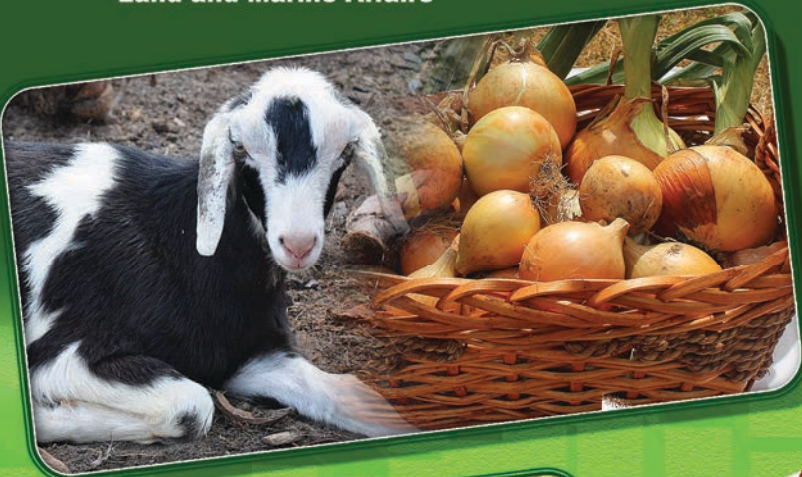




Ministry of Food Production,
Land and Marine Affairs

The National Food Production Action Plan 2012 – 2015



**AGRICULTURE
NOW**





MINISTRY OF FOOD PRODUCTION,
LAND & MARINE AFFAIRS

LOCAL FRUITS ARE ALWAYS ON MY TABLE



Linfa Jones

T&T UNDER 17 NATIONAL
FOOTBALLER



I love snacking on all the fruits
grown right here in T&T
it's good for my health



TABLE OF CONTENTS

MINISTER'S MESSAGE	4
INTRODUCTION	5
COMMODITY FOCUS	6
STAPLES	7
VEGETABLES	8
LEGUMES AND PULSES	10
FRUIT	11
FOOD FROM ANIMAL - LIVESTOCK	12
AQUACULTURE	14
STRATEGIC CROPS	15
GENERAL STRATEGIES FOR DEVELOPMENT OF THE SECTOR	17
CONCLUSION	20



Minister's Message



Senator the Honourable Vasant Bharath
Minister of Food Production,
Land and Marine Affairs

Worldwide there is growing concern and alarm by Governments concerning food security; rising food prices; food price volatility; declining production levels due to climate change; rising demand because of economic and population growth in developing countries; and pressure on food supplies due to the increased demand for bio-fuels.

The increase in global food prices has the potential to adversely impact local inflation due to our large food import bill which in 2010 amounted to 10.06 % of total imports. Also, an increase in international food prices can negatively impact our trade balances as a result of higher import bills. This is certainly a challenge to developing economies like Trinidad and Tobago.

In the Government's Medium-term Policy Framework document, Agriculture and Food Security is listed as number two on the list of five (5) strategic priorities for 2011-2014, with a resultant nine (9) key initiatives.

The reality - Agriculture is now seen as a real contributor to the diversification of our economy; the agriculture sector represents a viable career option for our youth population, and increased local agri-

cultural production, means conservation of valuable foreign exchange, which can directly impact on our food import bill

This National Food Production Action Plan was collaboratively developed, premised on a five-pronged mandate, namely:

1. *To reduce the food import bill;*
2. *To further reduce inflation, primarily driven by food prices;*
3. *To create sustainable, long term productive employment;*
4. *To contribute to the diversification of the economy, and*
5. *To increase the country's food security.*

Food security is a crosscutting issue and while my Ministry is taking a leadership role, we will partner with other relevant Ministries, Non-Governmental Organizations (NGOs), Private Sector and Civil Society for its successful implementation.

This is a call to all T&T for action. We must all be part of the revolution – We need to grow local; nourish our people; and sustain our economy.



INTRODUCTION

The Government's overarching goal for the agricultural sector is **to create a food secure nation**. In this regard, the Ministry of Food Production, Land and Marine Affairs (MFPLMA) has developed an action plan for 2012 - 2015 which is premised on the pursuit of increasing the country's food security.

Food security was defined at the FAO World Food Summit of 1996 as existing **"when all people at all times have access to sufficient, safe, nutritious food to maintain a healthy and active life."**

The Ministry recognises that the concept of food security is defined as including physical, social and economic access to food that meets people's dietary needs, as well as their food preferences. Thus, food security is linked to health, sustainable economic development, environment and trade.

Trinidad and Tobago is on a tight rope as far as food security is concerned and if we do not take the urgent action today, we may find ourselves in a position where we may have money in our pockets but are unable to purchase food.

Confronted with this reality, the MFPLMA is pursuing, as a matter of national security, the attainment of food and nutrition security in Trinidad and Tobago.

In a time of prudent fiscal management, the food production sector must make a considerable dent in the food import bill and generate food exports. Foreign exchange must be saved and earned and the sector's contribution to this country's GDP must be significantly increased. The mandate of the MFPLMA is to grow locally and make available to citizens, quality (safe and nutritious) but affordable foods in sufficient quantities to ensure our food and

nutrition security, and in so doing, provide an attractive and profitable livelihood for all producers.

It is imperative that we produce more of our own foods and use our fisheries resources in a sustainable manner so that we can secure our future. We must strengthen our agriculture sector. Reliance on external sources for most of our foods, as amplified by our high food import bill, must be significantly reduced as a matter of urgency. This must become and remain a top priority as we pursue a reliable approach to the development of our agriculture sector to cushion the impact of high food prices on our citizens.

