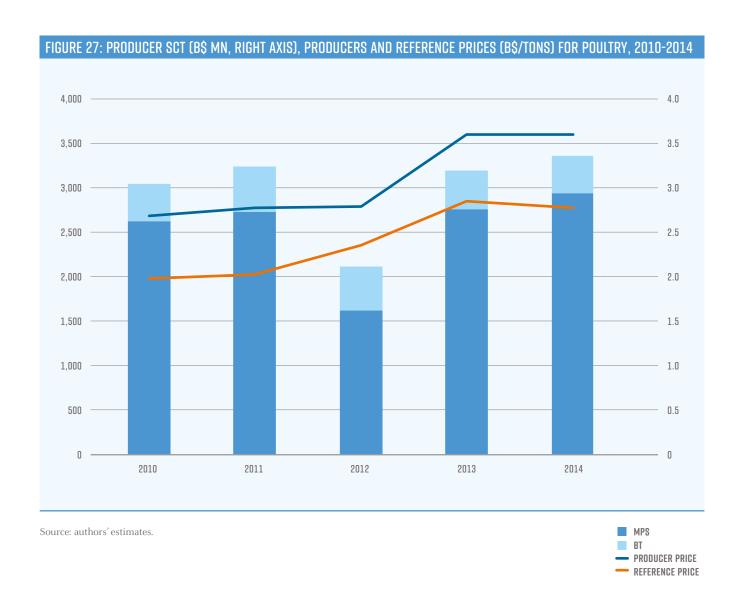
PRODUCTION INCREASED IN 2014

Poultry production has been growing steadily in recent years. There is one major vertically integrated producer (high quality whole chicken). Poultry was mostly imported in the form of frozen legs and wings from the US and Brazil. Differences in quality ensure a market share for domestic poultry even in the event of reduced border protection.



THE POULTRY SUBSECTOR WAS PROTECTED BY PRICE POLICY

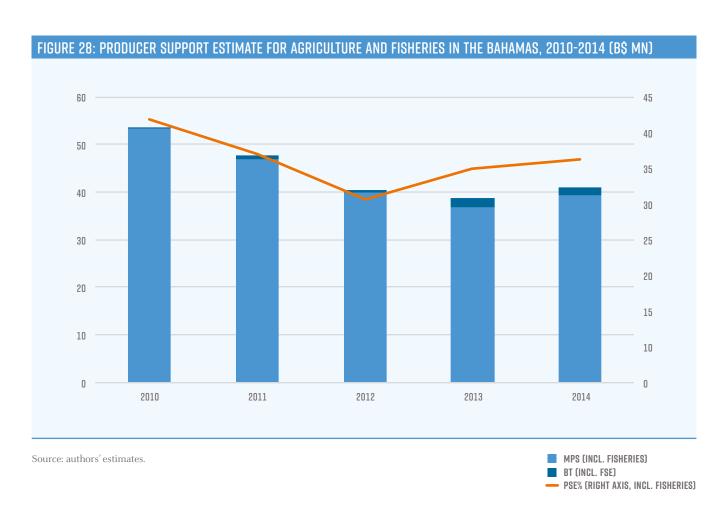
Poultry producers received import protections —reflected in an MPS of B\$2.9 million in 2014— and budget transfers, as this subsector is the main beneficiary of the Animal Feed Mill support (Figure 27).



2.3.1.6. FISHERIES POLICY ANALYSIS

PRICE SUPPORT TO FISHERIES IS HIGHER THAN SUPPORT TO AGRICULTURE

If fisheries are included in the PSE% estimate, this raises it to an average of 32.6% (2012-2014). Support to fisheries is dominated by MPS, with the level of support to crawfish (spiny lobster) nearly as high as the MPS for all the agricultural commodities together. Price support for fish and crustaceans is much higher than for agriculture, reflecting higher import tariffs.



POLICY INCLUDES INCENTIVES AND IMPORT PROTECTION

Incentives for the fisheries sector include duty-free imports of fixed and variable inputs. The government also makes significant efforts to ensure marine resources are used sustainably by enforcing sustainable fisheries practices and investing in relevant research programs. Inspections and certifications also play an important role among the services the government provides to the fisheries sector. The sector is protected by a 35% import tariff.

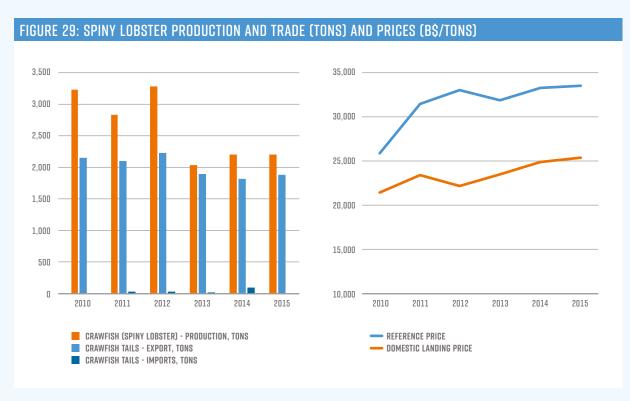
BOX 6: FISHERIES SECTOR CHARACTERISTICS

There are 9,300 people employed in fisheries and 4,000 fishing vessels, most of them small-scale. However, the most recent census was conducted in 1995. The main products are spiny lobster, queen conch, snapper, stone crab, and grouper.

Total production has been volatile in recent years, and the value of landings reached B\$65.5 million in 2015. Exports consist mostly of spiny lobster tails and are declining. However, lobster remains an important source of export revenue. The total value of fish exports was over US\$62 million and its destinations included the U.S., Canada, and E.U. countries. Fisheries accounted for 14% of total exports in 2015.

