

Ministry of Agriculture and Fisheries

2010 Annual General Meeting

Report

March 18th and 19th

**Emerald Paradise Resort,
Yalbac Village, Cayo District**

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Executive Summary

The Ministry of Agriculture and Fisheries held their 2010 Annual General Meeting March 18th and 19th at Emerald Paradise Resort in Yalbac Village in the Cayo District. An opening ceremony was held on the first morning.

Administrative Officer, Errol Gentle, delivered the opening remarks in the absence of Chief Executive Officer, Gabino Canto. Gentle said the performance of the sector has been good despite such challenges as the skyrocketing price of fuel, the sharp increase in global food prices, and a global recession.

The Keynote Address was delivered by Minister of Agriculture and Fisheries, Hon. Rene Montero. Minister Montero said that the mission, vision, policies, and strategies of the Ministry have not changed since last year. Food security remains the top priority, focusing on rural development and targeting the farm family through an integrated farming system approach. Food security and rural development cannot be separated, one from the other. 'Our government,' said the Minister, 'is committed and has the political will to institute the changes necessary.' Minister Montero pointed out that the budget for FY2010-2011 is \$12.9 million. 'The challenge facing us all,' he said, 'is to get value for money. I challenge each of you to get on with your tasks daily with a sense of commitment and a sense of urgency. Remain focused and set your agenda to mesh with the national platform of food security through rural development.'

The Minister said the goals for the Ministry in 2010 are to create year-round employment for farm families, increase farm income, alleviate poverty, minimise youth migration to urban areas, seek new markets for produce, continue market-driven research and development, build capacity in the sector, and provide access to affordable credit.

Minister Montero said the Ministry must develop a new model for food security and rural development. Other strategies for 2010 include using the value chain approach, keeping corn, bean, and rice production as a priority for local market and for export for foreign exchange and job creation, using a task force to exploit export markets for hot pepper and to organise farmers to meet market demand. Minister Montero said the Ministry will continue to work closely with private sector. He urged everyone to keep the flame burning and join an agricultural roadmap to bring prosperity to all Belizeans.

MAF Chief Executive Officer, Gabino Canto, prepared a report describing the vision, mission, programmes, and priorities of the Ministry of Agriculture and Fisheries. The ministry's vision is for a transformed and modern sector that is fully competitive, diversified, and sustainable. He said the mission of the Ministry is to continue as the economic pillar of Belize and to ensure food security, develop risk management, generate income and foreign exchange, create employment, and conserve natural resources. He pointed out that projects were implemented in 2009 to increase production, productivity, and quality of produce, and sustainability was ensured in all

projects that were implemented. The production of basic food items including corn, rice, beans, eggs, and meat surpassed domestic demand, and there was a 20 percent increase in vegetable production. Covered structures were built and irrigation systems were installed to improve vegetable production and quality, and the development of integrated farming systems was promoted to provide alternative sources of income at the farm

CEO Canto said that foreign exchange earnings were generated by export of sugar, citrus, banana, papaya, cotton, lime, beef cattle, corn, beans, conch, lobster, shrimp, cobia and tilapia. He said that there will be a continuation of food security policies in 2010 in both production and value adding, with the establishment of domestic marketing for fishery and agricultural products and the maintenance and improvement in quality assurance for products destined for export.

A summary of the FY2010-2011 budget was presented by Joycelyn Lewis, deputy Finance Officer in the Ministry of Agriculture and Fisheries. She provided the following figures:

	Total	MAF	% of Total	% Change
Recurrent	\$721,590,717	\$10,203,296	1.41	
Capital II	\$ 65,229,811	\$2,766,600	4.24	+29.8
Capital III	\$83,045,854	\$9,627,556	11.50	-15.61

Some Capital II activities are trimmed, others are added, for example, Agriculture Census and Urban Agriculture Project. The decrease in Capital III is the result of the closure of BRDP Phase I and the end of the Banana Support Programme, both funded by the European Union. Other programmes will come on stream, including Agriculture Services Programme funded by the Inter-American Development Bank Rural Finance Programme and Food and Agriculture Organisation projects.

She said that the Ministry of Agriculture and Fisheries is one of the pilot Ministry for multi-year budgeting, based on rolling forecasts that are updated at least once a year. 'This budget,' she concluded, 'is telling us that even with limited resources we are still able to move forward.'

Reports were presented on the work of the three departments of the Ministry in 2009 and plans for the balance of 2010.

The Agriculture Department reported a three percent expansion of the agriculture sector from Bz\$402.7 million in 2008 to Bz\$416.3 million in 2009. There were major increases reported in the production of yellow corn, white corn, rice, red kidney beans, black beans, and cowpeas. Altogether the grains/legume sector increased by 40 percent from 2008 to 2009. The vegetable sector expanded by 7.1 percent.

The Fisheries Department reported that the fishing industry continues to contribute significantly to the economy of Belize, making up 2.2% of Belize' Gross National Product in 2008. Earnings for Capture Fisheries Sector valued at Bze\$20.76 million with lobster contributing Bze\$13.99 million and conch Bze\$6.49 million. Earnings for the

Aquaculture Sector valued at about Bze\$25 million, primarily from shrimp, tilapia, and cobia exports.

The Co-Operatives Department report listed accomplishments in 2009 that included the registration of three new co-operatives: Golden Crop Agriculture Co-operative, Maskall Farmers Co-operative, and Belizean Taxi Co-operative, bringing the total number of co-operatives in 2009 to 210. The Department reviewed the existing Co-operatives Act and prepared draft of a revised act, reviewed a Joint Venture Agreement with the Rio Grande Fishermen Co-operative to ensure transparency and balance, and improved transparency in the management of National Fishermen Co-operative

The Belize Agricultural Health Authority, BAHA, reported a busy year in 2009. The Animal Health Department had the task of controlling an outbreak of Virulent Newcastle Disease which was first reported in November of 2008 and which continued in 2009. The outbreak was contained with a nationwide vaccination programme with over 150,000 birds vaccinated. One instance of Eastern Equine Encephalomyelitis was reported in the Cayo District and multiple instances of Venezuelan Equine Encephalomyelitis were reported in the Orange Walk, Belize, Cayo, and Stann Creek districts. There were no reports in 2009 of rabies, classical /swine fever, or vesicular stomatitis, and Belize notified OIE that we remain free of foot and mouth disease as well as Rinderpest. Surveillance to guard against avian influenza continued.

BAHA conducted a total of 17,807 meat inspections in 2009, including 4,381 bovine, 12,853 porcine, and 573 ovine

In 2009 nine Medflies were captured and eradications were carried out in Punta Gorda, Maya Beach, and Seine Bight with all outbreaks eliminated.

Citrus greening discovered and reported in early May 2009. OIRSA provided emergency funds for in-depth survey and laboratory. Surveillance and eradication continued in collaboration with OIRSA and CGA-CREI, funded by a US\$700,000 donation from Mexico through OIRSA. The Pink Hibiscus Mealy bug programme began in 2000 and continues with the pest now limited to ornamental garden plants. BAHA is the competent authority to certify all products for export.

The Quarantine Department of BAHA reports that activity at the seven port-of-entry quarantine stations generated Bz\$153,688.30. Commodities confiscated were destroyed if considered high risk, or donated to charitable organisations or Government departments if considered low risk. A five-year plan calls for the Quarantine Department plans to open new port-of-entry inspection stations at Blue Creek in the Orange Walk District, San Pedro on Ambergris Caye, and Jalacté Village in the Toledo District. Additional staff, equipment, and infrastructure will be needed.

A viewpoint from the private sector was presented by Jose Alpuche of Belize Agro Productive Sector, BAPS. He said that agriculture must shed its image of constant

dependence on handouts because agriculture is a business. He pointed out that when you hear tourism promoting itself you hear of investment going in. They don't talk about tax write-offs that are the incentive for the investment. What you hear on the radio about agriculture is that we've given out a bag of fertiliser and two chickens to a farmer somewhere. We have to change that image, that public perception. There is some reality to it. Politics is involved in agriculture, but we've got to repackage the image of the agriculture sector. Alpuche urged efficient use of limited resources. He said that given the debt burden, government will be strapped for cash in the foreseeable future. He said we have to shed some of what we do and keep what we consider core issues and develop a detailed business development plan for the sector. Alpuche said that there is a significant problem with taxation in agriculture. We pay taxes on inputs, a direct loss to producers. He said a mistake was made last year in stepping away from quality in the sugar sector. If there is no quality standard, he said, it's a race to the bottom of the barrel. Alpuche called for greater collaboration between ministries such as Agriculture and Foreign Trade and other ministries that deal with the private sector, and for the establishment of joint public-private working groups.

Dr. Carla Barnett described Horizon 2030, a project of the Ministry of Economic Development funded by the Inter-American Development Bank. She said the project is a process of developing a long term development framework for Belize to establish a vision of where Belize and its people want to be by the year 2030. She said that the Horizon 2030 team has conducted consultations around the country and that people have named three key current issues: Violence in Society, including crime, drug abuse, and violence in the home, economic and social infrastructure and the way we develop and maintain that infrastructure, and accountability, both in public institutions and at the individual level.