By providing a unified direction, this comprehensive plan (2012-2015) aligns resources with national priorities and intends to create a platform for the National Government and private sector to venture into strategic partnerships to effectively mobilize and utilize available land and marine resources, labour, human resources and technology. It will allow stakeholders to actively participate in the development of a sector with the potential to extend into national economic and social development.

The approach will result in:

1. *reduction in the food import bill,*
2. *further reduction in inflation, primarily driven by food prices,*
3. *creation of sustainable, long term productive employment, and*
4. *contribution to the diversification of the economy*



COMMODITY FOCUS

The MFPLMA intends to focus on the development of the six (6) commodity groups, namely, staples, vegetables, legumes and pulses, fruits, livestock and aquaculture.

The MFPLMA along with key stakeholders in each food group carried out an assessment exercise where the most important foods that contribute to food security were identified. The assessment was based on the FAO food security criteria of accessibility, availability, affordability and sustainability.

Generally, the target is to achieve a greater degree of self-sufficiency in the medium term (up to 5 years) for each commodity. The MFPLMA recognises that this will vary for each commodity and is based on the need to promote food security at the national level while developing those commodities with export potential.

A Summary of Production Targets identified for Priority Commodities is identified in the following Table.

**Summary of Production Targets Identified for Priority Commodities
For Period 2012 - 2015**

Commodity Food Group	Commodity	Current Consumption (Tonnes)	Production in Tonnes			
			Current Production (Tonnes)	2012-2013	2013-2014	2014-2015
Staples	Rice	33,636	2,273	3,000	5,000	7,500
	Sweet Potato	7,000	3,150	8,727	10,909	13,090
	Cassava	4,500	5,454	11,817	15,453	18,182
	Breadfruit ²	10	10	11	12	13
Vegetables	Tomatoes	2,600	2,150	2,444	2,774	3,100
	Hot Peppers	423	710	1,100	1,500	1,800
	Cucumber	1,050	1,320	1,400	1,500	1,760
	Pumpkin	485	1,790	1,840	1,890	1,950
	Melongene	436	540	550	565	586
	Ochro	921	940	960	980	1,000
	Dasheen Bush	328	340	360	380	400
	Onion	-	-	500	1500	2000
Fruits	Banana (Sucrier)	≤ 5	≤5	230	300	400
	Citrus ¹	32,271	1,537	1,614	1,695	1,780
	Mangoes ¹	50	50	50	53	55
	Pineapple	462	462	700	700	700
	Pawpaw	1,716	1,716	3,432	3,432	3,432
Aquaculture	Tilapia	112	22	90	180	270
Livestock	Sheep & Goat ³	3,369	355	360	375	425
	Dairy Goat	-	20*	40	60	80
	Dairy Cattle ³	75,864	4,300	4,750	5,200	5,650
Pulses	Pigeon Peas	802	130	140	150	160
	Bodi	928	970	1,010	1050	1,100

¹ Tree Crops - Significant Impact will be from 2015

*Value is estimated

² Backyard gardening ³ Livestock - significant impact will be from 2016





STAPLES

Over the period 2005-2009, imports of staples averaged 236,700 tonnes at a value of TT\$ 694 Million annually. These figures represent 20% by value and twenty-nine percent (29%) by quantity of our total food import bill. The MFPLMA has recognised that Trinidad and Tobago produces only eight (8%) of the required staples and considers this level of vulnerability to be highly unacceptable. It however, brings with it tremendous opportunity for our farmers, as significant amounts of these imports can now be displaced with locally produced staples. This displacement will be pursued and is reflected in the increases noted for such staples as sweet potato and cassava.

It is against this background that a target has been set to reduce imported staples by values ranging between twenty-five percent to 100 percent (25% - 100%) over the next five (5) years. A significant increase in local production is therefore anticipated.

The staples selected under the food security programme are:

Rice	Cassava	Sweet Potatoes
Dasheen	Eddoes	Bread Fruit

Key elements of the Plan of Action for Staples include the following:

- Increase in local production over the period as follows:
 - Rice - from 2,273 tonnes to 7,500 tonnes
 - Cassava - from 5,454 tonnes to 18,182 tonnes
 - Sweet Potatoes - from 3,150 tonnes to 13,090 tonnes
 - Dasheen - from 909 tonnes to 1,818 tonnes
 - Eddoes - from 727 tonnes to 1090 tonnes
 - Breadfruit - from 10 tonnes to 13 tonnes

• Identification and distribution of suitable lands to facilitate increased production. Additional land required to achieve the desired targets are as follows:

Rice	-	1,700 ha
Cassava	-	405 ha
Sweet Potato	-	121 ha
Dasheen	-	81 ha
Eddoes	-	121 ha

- Research and development in the area of high yielding pest resistant varieties; rice – evaluation and selection of varieties from within the region and extra-regionally; cassava - thirteen (13) new varieties; sweet potatoes - seven (7) new varieties; dasheen - year round varieties.
- Identification and selection of appropriate machinery for increased mechanisation in the production of both rice and root crops.
- Training of farmers in efficient production technologies.
- Development of investment profiles for rice and root crops.
- Post-harvest technology which includes the provision of cold storage and curing facilities for root crops.
- Development and commercialisation of a range of value-added products such as bakery items, fries, snacks and breakfast cereals.
- With respect to rice production: improvement in milling and processing procedures and establishment of a Rice Industry Development Committee.
- Promotion of Breadfruit as a home gardening product and an orchard crop.
- Improving productivity by utilizing new technologies.



VEGETABLES

Trinidad and Tobago is relatively secure when it comes to vegetables. This Plan has identified three (3) major challenges within the vegetable industry that need to be addressed in the coming years. These challenges are:

1. **Inconsistent supply throughout the year**

While gluts occur at some points during the year, shortages are experienced at other times.