SPINY LOBSTER

Spiny lobsters are The Bahamas' main agri-food export commodity. Production is volatile and decreased in recent years, as did exports. Lobsters are processed at sea and landed as tails. The landed value of all spiny lobsters in 2015 was over B\$62 million, a 4% increase over 2014 as both domestic and world prices increased.

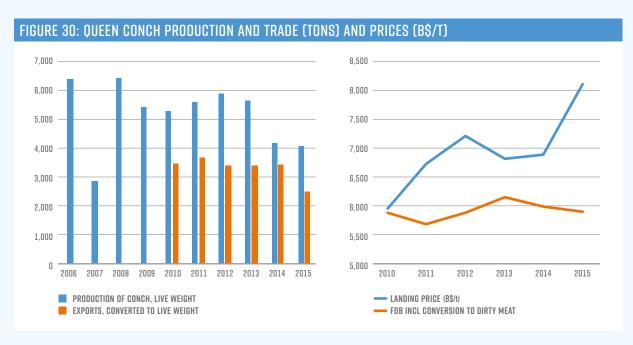


Source: Department of Marine Resources, 2016 and FAO FishStatJ (2016) databases.

OUEEN CONCH

The conch (queen conch) is a protected species and its exports are limited by an annual quota. In 2015, 4,000 tons of queen conch was produced (live weight) and 62% of it was exported. The value of its exports was over B\$2.3 million, which was almost 30% lower than in 2014.

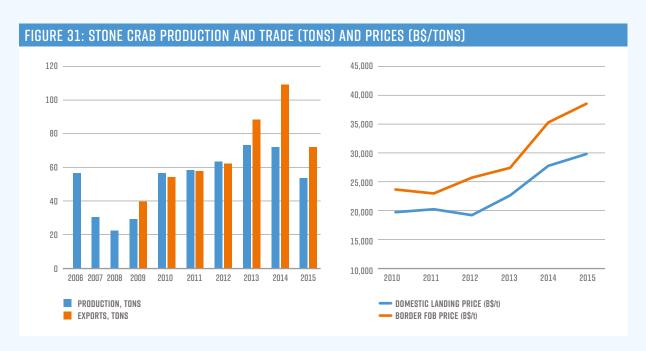
BOX 6: FISHERIES SECTOR CHARACTERISTICS



Source: Department of Marine Resources, 2016 and FAO FishStatJ (2016) databases.

STONE CRAB

As export prices went up, the production and export quantities decreased, and the value of exports fell to B\$2.8 million in 2015 after peaking at B\$3.8 million in 2014.

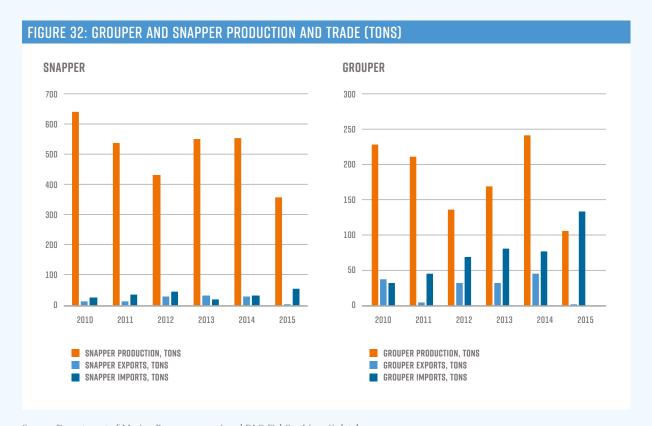


Source: Department of Marine Resources, 2016 and FAO FishStatJ (2016) databases.

BOX 6: FISHERIES SECTOR CHARACTERISTICS

GROUPER AND SNAPPER

Although both grouper and snapper play an important role in exports, they remain net imported commodities (Figure 19). Production volumes are volatile.



Source: Department of Marine Resources, 2016 and FAO FishStatJ (2016) databases.

FISHERIES COMMODITIES ARE PROTECTED BY IMPORT TARIFF

The results of the SCT estimates for fisheries are in line with the import protection policy in place. The tariff for most types of fish and crustaceans is 35%, and SCT% turns out to be in the same range for fisheries (Figure 33). Since fish and crustaceans are exported products, the relationship between custom duties and price support revealed by the PSE analysis is not direct, and SCT% reflects not only the protection created by the tariffs, but also other regulatory measures. Information on budget support and incentives created by the duty-free inputs for fisheries is very limited.

FIGURE 33: PRODUCER SCT (B\$ MN, RIGHT AXIS), FISHERIES PRODUCER AND REFERENCE PRICES (B\$/TONS), 2010-2014



2.3.1.7. EFFECTIVE RATE OF PROTECTION

The effective rate of protection (ERP) provides additional information regarding the level of support by commodity by incorporating the effects of support to farm inputs. It is calculated as follows:

$$ERP = \frac{(VA_d - VA_r)}{VA_r} * 100$$

A positive ERP means that the returns on inputs (i.e. value added) are potentially higher than in the hypothetical situation of an absence of any policy on commodity and input markets. If ERP is negative, that means the policy has a negative effect —the potential returns on inputs would be higher in a non-policy intervention situation. The ERP methodology is limited because it does not consider possible input substitution,²⁴ but it is useful as an indication of the effect of input markets' policy on agricultural producers.

Information on the production costs required for the ERP estimate was obtained from interviews with farmers (2016) and supplemented by information provided by the BAIC. The commodities selected for ERP estimates were tomatoes and poultry meat.