She said that people want collaboration across sectors, especially people in rural communities. She said people in the rural communities are visited by agencies and consultants and ministries more than people in the towns and cities and they find themselves talking about the same issue with different people. Development efforts would work better if there could be one conversation where all the different people are around the table and we could find solutions that cut across sectors. People are asking for that collaboration and for the work to be community focused.

Dr. Barnett said that farmers concerns are with finance, access to technology and access to land, and those farmers say that as a country we do not promote enough the consumption of local products. They say the support they want from the Ministry is training in new technologies and in a way that they can absorb it.

Four groups of participants discussed and made presentations on the following thematic areas 1. Food security and risk management; 2. Foreign Exchange and Exports; 3. Import replacement and substitution and 4. Marketing and Finance. Their contributions were presented to the entire gathering that stimulated feedback from the various participants.

Main Report AGM 2010

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'We continue to be the pillar of the Belizean economy,' Gentle said. 'We have weathered the storm, remaining focused, success driven, and motivated, with support from Government, numerous partners, donor agencies, and most of all the staff of the ministry, each member of each department within the Ministry. This signifies good teamwork.'

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'Our government,' said the Minister, 'is committed and has the political will to institute the changes necessary.'

Minister Montero pointed out that the budget for FY2010-2011 is \$12.9 million. 'The challenge facing us all,' he said, 'is to get value for money. I challenge each of you to get on with your tasks daily with a sense of commitment and a sense of urgency. Remain focused and set your agenda to mesh with the national platform of food security through rural development.'

The Minister said the goals for the Ministry in 2010 are to create year-round employment for farm families, increase farm income, alleviate poverty, minimise youth migration to urban areas, seek new markets for produce, continue market-driven research and development, build capacity in the sector, and provide access to affordable credit.

Minister Montero said the Ministry must develop a new model for food security and rural development. He said strategies for 2010 must include getting value for money to ensure the best use of a limited budget, the use of innovative technologies to improve what the farmer is producing, and the development of integrated farming systems through diversification. He pointed to the need to invest research resources in crops and livestock which have a market. He said the Ministry will conduct a national livestock

sweep to capture the Mexican market for beef and value added meat products. Other strategies for 2010 include using the value chain approach, keeping corn, bean, and rice production as a priority for local market and for export for foreign exchange and job creation, using a task force to exploit export markets for hot pepper and to organise farmers to meet market demand.

He said the Ministry will continue training farmers and technical staff and that the value chain approach, transfer of technologies, business principles, management techniques, and record keeping should be a part of the training programme for farmers. 'We have a young and talented research staff,' said Minister Montero, 'but there is an urgent need for the technical staff to be trained at the master level. The Ministry is prepared to support training.'

The Minister said that capacity building is a must for agricultural development. He said there is a need for access to affordable credit with little progress in this area and the ministry is holding discussions for the establishment of an agriculture resource bank to provide low interest loans with two million dollars available for start-up funds.

Minister Montero concluded by stating that the Ministry will continue to work closely with private sector. He urged everyone to keep the flame burning and join an agricultural roadmap to bring prosperity to all Belizeans.

Finance

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The Ministry of Agriculture and Fisheries is the pilot Ministry for multi-year budgeting. Multi-Year Budgeting is based on rolling forecasts that are updated at least once a year. Improved budget classification will identify the costs and time needed for projects, and the time needed for some projects will require more than one year. Multi-year budgets will usually be rolled over every year. Estimates of the first year of rolling multi-year budgets are similar to an annual budget. The estimates of expenditures for the following

years, the out-years, would be more indicative of the payments that need to be allocated for both existing and new programmes. The first out-year estimate of expenditure would become the starting point for the budget negotiations when the following year's budget is prepared. 'This budget,' she said, 'is telling us that even with limited resources we are still able to move forward.'

Department Reports

Agriculture

The Chief Agriculture Officer Eugene Waight presented the agriculture department report.

Achievements for 2009

1. Plantain production

42,000 Currare Enano plantain seedlings were imported from Honduras as an initiative to begin the export of plantains to the U.S. market in 2010. This amount of seedlings can plant 45 acres of plantains. Buyers in the US have indicated their interest to purchase up to five 40-foot containers per week.

2. Export of pitahaya

The MAF has been working along with USDA/APHIS to get Belize certified so that fresh pitahaya fruits can be exported to the U.S. Once the mitigation measures proposed by Belize in 2009 are accepted exports can commence.

3. Cattle export

In 2009 the MAF and its homologue in Mexico signed an MOU agreeing to work together to expand bi-lateral trade between both countries. One of the major health requirements that Belize has to meet is to prove that its cattle herd is free from tuberculosis and Brucellosis; hence a cattle sweep will be carried out. Mexico has gone as far as to offer 15 veterinarians, vehicles and other material inputs that will assist with the cattle sweep. It is estimated that this initiative can generate initially around \$1.5 million in the first year, and thereafter increase exponentially.

4. Vegetable production

Production of winter vegetables – the MAF continues to carry out research and provide technical assistance to farmers in the production of winter vegetables, like carrots, celery, Broccoli, beets, among others. In fact, most of the vegetables sold locally are produced by Belizean farmers. We should not need to import most of these vegetables until after July of 2010. The value of local production ascends \$3.0 million annually. As a result of the MAF's Extension Programme vegetable production increased in 2009, this has translated into the value of vegetable production to increase from \$15.6 in 2008 to \$19.7m in 2009, an increase of 26%.

5. Onion production

Farmers now supply the local market with onions and potato for six months. The MAF provides technical guidance to farmers and have established demonstration

units of drying and storage facilities to extend the shelf life of these commodities. Belize saves \$2.0 million in foreign exchange and these activities also create employment.

6. Tropical green houses

Through its own resources and from other projects like the EU BDRP-AED project over 20 small scale tropical green houses have been contracted on farms across the country and at the Central Farm Agriculture Station. These facilities will allow farmers to provide certain vegetables throughout the year. Another positive spin off of these green houses will be the much improved quality and freshness of locally produced vegetables.

7. Vegetable nurseries

Along with the ROC (Taiwan) two commercial-size vegetable seedling nurseries were established with the objective of producing high quality vegetable seedlings that are very affordable to the average farmer in an area near their production site. This project ties in very closely with the tropical green houses that together will contribute to year-round production of vegetables.

8. Avian influenza

In 2006 Belize developed its emergency plan to manage the Highly Pathogenic avian influenza caused by the sub-type H5N1 virus (HPAI).

9. ALBA funds

Eight projects proposals were developed and submitted to the Bolivarian Republic of Venezuela to implement projects that will assist the MAF deepen its food security programme. The projects will impact directly farmers across the country and indirectly will impact consumers as greater access to high quality food items will be available at affordable prices.

10. IDB loan

A loan agreement was negotiated with the IDB to strengthen BAHA's health services and to foster greater agriculture innovation. The loan is for a total of US\$5.0 million will be invested in agriculture innovation and enhancing BAHA agriculture health services and capacity. Of the total US\$2.1 million a significant portion will be used for innovation projects that will stimulate value-adding, entrepreneurship, export of new products and improve the efficiency and productivity of many commodities. The remainder is for BAHA for its component of the project.

11. Hot pepper exports

A Hot Pepper Steering Committee (HPSC) was established to facilitate the re-entry of Belize into the export market. Hot pepper is one of the priority commodities the Ministry is working with as it has great export potential and can have great socio-economic impact on rural families. The goal is to return to export levels of 2004 when Belize exported in excess of 600,000 pounds of hot peppers to the US market.

12. Technical Cooperation with Brazil

The MAF is working closely with EMBRAPA from Brazil to capitalize on technologies developed in that country to increase the productivity of several targeted commodities, namely: soybean, rice, beans and corn. The technical

assistance to be provided by EMBRAPA will assist Belize to improve on the productivity of the targeted crops.

13. Pineapple production

In 2009, 46,000 Smooth Cayenne pineapple seeds were imported from Honduras to stimulate the production of this variety for sale to CPBL for processing. The Smooth Cayenne variety is the variety of choice for processing into juice.

14. Rice seed production

Along with the ROC (Taiwan) 140,000 pounds of commercial rice seeds were produced for sale to farmers. With this local supply the reliance on imported rice seeds will be reduced and much needed foreign exchange saved. The rice programme also produced around 10,000 lbs of stock seed that will be used for the production of commercial rice seeds.

15. Organic production

With the assistance of a Cuban expert the facilities were constructed to produce organic fertilizers from farm manure using the Red California Worms. Six bio-digesters were also constructed to produce bio-sludge (fertilizer) and methane for cooking purposes.

16. Introduction of new cattle breeds

A small herd of Black Angus and Braunveih were procured to improve the quality of beef for the demanding tourist industry. These breeds of beef produce a meat that is juicy and has much more marbling than the Zebu breeds.

17. Donation of coconut seedlings

Donated 5,900 coconut seedlings (4,400 yellow dwarf & 1,500 Maypan hybrid) was made to needy farmers as an initiative to promote coconut production and use plants that were overgrown in the nursery at Central Farm.