2. **Inconsistent quality of vegetables**

Quality of vegetables, in terms of size, shape, texture, blemishes and freshness varies considerably from place to place and season to season. This plan will attempt to maintain consistent high quality vegetables for both local consumption and export.

3. **Misuse of pesticides**

The judicious use of pesticides on vegetables is essential for both the health of the local population and for acceptance in the international arena. This plan will tackle the widespread misuse of pesticides on vegetables.

To tackle these challenges and develop a more secure vegetable industry that is also a profitable enterprise for the primary producer, the MFPLMA will be pursuing the following initiatives:

(a) **Development of technology and infrastructure for post-harvest storage and handling of produce.** Post-harvest technology would go a long way in alleviating problems of both inconsistent supply and quality. Increasing the shelf life of products would act as a buffer to availability in times of shortage. The MFPLMA will ensure the development of the infra-

structure for post-harvest storage and handling. Value-added products, in particular pepper mash, will reduce the quantities currently being imported

(b) **Development and encouragement of the use of protected production systems.** Protected production systems could range from a simple plastic overhead covering for crops to protect against rain, to a completely enclosed glasshouse. The choice of protection needed would depend on the location and crop to be grown. Protected production results in more control, by man, of the primary factors of production, e.g. water supply, fertilizer quantity supplied, timing of supply, fertilizer absorption by the plant and also the keeping out and control of pests. The result is a more consistent supply of vegetables and also a higher quality of product.

(c) **Improve the system of Farm Certification.** The MFPLMA envisions an expanded Farm Certification System where farms are certified free of various pests and diseases and also certified free of pesticides not recommended for use or within the accepted maximum residue levels for others. Certification will ensure the local consumption of healthy food as well as increase our competitive edge for the export market.

(d) **Develop, in conjunction with the Ministry of Health, the capability of pesticide residue testing of plant produce for consumption.** This improves the health of the local population by reducing the consumption of foods with high levels of pesticide residues and also for increased acceptability of our products overseas.





(e) **Increase the production of local, high quality vegetable seed.** The MFPLMA intends to pursue a programme of mass production of top quality vegetable seed for supply to the farming community to facilitate food security. These include corn, ochro, hot pepper, pumpkin and dasheen bush.

The MFPLMA proposes to focus on certain vegetables for domestic consumption while promoting those vegetables that have export potential. A number of vegetables have shown potential for the development of an export market and are actually being exported at this time. This potential will be developed by the MFPLMA to capacity while at the same time reducing the level of imports of specialty items such as cherry and dried tomatoes. The MFPLMA will create an enabling environment for the consistent production of high quality, internationally acceptable products.

Vegetables with export potential include:

Pumpkin	–	currently exporting 1287 tonnes/year
Dasheen bush	–	niche markets exist in the metropolitan countries
Ochro	–	currently exporting 4 tonnes/year
Tomato	–	currently exporting 493 tonnes/year
Hot pepper	–	currently exporting 360 tonnes/year
Cucumber	–	currently exporting 249 tonnes/year

Key elements of the Plan of Action for vegetables for export

- Increase local production – This will be determined by international market forces and local exporters. Notwithstanding, the MFPLMA envisions the following increases:
 - Pumpkin from 1790 tonnes to 1950 tonnes;
 - Dasheen bush from 340 tonnes to 400 tonnes;
 - Ochro from 940 tonnes to 1000 tonnes;
 - Tomato from 2150 tonnes to 3100 tonnes;
 - Hot Pepper from 710 tonnes to 1800 tonnes;
 - Cucumber from 1320 tonnes to 1760 tonnes.
- Identification and distribution of suitable lands to facilitate increased production: Pumpkin - nil; Dasheen bush - nil; Ochro - nil; Tomato -10 hectares protected; Hot Pepper - 20 hectares open field, 5 hectares protected; Cucumber - 10 hectares protected.
- Extension training in production systems for open field production; GAP, IPM, appropriate protected agricultural systems, agronomic practices and home gardening systems.
- Research in evaluation of varieties, pest and disease control (IPM); plant breeding, post-harvest handling (grading, storage, packaging and marketing);
- Testing for heavy metal contamination of the leafy vegetables, e.g. dasheen bush, to ensure acceptance in international trade;
- Development of Tech-Packs for appropriate open-field and protected production systems.

The vegetables being developed for domestic consumption are:

Sweet Corn Sweet Peppers Melongene
Pak-choi Lettuce



Key elements of the Plan of Action for vegetables for domestic consumption

- Increase local production –
 - Sweet corn: from 981 tonnes to 2,481 tonnes;
 - Sweet Peppers: from 343 tonnes to 2,623 tonnes;
 - Pak-Choi: from 518 tonnes to 570 tonnes;
 - Melongene: from 540 tonnes to 586 tonnes;
 - Lettuce: from 1,394 tonnes to 1,500 tonnes.
- Identification and distribution of suitable lands to facilitate increased production -
 - Sweet corn - 47 hectares;
 - Sweet peppers - 20 hectares open-field, 10 hectares protected;
 - Pak-Choi - nil (increased yield as a result of GAP, IPM);
 - Melongene - nil (increased yield as a result of GAP, IPM);
 - Lettuce - 5 hectares protected.
- Research into post-harvest handling (grading, storage, packaging and marketing);
- Management of the cold chain for sweet corn;
- Evaluation of an adaptation of new varieties in local environment;
- Priority research in IPM, agronomy, GAP and protected agriculture;
- Extension training in IPM, home gardening systems, GAP protected agriculture and post-harvest handling.

LEGUMES AND PULSES

Trinidad and Tobago currently imports most of its legume and pulse needs in the form of either dried beans/peas or canned products. These include dried Lentils, Pigeon peas, Split peas, Red beans, Lima beans, and Black-eye peas.