FERTILIZERS, PESTICIDES, AND INSECTICIDES FOR TOMATOES; FEED AND CHICKS FOR POULTRY WERE INCLUDED IN THE ERP ANALYSIS

Input markets are liberalized, and the prices that farmers pay are not affected by public policy in The Bahamas. The fertilizers, pesticides, and herbicides are imported duty-free, as are the inputs for poultry production, feed, and chicks. Therefore, the NRP for those purchased inputs is close to 0. However, duty-free imports of inputs are available only to registered farmers. In addition, the farmer must first pay the duty in full and then go through the lengthy bureaucratic process of obtaining compensation from the government. However, there is not enough information to quantify those factors.

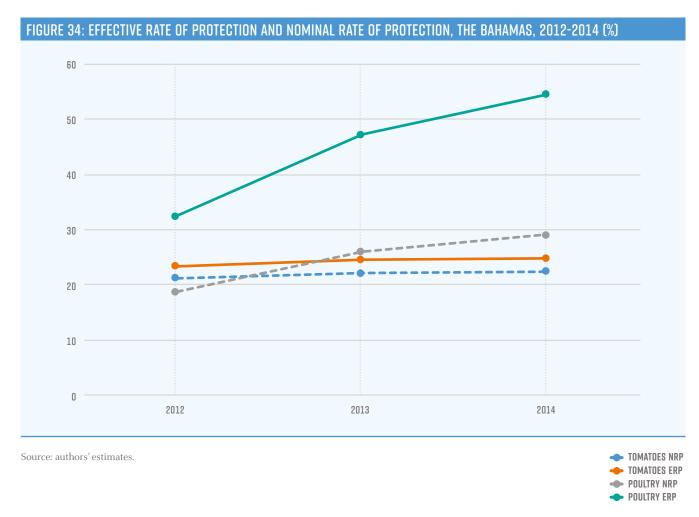
ERP WAS POSITIVE FOR THE SELECTED COMMODITIES

Since the level of support to tradeable inputs was zero in The Bahamas in the period of study, the ERP for poultry and tomatoes follows the trends of the nominal rate of protection (NRP)²⁵ and confirms the results of NRP estimates (Figure 34).

 $VA_{\rm d}$ stands for value added in domestic prices, and $VA_{\rm r}$ for value added in reference prices (see details in the Annex).

²⁴ Due to input substitution, the production technology would probably be different in the reference case, while in ERP methodology, the reference value added is calculated assuming unchanged production function and input quantities.

²⁵ NRP is calculated as the difference between domestic and reference prices, expressed in a percentage form. It is negative when domestic prices are lower than reference prices.



ERP TRENDS AND INDICATIONS DO NOT DIFFER FROM THOSE OF NRP OR MPS

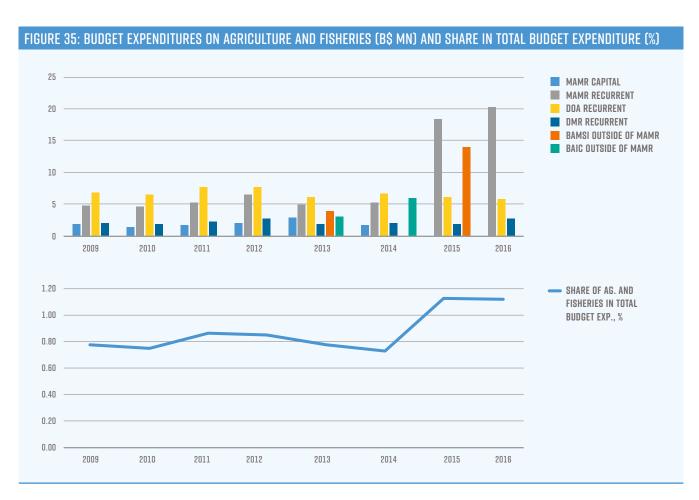
The ERP does not reveal any trends, implicit support or taxation other than those captured by the NRP and other indicators of support by commodity. This is because there is no border protection in place for the majority of inputs. Also, cost compensation support is concentrated on fixed inputs like on-farm infrastructure, not on purchased inputs, and such policy is not included in the ERP calculation.

2.3.2. BUDGET TRANSFERS TO INDIVIDUAL PRODUCERS

The PSE methodology is a very useful instrument for analyzing budget transfers to agriculture, as it presents budget spending in a transparent format that enables analysis of the magnitude and direction of budget transfers and policy changes over time and for international comparisons.

SHARE OF AGRICULTURAL SUPPORT IN BUDGET IS LOW

The agricultural expenses are financed through the budgets of MAMR, DOA, and DMR (fisheries). Agriculture is not a major component of total government expenditure in The Bahamas. Its share in total budget expenditures exceeded 1% only in 2015, when the recurrent expenditure of MAMR more than tripled with the addition and increase of BAMSI and BAIC expenditures. BAMSI construction was financed outside the MAMR budget: B\$4 million in 2013, and B\$14 million in 2015 (expenditures that explain the increase in infrastructure support in GSSE in 2015).



Source: Draft Estimates of Revenue & Expenditure, various years.

TABLE 8: STRUCTURE OF THE AGRICULTURAL BUDGET OF THE BAHAMAS (B\$ MN)									
	2010	2011	2012	2013	2014	2015			
BT	0.42	0.65	0.65	2.08	1.68	2.96			
GSSE	3.02	3.82	4.42	9.95	6.97	24.42			
TRANSFERS TO CONSUMERS FROM TAXPAYERS	-	-	-	0.05	0.05	-			
ADMINISTRATIVE	10.79	12.14	13.21	11.35	11.88	11.89			
NON-AGRICULTURAL	0.04	0.09	0.46	0.48	0.84	0.78			
FISHERIES	0.31	0.46	0.45	0.93	0.44	0.84			
TOTAL AGRICULTURAL BUDGET	14.58	17.15	19.19	24.85	21.86	40.88			

Source: Draft Estimates of Revenue & Expenditure, various years.