18. Onion drying demonstration unit

An onion drying demonstration unit was constructed at C/farm to show onion producers an appropriate technology that can be used to dry the bulbs properly so as to extend its shelf-life. During the Open Day in February farmers from throughout the country got an opportunity to see how the unit works.

19. Training

a. Value chain

The value chain process was one of the areas of training that was identified in 2009. It was noted that DACs and other officers often times do not encompass the entire value of when planning and developing district work programmes. Other partners in development were also invited to the training. The PIU of the EU-AMS project agreed to identify the consultant and to fund the short-course training. The three value chains developed were for onion, hot pepper and livestock. It is expected that with the experience gained the participants will prepare much more focused and organized work programmes.

b. Work programme development

The purpose of this training was for the participants along with the consultant to develop a standardized format for the preparation of work programmes. It

was noted that work programmes did not have a methodological approach in its development and there was no standardization. Mr. James was hired to carry out the training. Similarly other partners in development were invited to benefit from the same training.

20. Israeli Mission

The Israeli mission provided an irrigation specialist to Belize to carry out the field diagnosis in the development of a technical cooperation programme (TCP). At the end of the mission Mr. Elisha Kenig submitted an interim report but is to submit a formal report within two weeks after his return to Israel.

21. Trade Mission to Central America

The CAO spearheaded a delegation to Guatemala and El Salvador on a two-day mission from the 28th to the 31st of July in search of markets for bean, corn and rice. The mission was comprised of Mr. Eugene Waight, Chief Agricultural Officer, Ministry of Agriculture and Fisheries; Mr. Adalbert Tucker, Ambassador for Foreign Trade- Ministry of Foreign Affairs and Foreign Trade; Mr. Roque Mai of Belize Marketing Development Corporation; and Mr. Bernard Penner, Director of Belcar, representing the private sector. A second private sector representative was unable to participate in the mission due to illness. Belcar was invited as they have experience with the marketing (purchase, processing and export) of grains to different parts of the world. Although no formal commitments were made by any Honduran or Guatemalan importer, the contacts established will serve as the platform for future exports (see report for details).

22. Project Cycle Training

A two-days training was conducted by Mr. Tony Achaamong from the Ministry of Economic Development on Project Cycle on the 2nd and 3rd of July. The training was attended by DACs, senior EOs and other middle managers of the Ministry. Personnel from the Pesticide Control Board were also invited to attend.

23. Meeting with CPBL

On the 22nd a meeting was held with CPBL the CEO and other officers of CPBL to discuss market requirements and the annual demand for pineapples for processing. The minutes of the meeting reflects the commitments made by CPBL in terms of the marketing and processing of pineapples (see report for more details).

24. Medium-Term Plan

Several meetings were held with Dr. Windel Parham in preparation of the Medium-Term Plan (MTP) he was hired to develop on behalf of the Ministry. The MTP will be an action plan that will operationalize the ADMOS (sector strategy document) developed by FAO in 2005. This should be the road map for those commodities and programmes of the present administration that the Ministry will commit to implement.

25. IDB

Several meetings were held with personnel from the IDB to assist with the formulation of a proposal for a loan to the tune of US\$5.0 M for the agriculture sector. The loan will have two components: one for agriculture health risk management; and the other for applied agriculture innovation (R&D). The IDB

team will present an aide memoire at the end of their mission sometime in early August.

The National Extension Service Report

1. Extension service comprised of six District Agriculture Coordinators (4 with First Degrees and 2 with an Associate degree in agriculture), 20 field extension officers, two irrigation and drainage extension technician, five newly hired officers and three officers on study leave, a total of 36 officers.
2. In collaboration with FAO, extensive stakeholder consultations were carried out to develop a Technical Cooperation Project for the modernization of the Extension Service. The complete project for \$374,000 US was submitted to FAO and was approved for implementation in 2010-2011 Organic project was also developed and approved for US \$27,000 to establish demonstrations and training in organics for two groups of farmers in Cayo and Toledo.
3. Fourteen Extension Officers received training aboard in different areas such as onion production, postharvest technology for root crops and fruits, integrated farming system, introduction to farmer field schools, Rural Invest methodologies, rural development, disaster risk reduction and sustainable land development, rainwater harvesting, integrated finance strategy among others. Locally over ninety percent of the Extension service was exposed to a series of trainings in beef production, vaccination against New Castle disease, biodigester, organic production, project writing, project cycle management, value chain methodologies, irrigation techniques, covered structures, soil conservation and slope management among others.
4. The Extension Service increased its personnel by five additional Extension field officers and received five motorcycles.
5. Over three hundred farmers received numerous trainings covering a range of thematic areas such as beef production, biodigesters, organic/naturally grown agriculture, covered protective structures, soil management, postharvest technology, record keeping, vegetable production in general.
6. Through the FAO project Initiative For Soaring Food Price (ISFP), the Extension Service distributed to over 1200 farmers in all six districts corn seed, bean seed, vegetable seed and seedlings, agro-inputs, small stock, feed, grain storage bins and materials to construct pens and coops to boost small farmer production. In addition, the Extension Service manages for farmer use a number of equipment obtained through the project viz. grain dryers, sprayers, water pumps, shredders, and rototillers.
7. The Extension Service actively promoted the use of protective covered structures. The Irrigation Unit, an arm of the Extension Service, installed eight of fifteen covered structures received through the EU Agriculture Enterprise for Development (AED) Project. In addition, method demonstrations of covered structures using Agril were established in Cayo and Belize districts with strategically located farmers to show the benefit of this type of production.
8. The Extension Service provided technical and logistical support for the implementation of the FAO Disaster Risk Mitigation project in Corozal, Orange

Walk and Cayo Districts.

9. The Extension Service underwent training in New Castle Disease vaccination and then vaccinated approximately 150,52 local chickens in the six districts.
10. The Extension Service actively participated in numerous agricultural fairs and district field days to promote agriculture. Among these were the National Agriculture and Trade Show where the Extension Service supported with the logistics of selecting the farmers of the year. Although the show was postponed due to the Swine Flu, Extension still mounted crops display at the show when it was held later in the year.
11. The Toledo Extension Service has collaborated actively with the ROC Mission in the production of rice seed for farmers. In addition, it has organized and supported the rice farmers with machinery service to harvest approximately 900,000 pounds of paddy rice in 2009.
12. Three Telefood projects viz. Dolores Women's Development Project, POWA Alternative Livelihood project for urban women and youth, and Louisiana School Crop production for income generation and school canteen programme were developed and submitted to FAO for funding. FAO approved all three for implementation.
13. Others Activities that involved the Extension Service
 - a. The Extension Service fully participated at the World Food Day event held on 16th October to promote the importance of agriculture in food security and nutrition.
 - b. The Extension Service supported, participated and/or represented the MAF at the following:
 - i. National Council of ITVET
 - ii. Sustainable Land Management Project steering committee,
 - iii. National Climate Change Committee
 - iv. National Food and Nutrition Security Commission
 - v. Tender Openings at the National Authorizing Office at Ministry of Economic Development
 - vi. Central American Strategy for rural territorial development (ECADERT)
 - vii. National Emergency Management Organisation (NEMO)

Central Farm Research and Development report

1. Crops

c. Pineapple

MAF imported 35,800 planting material of the Smooth Cayenne variety from Mexico for seed production. The planting materials were distributed to selected pineapple producers from the Stann Creek and Toledo districts. MAF's aim is to support farmers with planting material to meet the market demand of CPBL of 6 million lbs of pineapple fruits. MAF also established a seed multiplication plot at Central Farm of the varieties MD2 and the Smooth Cayenne. A total of 5,500 MD2 and 8,000 Smooth Cayenne vegetative seeds were planted.

d. Plantains

MAF imported 40,000 invitro plantain seedlings of the Dwarf Curare variety from Honduras. Of this stock 38,425 plants were provided to farmers and 1,575 seedlings were planted at Central Farm for seed production. The overall purpose is to increase production of this commodity for the export market. Also, 275 plants came into production. The plantains were harvested and supplied to the Taiwan Technical Mission for culinary testing and product development.

e. Coconuts

MAF produced 12,000 coconut seedlings at the Coconut Hybridization Programme at Central Farm. Of the total amount 5,900 coconuts were distributed for farmers and the rest was sold for revenue generation. The market demand for coconut seedlings was high last year. The coconut orchards were rehabilitated with new seedlings of Panama Tall and Yellow Malayan Dwarf.

f. Fruit Trees

The Central Farm nursery produced 5,000 assorted fruit plants. Of this amount an estimated 3,000 plants were sold to generate revenue for Central Farm

g. Corn

MAF produced 70 acres of hybrid corn at Central Farm in an effort to generate revenue and to supply animal feed for the Livestock Section. A total of 100,000 lbs were supplied to the Livestock Section and the rest was sold to Reimer's Feed Mill in Spanish Lookout at \$0.18/lb. The excess corn was sold to cover harvesting, drying and transportation costs as well as to plant black eye beans. The corn yielded 4,200 lbs/acre.

h. Black eye & R.K bean

MAF planted 70 acres of Blackeye pea and 5 acres of R.K. bean at Central Farm with the aim of generating revenue.