The goal of the Action Plan for Legumes is the development of a local legume industry to reduce dependency on imports. The MFPLMA will embark on a programme of investigating the potential of local commercial production of Black-eye peas, String beans and Seim. These have traditionally been produced on a very limited scale by few farmers and the factors limiting more widespread production will be investigated. Increased local production of this basic and essential food group is a priority goal of the Ministry of Food Production, Land and Marine Affairs.

The legumes which the Ministry will be targeting are:

Black Eye Peas	String Beans	
Pigeon Peas	Bodi	Seim

Key elements of the Plan of Action for legumes

- Extension training in agronomy, IPM, GAP and home gardening systems;
- Research and development of varieties suitable for commercial production in local conditions;
- Increase local production: of pigeon peas from 130 tonnes to 160 tonnes and bodi from 970 tonnes to 1100 tonnes.
- Identification and distribution of suitable lands to facilitate increased production: pigeon peas - 10ha; bodi - 10ha
- Evaluating the potential of mechanisation of production operations;
- Research into the development of a legume-rice crop cycle system to be used in rice lands;
- Pursuing post-harvest technology.





FRUITS

Although actual data are unavailable, it is obvious that the demand for fruits far outstrips supply. Whilst many fruits are grown on a backyard basis at this time, the goal is to have an abundant supply of local fruits throughout the year. Selected fruits particularly sucrier banana are also being targeted for inclusion in the School Nutrition Programme.

The major fruits that are targeted are:

Citrus	Pawpaw
Sucrier banana	Avocado
Pineapple	Watermelon
Mango	Banana/Plantain
Dwarf Pommecythere	Coconut (Water)

The MFPLMA will also be focusing on some of the non-messy minor fruits (easy peelers) which can be eaten directly out of hand which are fast disappearing from our national landscape. These are targeted to substitute for the many imported ones and contribute towards better nutrition. These fruits include: Guava, Carambola/Five Finger, West Indian Cherry, Chilli/Common Plum, Jamaican Plum, Dunks, Pommecac, Wax Apple. The MFPLMA recognises however that because these are tree crops the significant impact of this development will not be realised until trees have attained commercial viability in 3 to 5 years.

Key elements of the Plan of Action for fruits

- Increase of current acreages under production by bringing the following additional acreages under cultivation;
- *Sucrier Banana: 60 ha*
- *Citrus: 1,620 ha*
- *Mangoes: 202 ha (Orchards and backyard gardens)*
- *Pineapple: 162 ha*
- *Pawpaw: 20 ha*

- *Avocado: 526 ha*
- *Banana/Plantain: 122 ha. (81 ha banana, 41 ha plantain)*
- *Coconut Water: convert present acreages (2,000 ha) from senile under-productive trees to young productive trees;*
- *Dwarf Pommecythere: 150 ha (60 ha currently exist)*
- *Minor Fruits: 360 ha*
- *Watermelon: 20 ha*
- Identification and selection of suitable soil types for avocado production;
- Extension and training in agronomy, IPM, GAP and home gardening systems;
- Provision of planting materials;
- Introduction of new varieties for year-round production of mangoes and avocados;
- Research and development of new varieties;
- Conservation of genetic material - establishment and maintenance of gene banks;
- Development of Tech-Packs for improved yield, quality and availability;
- Product development - promote agro-processing, through value addition, market research and promotion of new products;
- Market research – demand and supply studies;
- Market development – enhancement of backward and forward linkages;
- Research and development in pest and disease control (IPM);
- Improvement to post-harvest handling, storage.



Key elements of the Plan of Action for specific fruits

Citrus

- Provision of certified virus-free plants;
- Completion of the implementation of a Citrus Certification Programme, including infrastructure, legislation and Certification Board;
- Review of the Incentive Programme for Citrus;
- Development of a national strategy for managing Huanglongbing disease;
- Replanting of ex-Caroni citrus lands with citrus;
- Rehabilitation of existing acreages.

Coconut (water)

- Research and development – identify/ implement appropriate IPM for coconut pest and diseases with particular emphasis on Red Palm Mite and Red Ring disease;
- Research varieties for pest and disease resistance;
- Introduce disease resistant/tolerant varieties and establish seed gardens;
- Training of farmers in appropriate agronomic practices, IPM, GAP and rehabilitation of estates;
- Product development - research shelf life of bottled/package coconut water.

Pineapple

- Implement sustainable system for production using same land area;
- Develop and promote value added products;
- Develop mechanism for utilization of URP Labour on pineapple farms.

Minor Fruits

- Introduce, conserve and multiply superior cultivators/varieties;
- Promote awareness, cultivation and consumption of minor fruits;

- Develop protocol for fruit fly management;
- Explore and exploit minor fruits with potential for commercialisation and processing (eg. Peewah, tamarind, sour sop, cashew, pommerac, dunks, jackfruit, West Indian cherry, mangosteen, sapodilla, pommegranate, passion fruit, carambola, guava and others.)

FOOD FROM ANIMALS – LIVESTOCK

Consumption of livestock products is increasing at a rapid rate, not just in Trinidad and Tobago but also internationally. Eating habits now show a marked increase in consumption of animal protein. No longer can we expect that large quantities of livestock products will be available for importation. Our country needs to be able to produce sufficient quantities of animal protein to provide our at-risk population - children, the elderly and the sick - with their minimum daily allowances. To provide this, our focus will be on providing the enabling environment through legislation and policy to, at minimum, maintain the current production levels of poultry and pork whilst putting measures in place to increase local production levels of:

Sheep and goats for meat

Dairy goat for milk

Dairy cattle for milk

Rabbits for meat

Buffalypso/buffalo for meat and milk

Strategic Objectives include:

- Increase local self-sufficiency in sheep and



goat meat by increasing local production from 355 tonnes to 680 tonnes, that is, twenty percent (20%) of consumption will be from local production.