LACK OF PROGRAM-BASED BUDGET CLASSIFICATION IS AN OBSTACLE FOR PERFORMANCE EVALUATION

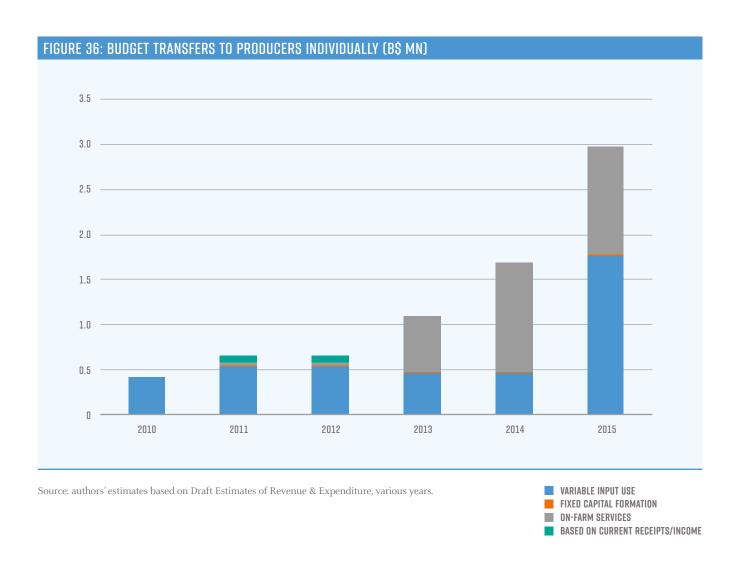
There is a disconnect between the goals and budgeting of agricultural policy planning in The Bahamas, as major mid-term planning documents do not include budget projections. The structure of budget classification includes only broad categories that do not allow any detailed analysis of spending. The majority of the MAMR, DOA, and DMR budgets go to administration—mainly salaries and building maintenance—and are not allocated to any particular projects or program. The Draft of Revenue & Expenditure 2016-2017 indicates that MAMR was among the pilot ministries for program-based budgeting, but this budget was not published at the time of the study. Although BAIC and BAMSI became major actors in implementing agricultural policy after 2013, their expenditures are summarized in in a single line in the budget, and no detailed budget could be obtained for the study.

THE BREAKDOWN OF BUDGET SPENDING IS NOT DETAILED

While MAMR, DOA, DMR, BAMSI, and BAIC provide services to farmers individually, the breakdown of their budget does not make it possible to separate direct transfers from general services. Extension and veterinary services provided by the staff of the MAMR and DOA are not accounted for separately in their respective budgets. Where separating the budget spending on direct transfers from the general services was impossible, the whole amount of the transfer was considered spent on general services, as it is where most of the funds are going. Because of this assumption, the amount of transfers to general services in The Bahamas is likely to be overestimated.

The amount of budget revenue forgone from the duty-free imports of farm inputs and inputs and equipment for fisheries was not calculated due to a lack of information.

The amount of budget transfers to individual producers has increased significantly since 2013, as BAIC and BAMSI started to provide services and inputs to farmers (Figure 36).



2.3.2.1. BUDGETARY TRANSFERS TO INDIVIDUAL FISHERS

Duty-free imports of the equipment and inputs is the main policy instrument used to benefit individual fishers. However, the advantage this creates for fisheries is not quantified or monitored by the government.

While extreme climate events pose major risk for the Bahamian fishers, no insurance support transfers for fisheries were discovered. Income support measures were not applied either.

2.3.3. GENERAL SERVICES SUPPORT ESTIMATE

The General Services Support Estimate (GSSE) measures the budget transfers to finance the services provided to agricultural producers collectively. The majority (over 65%) of transfers in the GSSE before 2013 were transfers to collective schemes for marketing and physical infrastructure development. The second largest GSSE expenditures item was physical infrastructure development (about 20% of GSSE before 2013). A substantial increase in GSSE spending in 2013 reflects the budgets for BAIC and BAMSI. Starting in 2013, agricultural knowledge transfers became the largest type of GSSE transfers, representing about 50% of GSSE in 2013-2015, followed by physical infrastructure development (Table 9).

While an increase in financing for general services to agriculture is a positive step, the lack of mid-term planning and monitoring poses risks for the long-term efficiency of such spending. Two organizations—BAMSI and BAIC—provide services to farmers individually and collectively and are financed from their separate budgets, with no mid-term programs or evaluation of results. The budget allocations they receive from public funds are not conditioned on the results of their programs. No reports on monitoring or evaluation of the quality of the services provided to farmers by the government institutions or parastatals were detected during the study.

AGRICULTURAL RESEARCH WAS NOT A PRIORITY IN RECENT YEARS' BUDGET EXPENDITURES

Agricultural research expenditures consisted of the development of a plant propagation unit, research at the GRAC (Gladstone Road Agricultural Center), and the Research and Demonstration Unit. Even though the development of agricultural science and technology was declared a policy priority,²⁶ the share of research expenditures in total agricultural budget was limited —accounting for on average 2.7% in 2010-2015— and is decreasing. Research expenditures in GSSE include only an estimate of the transfers from the research activities conducted by BAMSI, as its budget is not detailed enough and does not include the exact breakdown of the financing.

²⁶ Eneas, 2013.

AGRICULTURAL EDUCATION AND TRAINING BECAME THE LARGEST COMPONENT OF GSSE IN 2013

Agricultural education and training are mainly provided by BAM-SI, and financing of those services was nearly non-existent before BAMSI was established. While MAMR provided training and extension services, there was no separate budget for it. BAIC is also a major provider of training services to farmers.

WHILE PESTS AND DISEASES REMAIN A MAJOR CHALLENGE, INSPECTION SERVICES RECEIVE LIMITED FUNDS

The Plant and Animal Inspection Unit of the MAMR is responsible for providing inspection services to agriculture. However, its funding was limited and volatile during the period of study.