i. Rice

MAF continued the production of rice stock seed at Central Farm. This year a total of 7,400 lbs were produced of the varieties CARDI 70, Taichung Sen 10 and Cypress. The stock seeds are supplied to farmers and to the Taiwan Technical Mission for commercial seed production. In an effort to meet the increasing demand of stock seed, MAF is expanding the rice programme from 5 acres to 8 acres. In this regard the land has been levelled and drainage canals are being constructed. This project will be completed in 2010. The aim is to increase the production of stock seed from 10,000 lbs to 20,000 lbs annually. MAF is also conducting breeding work to purify the CARDI 70 variety. In terms of commercial seed production, MAF in collaboration with the TTM produced 87,000 lbs this year. The commercial seeds were sold to rice farmers from Toledo for planting.

j. Organic Production

MAF established the organic production unit at Central Farm. The unit

houses the vermin-culture, composting facilities as well as two protected cropping structures for vegetable production. During the stance of 2009, 3,000 lbs of humus and 30 liters of organic fertilizers were produced. These materials were used to fertilize a 750 pineapple plot and the vegetables in the covered structures. The Cuban consultant provided technical assistance in organic production to 500 persons from throughout the country.

k. Vegetables

A trial on head lettuce and one with sweet pepper were established. Data was collected and compiled however the processing of the information to analyze the results is pending. Also demo plots were established to showcase production technology to farmers and students. A new vegetable seedling nursery was constructed to support vegetable research and production at Central Farm. A small onion dryer and an onion structure were built at Central Farm to showcase appropriate post-harvest technology to farmers. The Crop Section at Central Farm produced 37,400 vegetable seedlings for the FAO project. This is an effort to support small poor farmers in rural areas of the country.

l. Tropical Greenhouses and Covered Structures

A tropical greenhouse and an agryl covered structure were established at Central Farm. Different varieties of sweet peppers are being tested to find suitable varieties adapted to environmental conditions under these structures. The two structures are also used for training purposes.

m. Root Crops

Five varieties of cassava were harvested and the product was supplied to the Agro-processing Unit for culinary testing and for product development of cassava based product. The varieties planted were Rasta, White, Bitter, Blue bird and Panama In addition, 3 varieties of yams 1 variety of sweet potatoes and one variety of cocoyam were planted for seed multiplication purpose.

n. Agroforestry

A total of 5,000 timber plants were sold in 2009 mainly teak, cedar, mahogany and zericote.

o. Training

The staff received training on drip irrigation technology and drainage, tropical greenhouses, integrated farming systems, value chain analysis, project cycle management, the logical framework, agricultural science and technology innovation quality in production of goods/services, system, soil fertility, leadership skills, plant propagation, biodigesters, improving quality in production of goods/services, induction training (Public Service). The staff supported the Extension Service in training over 700 farmers in areas such as organic production, vegetable production and fruit tree production.

p. Technical Committee

The technical committees for Rice, NCCARD and Hot Pepper continued to play an important role in charting the way forward. In terms of rice the

committee main area was focused on planning production and marketing. Specific areas of interest were seed production, weed control and the Spinki mite. In terms of the NCCARD, a symposium on research and development was conducted. As for hot peppers, the Steering Committee was reactivated with the aim of revitalizing the industry.

2. Livestock

a. Beef Cattle

The breeding cows herd was increased by 51.5%. The target of 150 cow-calf breeding stock operation is close to be achieved. At the end of December 2009 there are 100 cows and 35 breeding size heifers in the breeding program. One European Brown Swiss Bull and four European Brown Swiss Heifers were obtained to develop a nucleus herd for breeding stock production. Some 105 calves were born this year an increase over 2008 by 40 calves or 61.5% increase. There was a reduction in calf mortality from 9.2% in 2008 to 4.5% and reduction in calving interval from 434 days to 410 days. There was also an Increase in weaning weights from 495 lbs. in 2008 to 555 lbs average in 2009 and a total of 56 beef cattle were sold in 2009 versus 52 in 2008.

b. Dairy Cattle

The breeding herd increased by 7.5% from 66 heads in 2008 to 71 heads in 2009. The breeding cow herd increased by 7 cows from 35 cows in 2008 to 42 cows at end of 2009 bringing the cow herd closer to the target of 50 cows. Most of the cows in the breeding unit for dairy are of the Holstein breed totaling 34 cows.

c. Deposit Account

Revenues obtained from milk sales increased from \$58,142.60 in 2008 to 62,768.80 for 2009.

d. Pastures and Feeding

The station established 15.8 acres of Mombassa pasture, 1.5 acres Taiwan grass and 0.5 acres of Mar-alfalfa for supplemental feeding and for cutting materials for farmers. It produced 3,000 lbs of silage using high quality forages such Mulberry, Nacadero, Sugarcane and Taiwan grass. One bunker Silo was constructed in 2009 for this purpose. A total of 4,900 bales of hay were harvested from 5 acres of Mombassa and 3 acres of Brachiaria Brizantha. Central Farm also distributed 480 lbs. of Lab Lab seeds to 40 Livestock farmers in the country and of this amount 60 lbs. went to Cayo farmers.

e. Training

Central Farm assisted and supported with training of 300 cattle farmers countrywide in areas of animal husbandry, genetic improvement, breeding and nutrition and supplemental feeding.

f. Bull Rental Service

Bull rental service was also promoted at affordable price of \$2.00 per day to small to medium size cattle farmers. Since its inception in November 2008 a total of 20 farmers have benefited from this service and a total of

406 cows have been exposed to bulls. So far 102 calves have been sired by the bulls through the rental breeding program indicating a 70% calving rate. This is the first calf crop from the first 107 cows exposed in November 2008. Of these farmers 8 are from Cayo District.

g. Genetic Improvement

One European Brown Swiss Bull and four (4) European Brown Swiss Heifers were obtained in late 2009 for the development of a nucleus herd for production of breeding stocks.

h. Belize Livestock Associations

In 2009 Central Farm maintained good working relationships with the Belize Livestock Producers Association (BLPA) to foster the development of the livestock industry. We continued to promote the development of the Belize Pig Council (BPC) to foster the development of the swine industry in Belize. Linkages were maintained with the Belize Poultry Association (BPA) to foster the development of the poultry industry.

i. Belize Agriculture Health Authority

The close working relationship with the Belize Agriculture Health Authority (BAHA) was maintained to improve and safeguard livestock health for the benefit of the national livestock industry. The vaccination campaign for Newcastle Disease which started on February 2nd in Cayo district followed by Toledo February 3rd, Stann Creek February 3rd and Belize February 5th 2009 was completed 100% countrywide and a second round was successfully completed for the Stann Creek and Toledo Districts.

j. Livestock Survey

The survey for all livestock sub-sectors was completed successfully for all districts except Orange Walk and Corozal Districts which are still working on it as of recent.

3. Agro-processing

a. Management

The Agro-processing team consists of a co-ordinator and a technician with eight workers assigned to the production of dried fruits in Toledo and Corozal Districts for the national school feeding program. Another two workers are responsible for the final packaging of the dried fruits on a daily basis with the supervision and assistance of the technician at Central Farm. Also workers at Central Farm assists the National Agro-processing program in the areas of Product research and Development and national trainings carried out under the ROC, Taiwan Technical Mission and the Ministry of Agriculture Agro-processing Program.

The Agro-processing team is small and with little experience. Assistance was requested from the ROC, Taiwan Technical Mission at Central Farm since they have an expert in Food Processing and also the ROC has an Agro-processing Program. As a result of this the ROC, Taiwan Technical Mission and Ministry of Agriculture Agro-processing Program were merged. It is believed that merging the two programmes can save time, avoid duplication of efforts and expense, and the impacts can be achieved

on a more sustainable manner with a better monitoring system of developments in place. Most of the activities in Agro-processing Developments were carried out with the assistance of the ROC, Taiwan Technical Mission.

