Ministry Paper 50 /2014

Aquaculture Development Initiatives

1.0 Purpose

The matter for Tabling is the an update on Aquaculture Development Initiatives being undertaken in the Ministry of Agriculture and Fisheries

2.0 Background

2.1 Jamaica has one of the highest levels of fish consumption per capita in the Americas (14.8 kilograms per year). The country is, however, highly dependent on imports. In 2012 total fish and fishery product imports was valued at US$ 109,849,367.00 which accounted for 11.58% of the total food import bill in 2012. Fish is the second most important contributor to animal-origin protein intake in Jamaica. It is only second to poultry meat.

2.2 This demand situation contrasts significantly with local fishery production. Local fishery production amounted to an average of some 12 000 tonnes in recent years with wild catches currently accounting for 93.8% of landings. The remaining 6.1% is accounted for by aquaculture production.

2.3 With increasing prices for food commodities, high levels of international indebtedness, and high food imports, food security risks are increasing in the country, and therefore, there is a very good opportunity for a much higher contribution of aquaculture to alleviate imports, augment food availability, while offering new and much needed work opportunities for Jamaicans.

2.4 Aquaculture, as opposed to wild fisheries, is the only alternative at hand to increase future fish availability in Jamaica.

3.0 Current Situation

3.1 Aquaculture activity primarily occurs on the southern plains of Jamaica with the parishes of St. Catherine and Clarendon accounting for the highest concentration and acreage of farms. In total, it is estimated that there are approximately 2,455.91 acres of ponds of which 1,060.99 acres or 43.19% are in active production. In 2013, overall aquaculture production stood at 789.5Mt. However, when tracked over a three year period (2010-2013) production was down 79% (from 3900Mt in 2010).

3.2 This down turn in production can be attributed to change in production practices with several of the large farms changing from intensive culture systems, in which aerators were used,

to predominantly semi-intensive and extensive culture systems. This change in production practices is a direct consequence of the high costs associated with energy, the absence of suitable feed inputs and the inability of the local market to absorb the volume of fish produced. In addition, rather than producing two crops per year, some farmers have resorted to producing a single crop per year based on market demand.

4.0 Challenges to the Aquaculture Sector

4.1 There are multiple challenges to the aquaculture industry on a whole, and Tilapia production in particular for Jamaica. The most pressing for the industry include: the availability of appropriate fish feed, energy costs, marketing, inadequate seed stock, poor genetics, inadequate and insufficient water supply, agricultural theft and competition from imported fish.

Agricultural Theft

4.2 Agricultural theft has been one of the major factors that has discouraged farmers from continuing with tilapia production. The impact has been so significant in some instances that it has led to the closure of farms. Several aquaculture communities are currently impacted by the scourge of agricultural theft and these include: Bushy Park, Hillrun and Hartlands in St. Catherine and Rhymesbury in Clarendon. These communities, among others, have been heavily targeted by thieves.

Competition from Imported Fish

4.3 The high costs involved with production related to feed, energy, etc. all combine to make Tilapia a high cost final product. The market is quite elastic, allowing for various substitutes. Furthermore, the preferential size purchased by the householder is ½ lb to ¾ lb, which is not an optimal size for a good return on investment. The high costs of production also make it too costly for local processors to produce fillet or other value added product. This makes imported fish even more attractive to segments of the market that used to be supplied by local Tilapia.

Water Quality and Supply

4.4 Good water quality is essential to the growth and survival of fish. Highly productive areas such as Hillrun are impacted by inadequate water supply. This has lead to the seasonal production of fish (only in the rainy months) as farmers only able to produce one crop per year.

Energy Cost

4.5 The cost of energy has escalated over the years. Farmers have moved from semi-intensive and intensive operations to extensive which requires lower energy usage in a bid to reduce costs. The cost to operate a forty-five (45) acre facility which uses 1 HP paddle wheels and electrical deep well pump is now approximately JA$800,000.00 per month or US$0.42/KWH. This cost

when compared to regional aquaculture producer results in the cost of production being too high and hence uncompetitive.

5.0 Initiatives Undertaken By the Ministry Of Agriculture and Fisheries to Revitalize the Aquaculture Sector

5.1 Changes in Duty Regime on Imported Raw Material for Aquaculture

Material and supplies required for aquaculture production are oftentimes imported. These duties range from 5% to 20% for goods related to their daily commercial activities. In the past some farmers have benefited from the availability of discretionary waivers to import necessary items. Farmers have complained that the time it takes for the waivers to be granted conflicts with their production cycle, which leads to them incurring greater costs. In some instances farmers end up having to pay the duty upfront, and then attempt to reclaim the costs.

Productive entities will now have direct access to Customs clearance once a valid Tax Compliance Certificate (TCC) and Taxpayer Registration Number (TRN) is produced. The Productive Entity must, however, be first certified by the Ministry of Agriculture and Fisheries, through RADA. The adoption of this new mechanism will eliminate the long and sometimes uncertain processing period that these entities would have to wait.

5.2 Duty regime on fish feed

Tilapia farmers cannot locally source the appropriate floating fish feed that is needed for effective growth rates. Approval has been granted to remove the 15% duty on imported fish feed through a temporary CARICOM facilitation for one (1) year. The Ministry of Agriculture and Fisheries intends to lobby our partners in the region to have the duties on this fish feed removed permanently at the next COTED meeting in May 2014.

This will allow the industry to have access to higher quality and more cost efficient fish feed, thereby enabling faster growth rates and thus enhancing pond productivity.