INFRASTRUCTURE DEVELOPMENT EXPENDITURES LACK A MID-TERM INVESTMENT PROGRAM

Capital investment in BAMSI explains the spike in the infrastructure financing in 2015. BAMSI construction was followed by road construction and maintenance and capital projects on the Family Islands. The budget classification does not allow for a measurement of the level of support for irrigation infrastructures.

COLLECTION AND MARKETING BY BAIC AND PACKING HOUSES

The main program of support for the post-harvest part of the value chain is the packing houses and product exchange program (over B\$2 million and over 65% of all GSSE in 2010-2012). Financing for packing houses decreased in 2014, as their functions were probably taken over by BAIC. BAIC also purchases production from farmers for further marketing.

As the MPS analysis revealed, Bahamian farmers receive lower than reference prices for some commodities. This is an indication that in the collecting schemes organized by the government, the margin is absorbed by the parastatals (BAIC) and the farmer's incomes are hampered. At the same time, since data limitations make it impossible to prove that BAIC's activity explains this price difference, MPD was set to zero and the price difference was considered non-policy related.

MARKETING AND PROMOTION

The government understands the importance of promoting Bahamian produce and invests in agri-business expos, fairs and other promotion events.

TABLE 9: GSSE COMPOSITION IN THE BAHAMAS (B\$ MN)								
	2010	2011	2012	2013	2014	2015		
AG. KNOWLEDGE GENERATION	0.08	0.22	0.22	0.17	0.24	0.04		
AG. KNOWLEDGE TRANSFER	0	0	0	5.7	4.2	9.1		
AG. PRODUCT SAFETY AND INSPECTION	0	0	0	0	0	0		
PEST AND DISEASE INSP.	0.00	0.09	0.09	0.06	0.06	0.01		
INPUT CONTROL	0.01	0.01	0.01	0.01	0.01	0.01		
HYDROLOGICAL INFRASTRUCTURE	0	0	0	0	0	0		
PHYSICAL INFRASTRUCTURE	0.69	0.59	0.84	1.23	1.2	14.2		
INSTITUTIONAL INFRASTRUCTURE	0.15	0.17	0.17	0.2	0.2	0.2		
COLLECTIVE SCHEMES FOR PROC. & MARKETING	2.01	2.61	2.90	2.41	0.62	0.60		
PROMOTION OF AG. PRODUCTS	0.07	0.12	0.17	0.16	0.43	0.28		
GENERAL SERVICES SUPPORT ESTIMATE	3.01	3.82	4.42	9.95	6.97	24.42		

Source: authors' estimates based on Draft Estimates of Revenue & Expenditure, various years.

2.3.3.1. FISHERIES GENERAL SERVICES SUPPORT ESTIMATE

SUPPORT TO FISHERIES IS ALSO PROVIDED BY BAMSI

Incentives to fisheries was provided in the form of duty-free inputs, but the effect of this measure and the advantage it created for the fisheries was not analyzed due to limited availability of information. The other budget transfers to fisheries consisted of Fisheries General Services Support Estimate (FGSSE) and Cost Recovery charges (CR) – fees paid by DMR for resource access rights.

Like the structure of support for agriculture, support for the Family Island operations dominated the Fisheries Support Estimate (FSE) before 2015 and. in 2015, most of the general support to fisheries was provided by BAMSI.

	2010	2011	2012	2013	2014	2015
ISHERIES SUPPORT ESTIMATE (FSE) BUDGETARY SUPPORT	0.26	0.28	0.29	0.28	0.30	0.84
II. GENERAL SERVICE SUPPORT ESTIMATE	0.26	0.28	0.29	0.28	0.29	0.83
II.A. ACCESS TO OTHER COUNTRIES' WATERS						
II.B. PROVISION OF INFRASTRUCTURE						
II.B.1. CAPITAL EXPENDITURES						
II.B.2. SUBSIDIZED ACCESS TO INFRASTRUCTURE						
II.C. MARKETING AND PROMOTION						
II.D. SUPPORT TO FISHING COMMUNITIES	0.15	0.15	0.16	0.15	0.15	-
569900 FAMILY ISLAND OPERATIONS	0.145	0.145	0.155	0.148	0.148	0
II.E. EDUCATION AND TRAINING	-	-	-	-	-	0.70
SCHOOL OF AGRICULTURE & MARINE SCIENCE- ANDROS (BAMSI) OPERATIONS /FISHERIES	0	0	0	0	0	0.7
II.F. RESEARCH AND DEVELOPMENT	0.03	0.04	0.04	0.04	0.04	0.03
FISHERIES VESSELS & RESEARCH	0.002	0.007	0.007	0.005	0.005	0.00
DRUGS & VACCINES	0.002	0.0003	0.0003	0.0003	0.0003	0.000
LABORATORY SUPPLIES	0.026	0.032	0.032	0.032	0.035	0.02
II.G. MANAGEMENT OF RESOURCES	0.09	0.10	0.10	0.10	0.10	0.10
II.G.1. MANAGEMENT EXPENDITURES	0.09	0.10	0.10	0.10	0.10	0.10
LICENSING & INSPECTION OF VEHICLES	0.002	0.002	0.002	0.002	0.003	0.00
LICENSING & INSPECTION OF VESSELS	0.000	0.001	0.001	0.001	0.001	0.00
CARIBBEAN REGIONAL FISHERIES MECHANISM	0.085	0.094	0.094	0.094	0.094	0.09
II.G.2. STOCK ENHANCEMENT PROGRAMS						
II.G.3. ENFORCEMENT EXPENDITURES						
II.H. MISCELLANEOUS TRANSFERS TO GENERAL SERVICES						
III. COST RECOVERY CHARGES	0.001	0.002	0.002	0.002	0.008	0.00
III.A. COST RECOVERY CHARGES, FOR RESOURCE ACCESS RIGHTS						
III.B. COST RECOVERY CHARGES, FOR INFRASTRUCTURE ACCESS	0.00	0.00	0.00	0.00	0.01	0.01
DMR FEES & OTHER CHARGES	0.001	0.002	0.002	0.002	0.008	0.008
III.C. COST RECOVERY CHARGES, FOR MANAGEMENT, RESEARCH AND ENFORCEMENT						
III.D. COST RECOVERY CHARGES, OTHER						