4. Research and Development

a. Agro-processing Incubator Facility

From the beginning of the year one of the main objectives was to complete the construction of the Agro-processing Multi-Service Incubator Facility at Central Farm. The Incubator Facility with an additional Microbiology laboratory was completed in August, 2009 which now is in operation. The construction of the facility was funded by the ROC, Taiwan Government and the Government of Belize. The Facility is in the capacity of product research and development and trainings in product development. In addition, processors can now take advantage of the facility to jump start their business from processed or value added product.

b. Agro-processing recipe booklet

A recipe booklet was completed as the best means to capture and document some of the experience from ROC Agro-processing program and some local developments in the same area. The documentation of most product research and development started in 2008, but in 2009 a number of products were finalized and were included in the booklet. The booklet contains a number of products such as: baked products, soybean drink, rice drink etc. The booklet needs to be reviewed and edited for publication. It is believed that the booklet should not only be a recipe booklet with basic processing procedures/methodologies but, it should be a manual which can be used as reference for future trainings or product development.

c. Agro-processing Shop

A shop was set up by the ROC, Taiwan Technical Mission at Central Farm since 2005. The main idea of the shop was to display products developed in the agro-processing lab under the ROC program. Currently the shop was only used to sell a few baked products and some soft drinks and a result of this discussions were made with the ROC where a committee was formed to look at the shop as a means of promoting what the ROC and Central Farm are involved in Agriculture and also as a means of income generation for both parties involved. As a result of this the shop was opened in September, 2009 where on each Friday of the week products from the different sections (crops, livestock, Agro-processing and ROC) were available to the public at reasonable prices. It was agreed that the shop be opened with the participation of all sections and it should be evaluated at the end of 3 months to see the impact and sustainability. For the period of more than 3 months the shop has generated more than a thousand dollars which is kept by the ROC at Central Farm for reinvestment to improve the shop and for cash flow for some raw materials or other needed inputs.

d. Formulation of composite flour

Another objective planned with the assistance of the ROC for the year 2009 was the formulation of a composite flour using ground foods such as cassava, yams and peanuts, rice and plantains or bananas. The main objective of the formulation of the composite flour was to produce a flour which can substitute the wheat flour which in return can save in foreign exchange and also reduce cost of some baked products. Research was done on Cassava and plantain flour, but the main problem is the gluten content. These two flours have no gluten content, therefore, it will have to be added. Research will continue with other raw materials.

e. School Feeding Program

The Agro-processing Program managed to produce a total of 9,917lbs of dried pineapple, 13,067 lbs of dried papayas and 12,156 lbs of dried bananas. The production of dried fruits has taken place in both Toledo District and Corozal District. The dried fruits are then taken to Central Farm for final packaging. Central Farm prepared over 250,000 pockets of assorted dried fruits which were delivered to the education office in each District. The education office in each District is responsible for the final distribution.

f. Flower's Bank cohune oil project

The Flower's Bank Cohune oil project funded by the European Union is being assisted with the identification and specification of a centrifuge machine which should be purchased for the project. Contact was established with a Taiwanese company for the sourcing of a centrifuge equipment/machine. A centrifuge machine is key for the production of high quality cohune oil, so trainings were deferred until the machine is installed.

g. Stann Creek Processing Station

The Agro-processing Program assisted in the design for the construction of a processing station in the Stann Creek District. The building was completed but had a minor problem with drainage. It was recommended that an extra shed be constructed adjacent to the building to house a boiler. Regarding equipments, the ROC submitted the list of equipments needed for the processing of pineapple products and contact information from companies that manufactures the equipments but the companies are requesting specifications for the equipments. Once equipments are in place trainings will commence on the processing of pineapple products and other value added products.

h. Fermented Product Project Proposal

As an Agro-processing initiative the ROC has proposed to jointly implement a fermented product project in Northern Belize. The project should start with the production of Soy Sauce. The project proposal has been presented to DAC and women group in both Corozal and Orange Walk District. Most of the funding will come from the ROC, but they are requesting the inputs from MAF on the implementation and to finance a

small portion of the project.

i. Trainings

A number of trainings have taken place in the Agro-processing Lab at Central Farm and out of Central Farm. Women Groups organized by Mrs. Erlington and Mrs. Vegas were trained on baked products. It was a training session for the group to improve their knowledge and skills on processed products and also, the final products were used to share among the less fortunate, especially single parents and as a Christmas treat for the Orange Walk and Belize Districts. Other trainings were conducted for 4H, CET Cayo and UB Central Farm on soybean drink, baked products and jams and jellies.

j. HACCP assessment for Marie Sharp's Fine Food Ltd.

Marie Sharp's Fine Food Ltd was visited to make an assessment to find out why a HACCP certification was not renewed by the authorized authority (BAHA). The assessment was chaired by Mr. Carson Huang, ROC, Food Expert and it was found that issues with Food Sanitation had to be resolved before HACCP Certificate can be renewed. Some of the issues had been solved, others were in process and some were pending for the complete requirements to be met. It was recommended by ROC and Coordinator of Agro-processing to Marie Sharp's Fine Food Ltd. to look at the problems that immediately need to be solve, in other words to prioritize all the requirements and work it out from their with BAHA.

k. Other Activities/Developments

The Agro-processing Program (ROC&MAF) has participated in various activities where the main idea is to showcase the work that MAF and ROC have been doing in the area of agro-processing. Products have been displayed and promoted at Central Farm Open Day, Opening of Project in San Marcus, Opening of Project in San Antonio Village, Cabinet Meeting, Ministry of Foreign Affairs visit to Central Farm and the National Agriculture and Trade Show. Products for display were: variety of baked products, soy drink, tan bran sauce, soy sauce, variety of jams and jellies, variety of fermented products, pepper sauce, sweet pepper sauce, garlic sauce etc....

Fisheries Department

1. Mission Statement:

To provide the country and the people of Belize with the best possible management of aquatic and fisheries resource, with a view to optimise the present and future benefits through efficient and sustainable management.

2. Responsibilities

The Fisheries Department is responsible for the conservation and sustainable use of fishery resources, registration and licences, aquatic and fisheries research, education, establishment of links with fishing co-operatives, management of marine reserves, enforcement of fisheries laws, granting of

fisheries export and research permits. The Fisheries Department has a staff of 73 employees.

3. Main Programmes

The mandate of the Department is executed through its three main programmes:

- 1 - Capture Fisheries Programme
- 2 - Aquaculture, Policy, and Logistic Support
- 3 - Ecosystems Management Programme

4. Overview of the Fisheries Sector

The fishing industry continues to contribute significantly to the economy of Belize. Contributed 2.2% to Belize' Gross National Product in 2008. Earnings for Capture Fisheries Sector valued at Bze20.76 million with lobster contributing Bze13.99 million, conch Bze6.49 million. Earnings for the Aquaculture Secor valued at about Bze25 million, primarily from shrimp, tilapia, and cobia exports. Total employment - 3,509 with the capture fisheries directly employing about 2,759 active fishermen.

5. Capture Fisheries Programme

In 2009 production totaled 1,299,938 pounds, an increase of 7.92% from 2008. This included lobster tails, conch meat market cleaned, marine shrimp, fish fillet, whole fish, stone crab claws, and lobster head meat. There were increases in all categories except marine shrimp, which decreased 22.54%, and fish fillet, which decreased 61.5%. The greatest increase was in whole fish, up 24.65% from 2008. Lobster production is not expected to increase significantly in 2010. Lobster prices are expected to increase in 2010 as the recession in the U.S. economy ends. The lobster resource is considered fully exploited and requires urgent and special management to maintain or reduce the present level of lobster fishing. The administration is considering Individual Transferable Quotas (ITQ) as a possible option for the management of lobster stocks in Belize. For conch, production has shown a constant increase. Market prices have remained relatively stable. The conch fishery is governed by a quota system with a TAC for 2009-2010 of 690,322 pounds distributed among five producing fishing co-operatives according to catch history and production capacity.

6. Planned Activities 2010

- a. **Conch Survey** - In compliance with CITES requirement for the management of conch stocks in Belizean waters. A National Conch Survey is conducted every two years. This survey provides the necessary information to determine the TAC for the conch season.
- b. **Lobster Survey** - The Department has determined that there is a need to revise the management strategy for the lobster fishery, hence the need for scientific information on the status of the lobster stock in Belize.
- c. **National Plan of Action (NPOA) Sharks** - In compliance with FAO Code of Conduct for Responsible Fishers, a NPOA Sharks has been developed. This NPOA will go through a National Consultation at all fishing communities in Belize.
- d. **Gill Nets, Trawling and Fin Fish Regulation** - The Department is in the process of putting together a working group that will look at the issues

related to use of nets and regulating the fin fish fishery. It is envisioned that this group will generate the best possible way forward, taking into consideration all available information and experiences.

- e. **Diagnostic Study to Determine Poverty Level Fishing Communities** - With assistance from CRFM and the Kingdom of Spain a national survey will be conducted to determine the level of poverty in the fishing communities of Belize. This is part of a regional survey being conducted in CARICOM countries.
- f. **Catch Shares Pilot Project** - Work is being done on the implementation of a Catch Shares System for the management of the lobster fishery at Glover's Reef. This is in co-operation with EDF (U.S. based Environmental Defence Fund).
- g. **Formulation of a Master Plan** for the Management of Fishery Resources in the Caribbean being implemented by RFM with financial help from IICA.
- h. **ACP FISH II** - project for the development of fisheries policy and improving institution capacity for fisheries management, funded by ACP and European Commission.
- i. **REBYC II** - Management of by-catch and reduction of discards project by FAO. Project has been formulated and FAO is seeking funds,
- j. **Deep Sea Fishing Framework** - Development of a framework and regime to enable the development of fisheries for deep slope and pelagic fisheries.

7. National Overview of Aquaculture sub-sector

- a. **Shrimp Farming** - Major decline in production area, volume, and revenues. In 2007 - 15 farms operational, in 2009 - 8 farms operational and the production area decreased from 6,800 acres to 3,300 acres. The existing farms have a change in farm strategies that focuses on niche markets. Constraints are: disease outbreaks, high cost of production inputs, decline in market prices the three Shrimp Processing Plants have a capacity of 60 tonnes per day. Three Shrimp Hatcheries have monthly production of 120 million PLs. For 2009 estimated production is 9.43 million pounds whole shrimp valued at Bze\$20 million.
- b. **Commercial Tilapia Farming**
In 2002-2003, the first Tilapia farm was established at La Democracia Fresh Catch Belize Ltd. In 2004-2009, Export to markets in U.S., Mexico, and Guatemala In 2009, there were 400 acres of production, with project output of 1200 tonnes and projected revenues of Bze \$2.88 million.
- c. **Cobia Farming**
In 2006-2007, the first Cobia farm was established near Robinson's Cayes - Marine Farm Belize Limited. In 2007, Aqua Gold marketing company started exporting to the US market. The construction of hatchery started near Dangriga in 2008. In 2009, twenty six production units with circumference cages of 40, 60 and 100 ft were constructed. The projected production for 2009 was 250 tonnes with an estimated revenue of Bze \$2.64 million.