- Increase the production level of locally produced goat milk by one hundred percent (100%) of its present value (quantities produced do not enter a formal market place) to replace the imported goat milk and to provide an alternative supply of locally produced milk.
- Halt the decline in cattle milk production, thereafter increasing milk production by one hundred percent (100%) over a five (5) year period (currently 4,300 tonnes).
- Increase local production of rabbit meat to 40 tonnes.

Key elements of the Plan of Action for Food from Animals

- Develop a livestock policy to guide the development of a sustainable livestock subsector that is both productive and financially viable.
- Continue the development of a livestock database system to be the platform for improved farm management and traceability within the subsector.
- Develop a forage farm to provide ruminant producers with a supplemental supply of forages.
- Develop investment profiles and appropriate production manuals.
- Encourage the development of structured marketing systems in collaboration with stakeholders.
- Promotional campaigns such as fairs and exhibitions to encourage entrepreneurial activities.
- Value added product development: meat fabrication, dairy products, grading and branding.
- Restructure the mechanism by which extension services are provided to the livestock subsector.

Sheep and Goats for meat

- Facilitate the establishment of five (200 ewe/doe) and twelve (300 ewe/doe) commercial units.
- Acquisition and dissemination of genetic material to the farming community.
- Improve the national health status with respect to diseases of economic importance.
- Implement a system for herd/flock certification.
- Provide training in commercial production.

Dairy Goats

- Increase the supply of breeding stock through importation, multiplication and distribution.
- Facilitate the establishment of twelve (20 doe) units, ten (50 doe) units and one (200 doe) unit.
- Support food safety by developing herd health certification protocols and national standards for goat milk quality.
- Develop the national breeding herds through the formation of breeding societies and herd books.
- Encourage and train stakeholders in production of value-added products such as cheese, yogurts and cosmetic products.

Dairy Cattle

- Import and disseminate to producers 100 pregnant heifers per year for three (3) years.
- Import and implant sixty (60) embryos per year.
- Encourage entrepreneurial entry into the industry. Review the methodology for payment for milk produced.
- Improve the reproductive performance of the national herd through the use of reproductive biotechnologies.

Rabbits

- Provide training in commercial rabbit production.
- Rapid assessment of the demand and supply chain for rabbit meat.
- Facilitate the establishment of thirty (200-doe) and



fifteen (500-doe) commercial units for rabbits.

- Establish standards for slaughtering and grading of rabbits and encourage the use of approved abattoirs by rabbit producers.

Buffalypso/Buffalo

- Facilitate the development of the Buffalypso meat industry.
- Conservation of genetic material of the Buffalypso through the development of a gene bank and development of herd registry and herd book.
- Facilitate the development of the Buffalo milk industry.
- Continue to maintain the bio-security of the Aripo Livestock buffalo herd.
- Implement a management program for Brucellosis with a view to eradication.

AQUACULTURE

Total production of fish from capture fisheries in Trinidad and Tobago ranges on average between 13,000 tonnes to 15,000 tonnes per year. There is limited potential for increasing production in this sector. Judicious management of the fisheries resources is required to sustain production of species that are commonly caught and increased yields may be realised through aggressive promotion of non-traditional species. There are significant imports of fish and fishery products, in particular, frozen Tilapia, which suggest that production via aquaculture needs to be enhanced. The move towards healthier life styles and greater consumption of fish is contributing to a rising demand for fish which can most readily be met locally, through increasing production in the aquaculture sector. Current annual production of Tilapia ranges between 9 tonnes to 11 tonnes while current consumption of tilapia is about 112 tonnes which represents current production and imports of tilapia. Production can be doubled within the first

eight months of dedicated development which will represent an initial grow-out cycle through optimal use of existing capacity in the sector.

The goal of the aquaculture programme will be to increase production to 90 tonnes within the first year with an incremental production to 457 tonnes over the five (5) year period. An accelerated marketing and promotion campaign, and centralised processing with adequate cold storage at requisite standards to guarantee sustained supplies would allow for the expanded production of farm-grown fish.

Key elements of the Action Plan for Aquaculture

- Facilitating the expansion of hatcheries and sustaining the available supply of fingerlings;
- Facilitating research into the production of high quality feed for various stages of farm-grown fish;
- Facilitating the reduction in input costs for imported accessories and materials for aquaculture production;
- Development of Tech-Packs to support consideration of requests for supporting investments in the sector and development of appropriate criteria for statutory environmental approvals for aquaculture establishments;
- Conduct of farmer training and extension activities;
- Encouraging and promoting the adoption of Global Aquaculture Alliance standards (GAAS);
- Continue working with relevant stakeholders e.g. EMA, to resolve issues for regulatory approvals with respect to aquaculture
- Development of a policy on water use for aquaculture in collaboration with the Water and Sewerage Authority (WASA)
- Production of a National Policy on Aquaculture through review and update of the draft aquaculture policy;
- Development of investment profiles for small,



- medium and large farms;
- Establishment of a national processing, cold storage facility including product development
- Development of a skills bank to provide a labour pool of skills and experience for aquaculture;
- Development of a model farm for promotion and testing of production systems and research for key components of the sector;
- Product development for value added products;
- Conduct of marketing trials;
- Development and implementation of a national promotional campaign for increased awareness, acceptability and consumption of farm-grown fish
- Facilitating access to diagnostic testing services to address disease identification and control in aquaculture facilities.