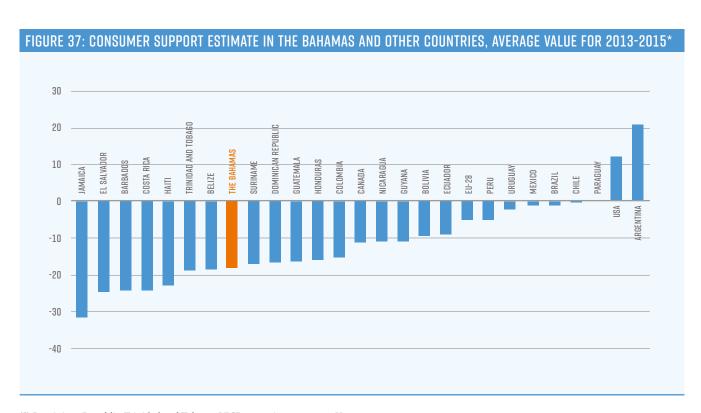
Source: authors' estimates.

2.3.4. CONSUMER SUPPORT ESTIMATE

SUPPORT TO AGRICULTURAL PRODUCERS IS MAINLY FINANCED BY TRANSFERS FROM CONSUMERS

Negative national Consumer Support Estimate (CSE) in The Bahamas (negative 18%) means that support to agricultural producers is mainly financed by transfers from consumers to producers of agricultural commodities. Budget transfers to consumers include transfers for the agro-processing industry, the primary consumer of agricultural commodities.

Consumers pay higher prices for local output as a result of government policy, which is damaging for low-income populations and limits local demand for agricultural and fisheries production. The continued reduction of price support to producers (MPS), which is the most distorting and not the most efficient form of support, will benefit consumers and does not directly require additional fiscal resources, although it implies a decrease in tariff revenues.



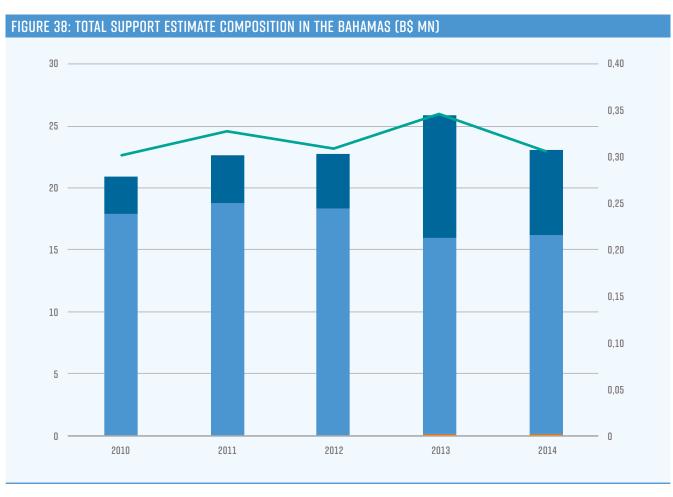
(*) Dominican Republic, Trinidad and Tobago, OECD countries 2013-2015, Uruguay 2011-2013, Costa Rica, Ecuador, Honduras 2010-2012, El Salvador 2011-2012, Guatemala 2009-2011, Nicaragua 2009-2010, Bolivia 2008-2009.

Source: author's estimations.

2.3.4. TOTAL SUPPORT ESTIMATE

TOTAL TRANSFERS REPRESENT A SMALLER SHARE OF GDP THAN IN MOST OTHER LAC COUNTRIES

GSSE, PSE, and transfers to consumers from taxpayers together are called Total Support Estimate (TSE), and represent all transfers in the economy that arise from national agricultural policy. TSE% varied between 0.26 and 0.3% of the national GDP in 2010-2014 (Figure 38). PSE remains the main component of TSE in The Bahamas, and since MPS accounts for over 90% of PSE, support for agriculture is mostly financed by consumers who pay higher prices for farmers' output. At the same time, starting in 2013, general services started to play a much more important role in support for agriculture, and PSE decreased slightly, which is a positive trend as shown by the structure of support.



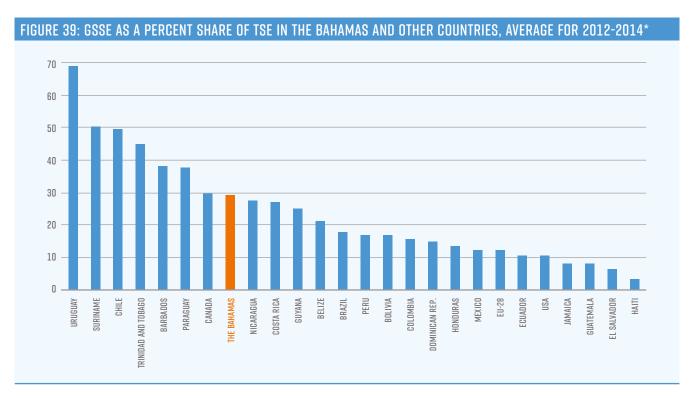
Source: authors' estimates.