8. Small Scale Agriculture

a. At the end of 2009 there were 65 farmers engaged in small scale tilapia farming in the six districts with 14 acres in production units containing 213,782 red and grey tilapia of which 25 percent was stocked in 2008. 2009 production estimated at 110,000 pounds.

b. 2009 AQUIF Accomplishments

- i. National survey of small scale aquaculture with strategic recommendations submitted to MAF.
- ii. Provided training in fish farming to 75 farmers.
- iii. Field inspections provided for 80 farmers.
- iv. Helped farmer groups develop project proposals for funding. Three projects submitted and approved under the EU Small Scale Enterprise Development in Agriculture. The projects are in San José, Douglas, and Sarteneja villages.
- v. Facilitated FAO consultant in developing the Short, Medium, and Long Term National Strategy for Small Scale Aquaculture Development in Belize.
- vi. Assisted in developing Aquaculture Pilot Project under the JICA/CRFM initiative.
- vii. Assisted the PRIPESCA project in developing a proposal for two tilapia projects along the New River Lagoon.
- viii. Represented Belize in the Central America Aquaculture Working Group through OSPESCA.
- ix. Provided inputs for the proposed FAO Regional Mari-Culture Hatchery in the Caribbean as well as the JICA Mollusk Hatchery and Regional Training Centre in El Salvador.
- x. Conducted Strategic Planning Session with Small Scale Fish Farmers. Cabinet paper will be submitted with recommendations.
- xi. Submitted the necessary documentation to BAHA for the importation for the Red Claw Lobster Breeding Programme.
- xii. Fingerling production at the Biscayne facility was 92,500 that was supplied to local farmers.
- xiii. February 2010 - Implemented the production of all male seed stocks. Production is expected to increase to 250,000 annually.
- xiv. Acquired water quality equipment for the Extension Programme.
- xv. Submitted documentation to BAHA for importation of red claw lobster for breeding programme: Approval pending.

9. 2010/2011 Planned Projects and Activities

- a. Provide technical support to five tilapia farming pilot projects. Three projects funded under the EU - San José, Douglas, Sarteneja. Two projects funded by OSPESCA for the New River Lagoon communities
- b. Implementation of the IICA/CRFM aquaculture project at Biscayne for developing low-cost feed trials.
- c. Fully develop the production of all-male tilapia seed stocks.
- d. Improve and expand the aquaculture Extension Programme throughout

- the country.
- e. Co-ordinate training for farmers in Jamaica, Mexico, and Taiwan under projects already approved.
- f. Develop reproduction programme for red claw lobster at Biscayne.
- g. Assist farmers and fishermen in accessing grant funding and soft loans for medium scale projects.
- h. Continue to organise farmer groups to access local and regional markets.
- i. Diversify species production portfolio: Oyster farming project in Caye Caulker, Seaweed project in Placencia to involve fishermen
- j. Enactment of Aquaculture Act and Regulations after stakeholder consultation.
- k. Revision of the Fisheries Act and Regulations.
- l. Ecosystems Management Unit

Co-Operatives Department Report

Co-operation is a critical component needed to make things happen. At the Department of Co-operatives, co-operation is axiomatic.

1. Seven Co-operative Principles:

- a. Voluntary and Open Membership
- b. Democratic Member Control
- c. Member Economic Participation
- d. Autonomy and Independence
- e. Education, Training, and Information
- f. Co-operation among Co-operatives
- g. Concern for the Community

2. Co-operative Department Mandate

- a. To reinforce and re-energise the co-operative movement as viable socio-economic organisations.
- b. To rekindle interest in co-operatives as business enterprises in the fight to reduce poverty in the rural and urban areas.
- c. Micro Enterprise Development through Modern Co-operative Management.
- d. Enabling Environment
- e. Co-operative Information and Training
- f. Regulations

3. Organisation

The Co-operatives Department is headed by the Registrar of Co-operatives assisted by an Education Officer, Business and Entrepreneurial Development Officer, and an Inspector of Records. The Co-operatives office is managed by an Administrative Secretary with an Office Assistant. There is a Co-operatives Officer in each of the six districts, with the addition of a Senior Co-operatives Officer in the Belize District.

4. Roles and Functions of Co-operative Department Units

- a. Business and Entrepreneurial Development Unit**

- Assist co-operatives to develop sound business plans.
- Ensure that co-operatives have yearly operational plans and budgets.
- Promote new business initiatives, investments, and diversification of services within co-operative organisations.
- Ensure that co-operative operations are cost effective.
- Provide training and skills development in entrepreneurial development.
- Increase visibility to co-operatives.

b. Education Unit

- Facilitate training through education programmes for all registered co-operatives in Belize.
- Assist the district co-operative officers at training programmes for co-operatives.
- Co-ordinate with sister agencies in training workshops for new and innovative products, ideas, and services to encourage development.
- Develop training packages and pamphlets for district officers.
- Develop outreach programmes on co-operative principles.

c. Inspection Unit

- Ensure that co-operatives comply with standard bookkeeping practises, Co-operative Societies Act, Chapter 313 of the Laws of Belize.
- Ensure that co-operatives have effective operating procedures.
- Ensure that co-operatives have and maintain books of accounts and records.
- Facilitate audits of small societies that cannot afford to pay private auditors.
- Conduct timely inspection of books and accounts.

d. In-House Programme Policies: Four areas of concern have been identified and policies have been adopted to ensure success.

- Co-operative Regulations
- The existing Co-op by-laws are over 60 years old and in many instances are weak, ambiguous, and no longer relevant to today's world.
- Discussions were held with co-op officers on the existing act to identify weaknesses.
- Business Development
- Unit dedicated to assist and train members, officers, and management committees.
- Assist management to develop business plans.
- Assist to identify and negotiate markets.
- Promote trade shows and symposiums that can enhance the quality of competitiveness of co-op produce and services.

- Capacity Building: ongoing training of members and management committees in the By-Laws Act, Rules, and internal policies of their co-ops.
- Institutional Development: increase collaboration and co-operation with DACs.
- Exchange programmes.
- Increase visibility.
- Timely meetings with management committee and membership.
- Identify and access technical support where needed.

5. Accomplishments

- i. Recruited two new officers.
- ii. Registered three new co-operatives: Golden Crop Agriculture Co-operative; Maskall Farmers Co-operative; Belizean Taxi Co-operative
- iii. Total number of co-operatives in 2009 was 210.
- iv. Took part in the signing and monitoring of a Memorandum of Understanding among fishing co-operatives to ensure standard price for lobster and conch in the local market.
- v. Played a major role in the development of a five-year strategic plan for Belize Fishermen Co-operative Association.
- vi. Acquired two additional vehicles to bring the Co-op Department's fleet to six vehicles and two motor bikes.
- vii. Reviewed the existing Co-operatives Act and prepared draft of a revised act.
- viii. Reviewed a Joint Venture Agreement with the Rio Grande Fishermen Co-operative to ensure transparency and balance.
- ix. Improved transparency in the management of National Fishermen Co-operative

Belize Agro Productive Sector, BAPS by Jose Alpuche, Executive Director

1. Technical Language

One of the difficulties in speaking with farmers is the complicated jargon. The language is too technical and they don't understand.

2. Request for Presentation

The request from the Ministry was to identify programmes, policies, projects, that the BAPS group sees critical for further development in the agriculture and fisheries sector, and suggest priority areas for further economic development.

3. Description of BAPS

BAPS is a not-for-profit company that replaced the Commodities Secretariat in 2005 to represent interests in the sugar, citrus, and banana industries and mixed farming Mennonite communities. Funding is by voluntary contributions from members. The main task is to look at synergies.

4. Agriculture's Image

Agriculture must shed its image of constant dependence on handouts because it's really a business. When you hear tourism promoting itself you hear of investment going in. They don't talk about tax write-offs that are the incentive for the investment. They market themselves differently. What you hear on the radio about agriculture is that we've given bags of fertiliser and two chickens to a farmer somewhere. We have to change that image, that public perception. There is some reality to it. Politics is involved in agriculture, but we've got to repackage the image of the agriculture sector.

5. Efficient Use of Limited Resources

Given the debt burden, government will be strapped for cash in the foreseeable future. We then have to shed some of what we do and keep what we consider core issues.

6. Business Development Plan

We've got to develop a detailed business development plan for the sector. Co-operatives comes the closest to a business orientation to our policy. We need to work on a business development template.