STRATEGIC CROPS

In addition to those commodities to contribute towards Food Security, the MFPLMA notes certain other commodities that have a natural advantage and great potential. These are COCOA and HONEY

COCOA

Present day production figures borders on 600 tonnes compared to the early 1900s when production levels of 35,000 tonnes were recorded. Continued efforts to resuscitate the industry over the years have been challenging and national outputs have been declining. Factors contributing to this decline are identified as high labour costs, low farm productivity, ageing farmer population and farms, unattractiveness of the industry to the younger generation and problems associated with capital, access roads and land tenure.

At present Trinidad and Tobago's cocoa industry is comprised of approximately 1700 farmers (mainly small to medium) operating on approx. 7000 hectares of land in over fifty (50) rural communities. Trinidad and Tobago has traditionally exported its entire cocoa production as fine flavored and has maintained its (100%) one hundred percent share in the world market based on the International Cocoa Organisation Ratings (2010). The country's reputation for fine flavor is based largely on our superior quality Trinitario varieties which is characterised by a full cocoa flavour with pleasant ancillary flavours, described simply as fruity, floral or spicy (International Cocoa Awards 2010 and 2011). There is a niche market for such cocoa, which is mainly used in specialty products and thus, commands a premium price. Brokers and exclusive chocolate houses in Europe and Japan purchase this cocoa at prices exceeding US\$5,000 per tonne (price of bulk or 'ordinary' cocoa is US\$2,998 per tonne).

During the year 2010-2011, a number of issues with respect to infrastructure have been addressed and through renewed collaborative efforts of the Cocoa and Coffee Industry Board and other stakeholders, a modest target of doubling the national output within the next three (3) years is being pursued.

In order to maintain this competitive advantage, increase farm productivity/production and at the same time secure greater returns to the farmer, the MFPLMA has embarked on a few strategic activities as follows:

- Registration of eleven (11) new improved Trinidad Selected Hybrid (TSH) varieties of cocoa for Plant Breeder's Rights;
- Supply of planting material of new varieties;
- Mitigation strategies for addressing heavy metal contamination in cocoa beans;
- Backward/forward Integration – direct links with international chocolatiers are being established so as to increase incomes/benefits to small



cocoa farmers;

- Rehabilitation of Cocoa Plantations (This exercise started at the Mora Valley Estate in 2010 and a total of seventy (70) hectares will be rehabilitated within the next four (4) years)
- Labour shortages in the sub-sector are being addressed through the URP programme whereby URP workers are being trained in agriculture and deployed in a phased basis to agricultural stations and farms. A proposal for providing labour for cocoa harvest periods is also being undertaken by the Cocoa and Coffee Industry Board;
- Revision of legislation with respect to the Cocoa and Coffee Industry Board Act (1962) will provide the enabling environment to develop the sector;.
- Value-added industries and downstream processing initiatives are being developed.

HONEY

Trinidad and Tobago has roughly 450 beekeepers and 7,000 colonies. In 2010, estimated production of honey stood at 110,000 litres. This however decreased to an estimated 44,000 litres in 2011 due largely to rainy weather conditions.

The sector continues to be negatively affected by a number of factors including a lack of manpower to source field information on the beekeeping sector, the need for development of a laboratory to test honey to meet the standards of the European Union; there is also a need to update the 1947 Beekeeping Act. These will be addressed during this period. Additionally, beekeepers are also seeking the provision of apiary sites on State lands and forest reserves in order to access more of the bee forage.

By 2015, it is anticipated that in Trinidad and Tobago, there will be approximately five hundred and fifty (550) practicing beekeepers with over 10,000 colonies giving a yield of approximately two hundred thousand (200,000) litres of honey.

Key elements of the Action Plan for Apiculture

- Training Courses for Beekeepers and Officers;
- Continue technical cooperation with agencies eg. EMBRAPA, USBA and CIDA to improve technical capability and practices aimed at enhancing production;
- Identification of Forest land for beekeepers
 - *Liaise with the Ministry of the Environment*
 - *Provide licenses to beekeepers in Forest Reserves*
- Amendment to the Beekeepers Legislation
 - *Recruitment of appropriate consultant*
 - *Round table discussion with all stakeholders*
- Revised Abatement Policy
 - *Utilization of collected swarms*
 - *Research Laboratory for pest and disease diagnosis*
- Standardization of end product (honey to surpass international standards)
 - *Review and develop industry standards*



GENERAL STRATEGIES FOR DEVELOPMENT OF THE SECTOR

In order to achieve the key goals for the development of the sector, the MFPLMA will provide an enabling environment which will facilitate the targeting of the selected commodities. The framework for this enabling environment will include:

Policy

The policy agenda for 2012 include the following activities:

- Revised Sector Policy and Medium Term Action Plan
- Administrative and Distribution Policy for Land
- Livestock Policy
- Fisheries Policy
- Implementation of the Revised Agricultural Incentive Programme
- Land Use Policy
- Integrated Coastal Zone Management Policy
- National Agricultural Health and Food Safety Authority
- Human Resource Development and Capacity Building
- Agriculture Trade Policy

Legislative

The MFPLMA will continue to revise archaic legislation which will include:

- Land Adjudication Act 1994
- The Plant Protection Act 1975
- Animal Health Act
- Fisheries Management Bill
- Cocoa and Coffee Industry Board Act
- Land Surveyors Act
- Land Acquisition (Amendment) Bill
- Praedial Larceny (Amendment) Bill

- Municipal Corporation (Appointment of Public Markets) Bill
- State Lands (Amendment) Bill

Post-Harvest Technologies

Develop the agro-processing industry, in order to create employment in rural communities and increase returns to farmers through value addition.