TRANSFERS TO CONSUMERS FROM TAXPAYERS
PSE
GSSE
TSE% (RIGHT AXIS)

A CONSIDERABLE AMOUNT OF SUPPORT WAS PROVIDED IN THE FORM OF GENERAL SERVICES

The share of support to general services (GSSE) in total transfers to producers (TSE) was 29.35% in 2012-2014, which is higher than that of US and EU.²⁷ However, some of the countries in Latin America and the Caribbean have a share of GSSE in TSE that reaches over 40% (Chile, Suriname, Barbados, Trinidad and Tobago) and even as high as 69% in the case of Uruguay (Figure 39).

As a recent regional study has demonstrated, GSSE measures are less distorting and contribute most to the long-term competitiveness and growth of agriculture. ²⁸ The results show that a shift of 10 percentage points of the agricultural budget from private goods to general services, maintaining total spending constant, leads to approximately a 5% increase in value added per capita. Achieving the same increase would require an increase of approximately 25% or more in total spending while holding the mix constant.



(*) Dominican Republic, Trinidad and Tobago, OECD countries 2013-2015, Uruguay 2011-2013, Costa Rica, Ecuador, Honduras 2010-2012, El Salvador 2011-2012, Guatemala 2009-2011, Nicaragua 2009-2010, Bolivia 2008-2009. Source: authors' estimates.

²⁷ The GSSE is likely to be overestimated, so this number may be adjusted downward if additional information becomes available. However, the policy in recent years is clearly focused on providing general services.

²⁸ The IDB working paper (Anriquez, Foster, Ortega, Falconi, & De Salvo, 2016).

3. CONCLUSIONS AND RECOMMENDATIONS



Agriculture does not contribute significantly to the GDP of The Bahamas: agriculture's share in GDP is 0.7%, and, together with fisheries, it reaches only 1.6%. Its share in total employment is 3%. However, the government understands the sector's importance for reducing the food import bill and diversifying the economy.

Trade is liberalized for some commodities: most types of meat, fruits and vegetables, canned fish, and most of the inputs for agriculture and fisheries are imported without any import duty. At the same time, poultry and fish attract relatively high duties, and the average import duty for agricultural commodities is 20.5%.

Domestic policy support is provided mainly through BAMSI, and while its main mission is to provide education and extension services, BAMSI is also directly involved in agricultural production and marketing. Another government entity, BAIC, is also directly engaged in farming and agro-processing.

The results of the PSE calculations indicate the following:

- The level of support for the agricultural sector in The Bahamas was positive and its share in gross farm receipts, measured by PSE%, was relatively high, but it decreased during the period of study.
- Total transfers arising from policy measures that support agriculture (measured by TSE%) account for only a small share of GDP, which is an expected result, given the small share of agriculture in GDP.
- A small but increasing share of support comes from budget transfers, and the role of price support is diminishing.
- The poultry meat, grapefruits (before 2014), tomatoes, and fisheries subsectors received market price support.
- The main individual farmers' support measure during the period of study was border protection, which was rather high for poultry and fisheries. This border protection was the main reason behind high MPS values for those commodities and the main explanation of the relatively high total PSE of 19.08%.
- As the price gap analysis revealed, Bahamian farmers receive lower-than-reference prices for some commodities: mangoes, onions, and avocadoes in some years. This is an indication that in the government-led collecting schemes the margin is absorbed by the parastatals (BAIC), and the farmer's incomes are hampered. However, there was not enough evidence to conclude that this price gap is mainly the result of government intervention rather than quality differences, infrastructure deficiencies, and the lack of data. Therefore, the MPD was set to zero and the effect of policy on those commodities was considered neutral.
- The most distorting types of support prevail (via prices), but the share of support to general services is relatively high and increasing.
- Support for agricultural knowledge transfer increased significantly, but transfers to irrigation and post-harvest infrastructure, as well as to food safety and inspection services, remain low.

SUPPORT FOR AGRICULTURAL KNOWLEDGE TRANSFER INCREASED SIGNIFICANTLY, BUT TRANSFERS TO IRRIGATION AND POST-HARVEST INFRASTRUCTURE, AS WELL AS TO FOOD SAFETY AND INSPECTION SERVICES, REMAIN LOW.

The results of the policy analysis and the estimates suggest that the following actions will help create a more efficient and internationally competitive agricultural sector:

1. REDUCE THE GOVERNMENT'S DIRECT INVOLVEMENT IN THE SECTOR AND PROVIDE INCENTIVES TO PRIVATE PLAYERS INSTEAD

State involvement in markets and trade creates an obstacle for development by crowding out private investments. The procedures and policies for investment incentives are established, but their implementation is not efficient, mainly due to excessive regulations and lengthy process for obtaining the benefits. Excessive administrative obstacles must be identified and removed for farmers to access incentives.

2. IMPROVE POLICY PLANNING

Introducing a program-based structure for the agricultural budget, regular performance monitoring, and impact evaluation of policies and programs would help improve the efficiency of public spending on agricultural support.

3. INTRODUCE AN EVALUATION OF THE SERVICES PROVIDED BY THE GOVERNMENT

As vulnerability to diseases is a major obstacle for the crops subsectors' development, the impact of the government's effort to provide inspection services as well as extension and education in best practices for pest and disease control needs to be evaluated regularly to ensure that adequate resources are allocated efficiently, and the goals are met.

4. INTRODUCE MID-TERM INVESTMENT PROGRAMS AND REDUCE BARRIERS TO TRADE

Agricultural access roads, harbors, irrigation, as well as post-harvest infrastructure in The Bahamas are areas that should receive more attention from the government. Long-term planning of investment programs in those areas is absent, which creates uncertainty for producers. Infrastructure development and costs of trade across borders are important factors for the development of agriculture. Support to post-harvest infrastructure, including transportation between islands and best practices in post-harvest management would help reduce costs and minimize losses.