7. Change in Structure of Associations

Supreme Court decision in citrus challenges the entire concept of the way associations are established and operated. Any association that has de facto exclusivity is now challenged. In the new template for the associations for the larger industries we need to look at cluster formation for those that are not organised. We need groups of like-minded people producing similar products to begin to speak to each other. This should be one of the core drives of the Ministry of Agriculture, otherwise the Ministry will continue spending a lot of time trying to help people make up their minds.

Ministry policy must be for all sectors and there must be a clearly defined list of interventions that the Ministry would consider core for every sector and for every size operation. A lot of this exists but there is a need for it to be articulated better and developed better.

8. Investment Finance

There is concern that the ALBA Fund will be used to assist and the Ministry will administer loans. The Ministry needs to fine-tune its focus. There are other agencies such as the new DFC that can be given the mandate to administer these funding streams. The Ministry should push for cheaper financing, but the implementation should be left to those that have that as their core business.

9. Agriculture and Taxes

We have a significant problem with taxation in agriculture. We pay taxes on inputs, and that's a direct loss to producers. We need to tax agriculture at the point of sale, to tax profits, not losses. We tax losses when we tax inputs and not tax actual production. The EPZs in Belize subsidise the foreign plate of food. Those that produce for domestic consumption outside an EPZ need to be given the same benefits as those operating inside an EPZ especially on inputs for production. That is the only way we

can level the playing field. Reducing import duties across the board would be good overall, but we must be careful that we do not undermine domestic production.

10. Disaster Fund

There is a critical need to establish a disaster fund, funded partly by government with contributions from local producers.

11. Marketing Policy

We need a good market penetration policy to enable local producers to gain market edge locally and externally

12. Confidence Building Policies

Confidence is key to business development. We need policies that create confidence to invest. When one government agency says one thing and another says something opposite then the investor will say 'let's wait and see'. That will mean that there will continue to be contraction in investment in the sector.

13. Quality Control

A mistake was made last year in stepping away from quality in the sugar sector. We fought with the EU to convince them that Belize could remain in sugar in the long term. The fundamental requirement was that we would be able to improve competitiveness, improve productivity. A core policy for that was payment by quality. If one farmer spends time and effort to do everything right, and another cane farmer does nothing and puts in 80 percent cane and 20 percent mud, they both get paid the same if there is no quality standard. It's a race to the bottom of the barrel. If we don't return to a system of rewarding quality in sugar cane, then we'd better shut the industry down now and cut our losses. Otherwise we'll end up like Trinidad, spending hundreds of millions of dollars to keep an industry going for political reasons but not for economic reasons. We have the example here in the Caribbean. We have to act differently.

14. Better Use of Standards

We have an ongoing debate about rice. A blanket price control gives the farmer no incentive to produce higher quality because he can't go to the store and demand a higher price. Yet we have Goya rice coming in from Miami that's being sold for six dollars a pound because it's in a box and has a little bit of flavouring. We need to use the tool of standards to begin providing the social safety net that's required. We could use standards to provide the social safety net for consumers while at the same time allowing farmers to get a higher price for their better quality produce.

15. Protection for Producers

Policy is needed to organise and promote formal business relationships to ensure that when the farmer produces, he gets paid, and if he does not get paid, then whoever stole from him is taken to court.

16. Ready-to-Eat Market

The ready-to-eat and frozen food market in both developed and developing economies is one of the fastest growth areas and we need to

look at it. There is a lot here that could be used to produce ready-to-eat and frozen food. Vacuum packed parboiled casava is available in the Caribbean and we could begin to do those sorts of things.

17. Collaboration Between Ministries

There needs to be greater collaboration between ministries such as Agriculture and Foreign Trade and other ministries that deal with the private sector.

18. Joint Public-Private Working Groups

We need to establish working groups between the public and private sectors. There would be greater understanding and improved unity of purpose. This will take time but the result will be invaluable. The private sector is prepared to collaborate with the Ministry of Agriculture as well as other ministries.

Finance Presentation by Marion Palacio, Deputy Financial Secretary, Ministry of Finance

1. Budget Totals

The expenditure in agriculture rose from eight-point-eight million in FY2006/2007 to 22-point-six million for this coming fiscal year. The largest portion of recurrent expenditure is for emoluments. Nine-point-six million dollars Capital Three expenditure is proposed for FY2010/2011.

2. Other Support for Agriculture

Government also, by way of its policies, provides other support to agriculture. This year, GOB removed additional duties and GST on some other items, certainly equipment, packaging, and others, and by way of direct subsidies with duty free fuel in the sugar cane industry. And there is the work done by the Belize Marketing Development Corporation to set a guaranteed price for certain items. I'm not sure about the quality. Those are things that ought to be revisited during the course of time.

3. Maputo Declaration

The Maputo Declaration on agriculture and food security came out of a meeting of ministers of agriculture from 36 countries in 2003. One of the things the declaration called for the countries taking part to increase the share of expenditure in the national budget for agriculture to ten per cent within five years. Only eight countries met that deadline. As to where Belize is, I'll leave that for you to figure out.

4. 2008 Public Expenditure and Financial Accountability (EFA)

One of the things that is driving the budget process is a Public Expenditure and Financial Accountability assessment that was done in the last quarter of 2008 through the European Union. Just about every international organisation is on board with those requirements now, including the IMF, World Bank, and IDB, so it's not something we can dodge. The PEFA had 28 high performance indicators and Belize scored D or D+ on 17 of these indicators. Some of the items were credibility of the budget, payment arrears, transparency, policy based budgeting, this is

where multi-year budgeting comes from, predictability, and control, and on all these items we got D or D+. On accounting, recording, and reporting we got D. On external scrutiny and audit and legislative scrutiny we got D or D+ as well.

5. Actions as a Result of PEFA

Beginning January of 2009, we've begun a number of consultancies starting with public finance legislation reform undertaken by Arleck Lazare in January 2009 to look at the whole range of legislation that we have including the Control of Public Expenditure Handbook that goes back to the '60s, Stores Orders, and more recently the Finance and Audit Act, with a view to looking at those pieces of legislation and making them modern. This was followed by consultations on the institution of macro-economic management by Dorla Humes in February 2009, which also looked at the management of financial resources. An action plan was developed for public financial management reform to address the weaknesses that were identified under the PEFA assessment.

6. Ongoing Consultancies

The Fiscal Transparency and Responsibility Framework Consultancy is ongoing to make sure that we can prepare good budgets, announce our intentions, and make all of that information available to the public so that it can stand up to scrutiny. Also it helps in the preparation of a medium term fiscal framework, or multi-year budgeting, so that you don't have to prepare a budget just for one year. You can plan for the medium term. Three years is what you are hoping for so that you can see where you are going in terms of policies and put the money into those policies to make them work for you.

Institutional Framework for Investment Management Consultancy looks into the capital expenditures in the budget. Some consultants came from Qatar and Dr. Carla Barnett provided some consultancy services to the Ministry of Finance in financial management.

7. Commitment to the Reform Process

Cabinet approved multi-year budgeting in January of 2009 and approved the framework to draft legislation to improve fiscal policy formulation and reporting in November of 2009. The CDB, IDB are all assisting with the implementation of these policies. Ministry of Agriculture is one of the four ministries that have been modeling the multiyear budgeting. Year 1 mainly constitute the budget for 2010/11. This includes the monitor of the execution of the budget and more will be expected from the Chief Executive Officers and staff in executing this budget.

In conclusion, Agriculture has a key role to play in the development of the country and given the limited resources available there has to be this constant effort to be better at what we do in efficiency and productivity standpoint. There is need to be in constant collaboration with the Ministry of Agriculture and Ministry of Finance and Ministry of Finance will do whatever it can to work with the Ministry of Agriculture.

Horizon 2030 Presentation by Dr Carla Barnett

1. **Definition**

Horizon 2030 is a project of the Ministry of Economic Development funded by the Inter-American Development Bank. It is a process of developing a long term development framework for Belize. It's supposed to establish a vision of Belize for the future, where Belize and its people want to be by the time we get to the year 2030. And even as it establishes that vision it's supposed to be setting the goals and objectives that would allow us to achieve this vision as we move ahead. So it's in two parts. It's a project in the Ministry of Economic Development funded by the IDB. Consultations were conducted nationwide through the end of March.

2. **The consultations**

We are asking people to think ahead. We know that everybody in every sector deals day to day with the problems of the day. It's a very short-term process that we are generally in. What we are asking people to do in Horizon 2030 is to think beyond that. You deal with your problems of today because that will get you to tomorrow but you have to deal with it in a framework that thinks beyond what is going to happen tomorrow, what we want to be like by the time we get to the year 2030.

When we talk about issues of the economy and agriculture in particular the farmers have been very articulate about what they would want to see in agricultural development, the role that they would like the Ministry to play, and the role that they feel that they can play in the future development of our country.

When we get through that first part of the discussion on where we want to be in 2030, then we talk about the changes that we need to make. People know that we cannot keep doing things in exactly the same way and expect to get a different result. We have lots of discussions about the legal changes, the changes in our society, in our political structure and processes, in our policies that need to be changed if we want to be in a better place when we get to the year 2030.