Further development of postharvest management would contribute to the improvement in the quality, shelf-life and food safety of fresh crop and livestock products in order to increase returns to farmers, reduce postharvest losses and ensure safer fresh produce to consumers.

Infrastructure Development Programme

Agricultural Access Roads

The need to provide access roads to our farmers remains a significant element of the Action Plan. The rehabilitation and construction of approximately 200 kms of access roads per annum over the next five (5) years will be pursued. Additionally, there will be a continued maintenance programme for these roads.

Water Management and Flood Control

To encourage increased on-farm production through-out the year, the MFPLMA will continue its initiatives designed to have an immediate impact on providing water to our farmers.

These include:

- i) Development of an environment facilitating farmers to construct their own ponds;
- ii) Construction of approximately 300 on-farm ponds;
- iii) Establishment of drip irrigation systems on farmers holdings for demonstration purposes;



- iv) Improvement in Irrigation and Drainage Infrastructure;
- v) Development and support of Rainwater Harvesting Systems

The MFPLMA will partner with other Ministries with respect to the development of integrated water resource management plans for major catchment areas. In this regard retention reservoirs will be established thereby providing water to a large number of farmers through common head works and distribution systems .

Irrigation development will shift from an on farm individual focus which allows for immediate implementation to communal systems involving water users associations.

Fisheries Infrastructure

The overall objective of the fisheries infrastructure programme is to contribute to the enhancement of both food security and food safety, through the provision of infrastructure and facilities that meet both local and/or international standards, in accordance with the practice of responsible fisheries.

To this end, during the period 2012-2015 the MFPLMA will:

- Develop and/or upgrade key designated sites for the landing and handling of fish in accordance with local and international sanitary and phytosanitary standards.
- Develop and/or upgrade home ports to meet local and/or international standards
- Establish and implement an Operation and Maintenance Programme for all landing sites

In keeping with the practice of responsible fisheries for the design, construction, maintenance and management of fish landing sites, the MFPLMA aims to:

- Provide as far as is practicable a safe haven

for fishing vessels.

- Provide freshwater supplies.
 - Provide adequate sanitation arrangements.
 - Provide waste disposal systems (including for oil and oily water).
 - Ensure that there would be no pollution arising from fisheries activities.
 - Collaborate as appropriate to minimise as far as is practicable pollution from external sources (non-fisheries activities).
 - Provide adequate servicing facilities or vessels, vendors and buyers.
 - Promote integration with users and stake holders, such as encouraging and instituting a co-management approach with fishing associations or cooperatives.
 - Ensure that the 'cold chain' is maintained.
- The above objectives will be accomplished through the provision of appropriate infrastructure and facilities:

Land Distribution Programme

During 2011, **4223 acres** of land were advertised for distribution. The MFPLMA will continue a Land Distribution Programme in support of the Action Plan to cater for livestock production, rice production and mixed food crop production. The distribution will be for both small family farm production and large farm production. The powers of the Commissioner of State Lands will be strengthened for more efficient and effective management of the state land resource e.g. to deal with the issue of squatting.

Agricultural Labour Programme

A major challenge to development of the sector is an inadequate labour supply. In order to address this challenge, the MFPLMA will initiate an agricultural labour Programme which will utilize the services of the Unemployment Relief Programme (URP) as a





labour source for agriculture. The Programme planned for this sector focuses heavily on upgrading and developing the skills of the Unemployment Relief Programme (URP) labour force to satisfy the shortage of labour which exists currently in the sector. The other objectives of this programme are:

- (a) To convert these workers into semi-skilled agricultural workers and make them capable of sustainable livelihood;
- (b) To assist with rural development through human social development; and
- (c) To assist the MFPLMA with its programmes.

Young Professionals in Agriculture Development and Mentoring Programme

The local agriculture sector is characterized by an aging population and the MFPLMA intends to encourage young people into the sector. As such, a programme has been developed to provide structured, focused and closely monitored opportunities for tertiary level graduates to be mentored in agriculture and related studies. It is intended to recruit fifty (50) graduates on an annual basis who will be attached to specific agri-sector agencies to develop their career path.

Marketing Programme

Promotion of Local Commodities

To increase food security at the household level is the **“Put T&T on Your Table Initiative”** which was launched in July 2011 and will be continued in 2012. Marketing Information and Intelligence
 The MFPLMA will collaborate with National Agricultural Marketing and Development Corporation (NAMDEVCO) to provide an expanded NAMIS Data-Base and Farm Certification System. This would involve training for and certification of farmers who practice Good Agricultural Practices (GAP). Farm Certification will therefore be integral to this system. There will also be routine Monitoring and

Evaluation of certified farms.

Marketing- promotional campaign

A promotional campaign will be pursued to encourage consumers to include the identified commodities in their diet and so promote the eating of healthy local foods. Also, a promotional programme will be developed to promote awareness of the Ministry’s activities and its benefits to the national community.

Additionally, the MFPLMA will harness the youthful vigour, vitality and creativity of 4H Club members and their Leadership in continuing to promote food security at the household level.

Marketing Infrastructure

The Ministry and NAMDEVCO will ensure the strategic location of Packing Houses in areas where the targeted crops are being cultivated. Packing Houses/chilling rooms will be constructed in close proximity to the farms to provide adequate post-harvest storage. This Programme will commence with the construction of four (4) of these strategically located structures.

Home Gardening Initiative

The MFPLMA intends to encourage home gardening, especially for vegetable production. The advantages of a home garden are: knowing exactly what one is eating; free from pesticides; satisfaction that the produce was the product of one’s own hands and from one’s own yard; and the savings one can accumulate. Many vegetables and legumes lend themselves to home gardening and the MFPLMA would be encouraging the following especially:

- | | | | |
|---------------------|------------------------------|--------------------|-------------|
| Ochro | Tomato | Cucumber | Bodi |
| Pak Choi | Melongene | Pigeon peas | Seim |
| String Beans | Hot and Sweet Peppers | | |



Technology

Research and Development

The MFPLMA, together with its agencies, will continue to provide research and development to both the livestock and crop industries in Product development - agro-processing/value addition for new products.