5. IMPROVE AGRICULTURAL STATISTICS COLLECTION

The agricultural statistics available to policy makers are limited and outdated, which hampers the government's ability to make informed policy decisions. It is recommended that the government undertake actions, possibly with the assistance of international organizations, to improve the collection and management of agricultural statistics.

6. IMPROVE INFORMATION SERVICES

Lack of market information is a major limitation on the agricultural sector's development and this issue must be addressed by the government. Budget programs need to be planned for a mid-term time period and the incentives and participation criteria should be made available to the farmers. Production and price information is necessary for the farmers to improve production decisions and increase incomes.

7. ADDRESS PRODUCTIVITY, PROFITABILITY, AND INCOMES

Measures focused on the profitability and productivity of the sector, such as enhanced research, development and extension support, creation of efficient post-harvest value chains, pest, disease and quality management systems, and risk management support programs will help create a possibly small but efficient agricultural sector and exploit some specific competitive advantages in a few niche subsectors.

8. REDUCE PRICE SUPPORT TO THE FISHERIES SUBSECTOR

The level of market price support to fisheries is substantially higher than for the agricultural sector. The efficiency of the existing price support policies (import protection, export taxation and input support programs) needs to be evaluated, the system of support revised, and the focus shifted from subsidies and price support to R&D support and resource management measures enhancing sector sustainability.

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ANNEX 1 PSE METHODOLOGY DEFINITIONS

PSE INDICATORS

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 create enabling conditions for the primary agricultural sector through development of private or public services, institutions, and infrastructure, regardless of their objectives and impacts on farm production and income, or consumption of farm products. 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.²⁹

MPS CALCULATION

Reference price is the price that domestic producers could have received for their production in the absence of any domestic or trade policy affecting this commodity's market. Border prices of imports or exports are often used as reference prices. Another option is to use specific border prices in close neighbor countries or in the countries playing major roles in international trade of the commodity, or use stock exchange prices.

Reference price and producer's price for MPS calculations must be measured at the same level of processing and at the same market. Therefore, reference (border prices) must be adjusted for marketing margins in order to become comparable with farm-gate producer prices. The adjustment is made for the costs of processing, handling and transportation to the market where domestically produced commodity meets the commodity from the foreign market.

PRICE ADJUSTMENT 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.

PRICE ADJUSTMENT FOR EXPORTED PRODUCT:

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.

NRP AND ERP

Nominal Rate of Protection (NRP) is the simplest indicator of support, which was not among the outputs of this report, but was calculated as an intermediate step for ERP estimation for agricultural commodities and inputs.

The following formula was used for Effective Rate of Protection (ERP) calculation:

$$ERP = \frac{(VA_d - VA_r)}{VA_r} *100$$

Where VA_d = value added in domestic prices, and VA_r = value added in reference prices. Value added is estimated as the difference between the value of output and costs of tradable inputs. If both VA_r and VA_d are positive, the interpretation of ERP is similar to that of NRP. If VA_r or VA_d is negative, ERP may also become negative (depending on the relative values of the VA_d and VA_r). Negative value added in domestic prices means that the agricultural production brings negative returns on inputs. If the value added in reference prices is negative, the purchased inputs without policy intervention cost more than the value of output of the domestically produced agricultural commodity in non-policy situations. Only if the VA_r is positive will the negative ERP indicate the implicit taxation of the agri-food sector resulting from the policy along the value chain. It should be noted that if both VA_r and VA_d are negative, the ERP may still be positive. This methodology assumes perfect substitution of inputs and unchanged production function between the observed and reference situation.

CLASSIFICATION OF BUDGET TRANSFERS

Budget Transfers (BTs) for calculating coefficients of support estimates can take the form of transfers to producers, financing of general services, or transfers to consumers. Thus, all budget transfers need to be distinguished between PSE, CSE and GSSE.

PSE categories indicate how the policy program is implemented by showing the basis 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 (Table 10).

TABLE 11: CLASSIFICATION OF BUDGET TRANSFERS IN PSE ACCORDING TO OECD METHODOLOGY

CATEGORIES

A.	SUPPORT	BASED ON	COMMODITY	/ OUTPUI
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- 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

Source: OECD, 2010.

Budget Transfers on financing general services have been separated from PSE and have instead been calculated as a separate indicator - General Services Support Estimate (GSSE) - since 1998 (Table 11). In 2014, the OECD changed the methodology of GSSE estimation.

TABLE 12: CLASSIFICATION OF BUDGET TRANSFERS IN GSSE ACCORDING TO OECD METHODOLOGY

GENERAL SERVICES SUPPORT ESTIMATE (GSSE)

H. AGRICULTURAL KNOWLEDGE AND INNOVATION SYSTEM

- H1. AGRICULTURAL KNOWLEDGE GENERATION
- H2. AGRICULTURAL KNOWLEDGE TRANSFER

I. INSPECTION AND CONTROL

- 11. AGRICULTURAL PRODUCT SAFETY AND INSPECTION
- 12. PEST AND DISEASE INSPECTION AND CONTROL
- 13. INPUT CONTROL

J. DEVELOPMENT AND MAINTENANCE OF INFRASTRUCTURE

- J1. HYDROLOGICAL INFRASTRUCTURE
- J2. STORAGE, MARKETING AND OTHER PHYSICAL INFRASTRUCTURE
- J3. INSTITUTIONAL INFRASTRUCTURE
- J4. FARM RESTRUCTURING

K. MARKETING AND PROMOTION

- K1. COLLECTIVE SCHEMES FOR PROCESSING AND MARKETING
- K2. PROMOTION OF AGRICULTURAL PRODUCTS

L. COST OF PUBLIC STOCKHOLDING

M. MISCELLANEOUS

Source: OECD, 2015.