5.3 Agro Parks

Hillrun and Meylersfield Agro-Parks have been identified to focus on the rehabilitation of abandoned fish ponds in order to boost aquaculture production and, production is already under way at Hill Run. **(See Ministry Paper on Agro Parks)**

5.4 Fisheries Management and Development Fund (FMDF) Project

The Fisheries Management and Development Fund approved a JA$36 million project to improve/ rehabilitate the Aquaculture Branch of the Fisheries Division, Ministry of Agriculture and Fisheries. This project comes on the heels of a thrust by the Ministry of Agriculture and

Fisheries to implement strategies identified in the Aquaculture Land and Water use Development Plan and the Aquaculture Development Plan in a major thrust to increase local production in the Aquaculture subsector.

The scope of work of the project will address the following areas:

I. Procurement of Brood-stock

In a bid to improve the genetic material the project will import broodstock. This will ensure farmers are provided with the best quality juveniles to enable faster growth rates, better feed conversion and higher pond productivity. The following strains will be targeted: Taiwanese Red, Jamaica Red and HD 56 super male fish. Additionally, *Pangasius* spp (Basa) will be also be imported to assist with the diversification of the industry.

II. Renovation of Ponds

Twelve (12) ponds representing 3.4 acres will be renovated including 2 ponds located in phase 1 along with 10 ponds from Phase 2. The scope of work needed for the rehabilitation of the ponds include:

- Desilting
- Resealing all ponds
- Installation of inlet and drain pipes
- Construction of a Reservoir

III. Rehabilitation of the Hatchery

Modification and rehabilitation to the hatchery would significantly improve fish health management ensuring that the fish can be held, and bred indoor, especially during the colder months of December and January. Anticipated works include:

- Installation of an additional holding tank to increase the facility's capacity of holding 600,000 fry
- The enclosing of the existing infrastructure to improve insulation for fry during the cooler months
- Improving fresh water supply
- Rehabilitation of the electrical wiring system
- Painting
- Procurement of production material such as hauling tanks to enable the Branch to transport larger number of juvenile fish.

IV Expected Benefit of the Project

The Aquaculture Branch will have the capacity to produce 600,000 fry and 100,000 fingerlings per month satisfying 7,200,000 fry annually of representing approximately 80% of orders received by the Aquaculture Branch.

- It is to be noted that with this improved capacity continuous harvest and supply of swim-up fry is guaranteed year round.
- The Branch will also be in a better position to provide the necessary technical support to the farmers especially as it relates to diversified seed stock.
- It is expected that the Branch will have enough pond space to enable it to conduct much needed growth studies, to guide the industry.

5.5 Aquaculture Development Plan

Cognizant of the need to revitalize and guide the development of it aquaculture industry, the Ministry of Agriculture and Fisheries (MOAF) approached the Food and Agriculture Organization (FAO) for assistance in formulating an Aquaculture Development Plan. Assistance came in the form of TCP/JAM/3301 in 2010, which had the following expected outputs:

- Definition of the extent and scope of aquaculture in Jamaica with special focus on food security and poverty alleviation.
- A comprehensive evaluation of aquaculture production systems used in Jamaica with recommendations for improvement where applicable
- Comprehensive analysis of the market and marketing opportunities and distribution systems being mindful of external competition with recommendations for improvement
- Analysis of the risks to aquaculture development (economic, environmental and social) at the national, regional and international level with recommendations to reduce these risks
- Assessment of the institutional and technical capacity in both the private and public sector to facilitate the development, expansion and diversification of aquaculture
- An assessment of the institutional and regulatory framework for aquaculture development in Jamaica with recommendations for integration where applicable
- Recommend suitable investment and support program for aquaculture development

This plan has been prepared and submitted to the Government of Jamaica and forms the basics of some of the works being initiated by the Ministry of Agriculture and Fisheries.

5.6 Aquaculture Land and Water Use Development Plan and Aquaculture Medium Term Priority Programme / Action Plan

This plan was funded by the European Union under the ACP Fish 11 Project. It was a following-on from the Aquaculture Development Plan and presented broad Medium Term Priority Programme (MTTP)/Action Plan to revitalise the aquaculture sector. Its output was as follows:

- Identify and describe the Jamaican aquaculture governance and regulatory environment, including the legislative framework
- Indicates the potential and constraints to the development of Jamaican aquaculture based on a participatory approach
- Develop a map showing the best suited areas for aquaculture
- Develop a MTTP/Action Plan Roadmap that indicates the timeline for the prioritised activities with guidelines for refining and implementing them
- Roadmap and guidelines on the methodology for accessing funding from international donors and timelines and responsibilities for achieving the objectives defined in the plan

This plan was completed in December 2012 and now used as one of the tools to guide the industry.

5.7 Aquaculture Industry Development Committee (AIDC)

The Aquaculture Sub-Committee was convened in June 2013 by the Hon. Roger Clarke, the Minister of Agriculture and Fisheries. The purpose of the committee was to provide broad guidance for industry development and to make recommendations to the Minister of Agriculture and Fisheries and the wider sector. The committee comprised of a mixture of government agency, academia, private sector player including marketing companies and farmers. Presently, the committee is in the process of finalizing this report, which is expected to be ready in May 2014.

5.8 Species Diversification

Members from the private and government sector took part in a five (5) day study tour to Vietnam in September 2013. This trip was funded by the FMDF. The main purpose of the tour was to asses and make recommendations as to Jamaica's potential for *Pangasuis* production. Additionally, the tour sought to ascertain the requirements and more importantly form linkages with Vietnamese technical counter parts with respect to the propagation of *Pangasius spp (Basa)* in Jamaica.

Following-on from that visit, the Aquaculture Branch is undertaking a pilot project in which it will condition and artificially reproduce the Basa. It is hoped that Basa, with its high fillet content and fast growth rates would reduce the amount of fillet imported into the country and thereby save foreign exchange.

Roger Clarke
Minister of Agriculture and Fisheries
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