Areas of focus will include:

- Integrated Pest Management;
- New High yielding, and pest resistant crop varieties;
- Production of planting materials including certified rice seed; high quality vegetable seeds, certified citrus and other tree crops;
- Feed trials; Protein for conversion into animal products from lower down the food chain among algae and yeasts and simpler plants; the use of silaging laced with molasses for feed;
- Assessment of Breeding Stock; and
- Development and encouragement of the use of protected production systems such as greenhouses or shade houses.

Information and Communication Technology (ICT)

The MFPLMA will promote the use of ICT as a platform for solutions which will engender improved communication, efficiency and effectiveness of the MFPLMA.

Development of Tech-Packs

These Information Tools will be made available to farmers to provide information on more improved and highly technical agricultural practices to result in improved yield, quality and availability.

Innovation

The MFPLMA views innovation as a critical ingredient to achieving its overall policy objective of creating a food secure nation. In its role as facilitator, the MFPLMA will develop a conducive environment that will encourage new knowledge and innovation through incentive mechanisms and information networks. The MFPLMA will actively seek to encourage a wider range of actors to be involved in the innovation processes that will include: its staff throughout the organization, young agricultural graduates, farmers, commercial agents, NGOs, government agencies, private organisations and producer organizations along the food value chain.

In this regard, the MFPLMA through its Research and Development Division will play a pivotal role in fostering and strengthening collaboration and in coordinating the exchange of knowledge among innovating agents through mechanisms such as development platforms, meetings and seminars. The MFPLMA will continue to further strengthen its partnerships with national and international research and development organizations and institutes, other governmental agencies, farmers and farmers' organizations, non-governmental organizations and the private sector involved in agri-business.



Standardisation of Production Practices

The MFPLMA, in collaboration with its agencies, will seek to establish internationally accepted standards of good agricultural practices which will include compulsory registration of producers and handlers. The proposed system will involve certification of procedures in terms of pesticide use, pest management, environmentally sound practices and safe food.

Certification will ensure the local consumption of safe and healthy foods, establish standards for importers to meet, as well as increase our competitive edge for the export market. The standards will contribute to minimizing the negative effect of agriculture in the environment.

Extension Services

A major activity of the Action Plan is the institutional strengthening and capacity building of farmers groups to enhance cohesiveness and promote better organizational structure. Other Support programmes will include technology transfer which will be the focus of an improved extension service to farmers.

Improved Data and Statistics Collection

The MFPLMA will organise itself to be the repository of all up-to-date and accurate data and statistics for the agriculture sector. Working with the ADB, Cost of Production Models will be developed in order to facilitate farmers in knowing their investment potential.

Access to Credit

The MFPLMA will work with the Agricultural Development Bank (ADB) to conduct research and develop and offer specialized loan products to encourage selected population segments (e.g. women and youth) and subsectors within crop and animal production.

Praedial Larceny Programme

Praedial Larceny is a major deterrent that affects agricultural production in all communities of this country. The revised Incentive Programme offers new and innovative incentives in the area of the installation of on-farm security for **Praedial larceny**. The Ministry will be providing infrastructure in the form of barriers across its agricultural access roads to secure the area. There is to be further coordination and collaboration between the farmers groups and the police for improved security surveillance and advice. There will be the introduction of increased security patrols, while pursuing closer enforcement of identification of farmers, producers and wholesalers to minimise the sale of stolen produce.

Creation of Domestic Market Access/Investment Opportunities

The MFPLMA will be identifying opportunities along the value chain to encourage increased Private Sector participation in the Sector. Additionally, commodity associations and industry committees will facilitate all players in the value chain and strengthen linkages.

Agricultural Incentive Programme (A.I.P)

The Programme will be refocused to be more output driven. There will be more strategic use of incentives to drive the programme.

- The MFPLMA will continue annual reviews of the AIP in collaboration with stakeholders and make recommendations to adjust the programme to meet the needs of the agricultural sector.
- The MFPLMA will also explore ways to improve efficiency of delivery and alternative and innovative ways to administer the AIP in the future.



Human Resource Capability

The MFPLMA will ensure it is equipped to deliver on its programmes. Where resources are not readily available in-house, the MFPLMA will partner with other agencies, research institutions, private sector consultants and seek technical cooperation to ensure effective delivery.

Strengthening of Linkages

Encourage, develop and sustain the linkages within the sector. These include strategic partnerships and alliances through public and private sector arrangements.

CONCLUSION

The MFPLMA and its affiliated state agencies are committed to continuously working in close collaboration with all key stakeholders, as it seeks to promote greater consensus to the goals of ***'creating a food secure nation'***; reducing inflation, preserving much needed foreign exchange; diversifying the economy; and producing long term, sustainable employment in the agricultural sector.



HEALTHY FOR YOU AND OUR ECONOMY



Buying locally grown food helps our local farmer and their families put food on the table. This in turns helps to put money back into our own economy benefitting us all. Put locally grown food first. Put T&T on your table.



**MINISTRY OF FOOD PRODUCTION,
LAND & MARINE AFFAIRS**

Website: <http://www.agriculture.gov.tt/foodproduction>



**AGRICULTURE
NOW**



Ministry of Food Production, Land and Marine Affairs
Head Office, St. Clair Circle, St. Clair
Tel: 868-622-1221-5 • Fax: 868-628-9608
Website: www.agriculture.gov.tt

...as we create a food secure nation