3. **Three Key Current Issues**

- i. Violence in Society, including crime, drug abuse, and violence in the home. People link violence to unemployment and poverty. It's reached the stage where the young people that we talk with say clearly that they live in a country where they don't feel safe. It's particularly strong in Belize City, but it's not only there that we get that. The feeling of being unsafe by the young people is particularly disturbing because when we talk about where you want to be in the year 2030, a lot of them don't see themselves here. They see themselves somewhere else. And the little children who can't explain it in words draw pictures of the planes that are flying away with them. If the younger generation doesn't see their future here, that's a huge issue for us to deal with.

- ii. Economic and Social Infrastructure and the way we develop and maintain that infrastructure, including roads and bridges but also how the education system works, how the health system works. People know it's inadequate. They identify particular things that need to be addressed. In education there are issues of quantity, quality, and access equity. Too many children can't find a place in high school, not because they are incapable, but because there isn't a place. We don't have enough school places for children. They tell you, 'if you want us to be productive, then we have to at least get to high school.' And that's a reality. When we speak with the productive sector they talk about issues of un-competitiveness. People want to live in a Belize where we are competitive, and competitive means we are producing at higher levels with increased productivity and higher quality. The quality issue has come out very strong when we've met with people in the productive sector but also when we meet with young people. Young people are bright and they know that to compete they have to be the best and so they are talking about quality issues as well.
- iii. Accountability, and not only in public institutions. People understand that accountability begins at the individual level. They say that even as we strengthen our institutions of governance, of public government institutions, we also have to deal with issues of how we as individuals participate, what we are willing to do or not do, what we are willing to accept and how we respond. So people say the issue of acceptance of personal and social responsibility is the first step in dealing with the issue of accountability.

4. Goals for 2030

- i. People want an informed society, a society that is well educated, multi-cultural, and technologically advanced. When farmers talk about technology it means a different thing from when the children are talking about technology. The farmers want to be able to incorporate technology in an effective way in their farming systems.
- ii. People want an economy that's debt free and where as many people as want to be employed can get a job. For people that's the key for dealing with the issue of poverty in Belize. If we can't fix the debt problem and if we can't create jobs then we're not going to be able to deal effectively with the issue of poverty.
- iii. People want to be able to remain in the rural communities. They want rural communities that are strong with a vibrant agriculture. The problem they face is that when they send their children to high school, the children can't stay in the rural communities; there are no jobs there for people with a high school education. They want to be able to develop businesses around whatever is happening in the rural communities so there are opportunities there for the young ones who get the opportunity to be educated.

- iv. More women in politics? Generally the answer is yes. Younger people say yes. For older people the women say yes and the men say they are not so sure. The younger ones see it as something inevitable and as something they would want us to promote.
- v. People want to enjoy politics. For all of the negative things people say about politics, that it's divisive, people enjoy politics. They understand that that's how we choose our leaders, but they want it in its place. So by the time we get to 2030 we should have a politics that's good, that people enjoy, that doesn't take over our lives. When you are finished with the election you put it behind you, and then we get together and move ahead. And they don't know how to fix it. They think it's something politicians have to fix. The basic question people ask is how we will stop politics from breaking up the Horizon 2030 process. In the first half-hour they ask us. They want to know how we will transcend it.

5. Approaches to Achieve the 2030 Goals

The ideas that people tell us ought to be no surprise. We talk about it all the time but we don't get it done. People want more effective governance. They know that if we want to change the way we are doing things we have to fix that. And they want more relevant and accessible education. But they say to us that we need different planning and different implementation approaches if we are going to be successful in dealing with our issues. At every meeting they tell us, 'We are really tired of talking.' Everybody comes and talks, but people want that talk to lead to action. People want to know, for example in the Horizon 2030 process, that at the end of the day it will make a change, and that change must be a change for the good.

People want collaboration across sectors. And this was especially strong when we were talking to people in the rural communities, because people in the rural communities are visited by agencies and consultants and ministries more than people in the towns and cities. People say they find themselves talking about the same issue with different people, and if we were all organising our development work better, then there could be one conversation where all the different people are around the table and we could find solutions that cut across sectors. People are asking for that collaboration.

People are asking for regular evaluation. They say that when a project is complete no one tells them whether it was successful or what the results were. People need to know what the result of action has been because it is breeding in a certain amount of apathy and as it carries on the ability to work with the stakeholders is going to be more and more difficult if we are not giving feedback on the results of the work that we do.

People across the country are also saying to us that they want the work to be community focused. By that they mean, when we go into communities we have to listen, we have to work with the communities, not talk at the

communities, and we have to involve them in designing and implementing the projects and programmes that are supposed to affect them. They say that many times they feel as if they are the object of development work as opposed to being the people who are supposed to be doing and benefitting from the development work.

Dealing specifically with agriculture, farmers say to us, especially with the issues of finance and access to technology and access to land, that they know what they need to do. They don't want people to tell them 'grow this, grow that, grow the other'. They want to know why, and they want to know at the end of the day that they can sell, and they want to know that if there is a hurricane and it wipes them out that there is some kind of solution. They don't want after a hurricane to get a bag of seed. They want the money so they can invest properly. These are the words they have used to us, so I am just telling them back to you.

6. Farmers See Four Key Issues with Marketing

- i. As a country we do not promote enough the consumption of local products. It just does not happen and the farmers think that is something the Ministry can help with.
- ii. Several groups have said 'a farmers' market', where they can take their produce themselves.
- iii. Illegal imports are a big threat.
- iv. Market information to farmers. Many have said that they don't know what's happening in the domestic market. They want that information so that they can make informed decisions.

Support from the Ministry of Agriculture and Fisheries, training for farmers in new technologies especially and in a way that they can absorb it. They know that they absorb information in a way that is different from people who have been to university. The sense they are giving us is that they are not getting the information in a way in which they can absorb and use. They want that kind of help. They want extension services to be helping more with access to technology.

Farmers are asking for help in organising. They want to be able to get together among themselves. They feel that will create some momentum within the industry that they can build on.

Some have been asking for greener pesticides. Whenever we've been in a group that has people who are already doing organic farming, they say they don't know where to get greener pesticides. I'm concerned for them because they understand the link between agriculture and the environment.

Farmers want better co-ordination among the ministries. Several of the talked about Education and Agriculture, and several of them talked about Health, Education, and Agriculture. They've said to us that when the

young people come out of school they don't want to go into agriculture, and they think that's part of what we're not teaching our children in school, that agriculture is a positive and a good thing. If we want a vibrant farming sector in 2030, we have to teach our children that it's a good thing to do. And they are saying that if we can get the Minister of Health and the Minister of Education and the Minister of Agriculture to work together to convince people that it's good to eat healthy food, locally produced food, we'd have a healthier population, a larger domestic market for agricultural produce, and we'd have young people actively involved and desiring to get into agriculture. That's a suggestion we got in many places as a way in which ministries can work together.

Report of Workgroups

1. Summary of Workgroup One - Food Security and Risk Management - Presented by George Myvett

Food security is defined as the sustainable supply, accessibility and use of safe, high quality, nutritious, diversified, and culturally acceptable foods for all Belizeans. The basic food supply consists of corn, beans, rice, poultry, eggs, meat, and fish.

Issues of Constraint:

- i. Seed/Seed Stock/Germ Plasm
- ii. Storage - becomes pertinent in cases of disasters such as hurricane, floods, etc., when food may become scarce.
- iii. Distribution - a distribution system is necessary to ensure that the people who need food will have access to food.
- iv. Cost of production of food in Belize
- v. Technology - ensure that systems are effective and efficient
- vi. Emergency Plan - a plan needs to be in place in the event of a hurricane or flood, to ensure that the population does not starve.
- vii. Accessibility
- viii. Price Control - issue of affordability

Recommendations

- i. Seed/Seed Stock/Germ Plasm - Assurance of a reliable source of seed stock. There needs to be an in country seed bank and storage facility. Seed stock policy to ensure high quality; whereby self-sufficiency becomes relevant.
- ii. Storage - Increase storage capacity for food for human consumption, eg; the Mennonite community has large storage bins that are used to store animal feed.
- iii. Distribution - This needs to be private sector driven, policy response would be provided through incentives to garner private sector involvement in improving the distribution.
- iv. Reducing the cost of food can be achieved by reducing input costs.
- v. Can be achieved by reducing inefficiency, building capacity amongst producers to apply improved technology and production

- practices.
- vi. Need a policy that ensures that adequate percent of production is left in the country.
- vii. Promotion of organic/natural gardening systems and backyard gardening
- viii. Collaboration between Ministry of Agriculture and Ministry of Education to promote this initiative.

In conclusion, in reference to food safety and security, public awareness needs to be addressed as part of the response; strengthening laboratory testing facilities, setting good standard of production and policies implemented to effect good agricultural production practices.

2. Summary of Workgroup Two: Foreign Exchange and Export - Presented by Pamela Scott

- i. Statistics show that imports over a 10 year period (1998 - 2008) were Bz113.6 million dollars and in 2008 it increased to \$192 million dollars. However, agricultural exports for 2000 was \$334 million dollars, based on Ministry of Agriculture & Fisheries Statistics, there was a decrease in exports.
- ii. Traditional Crops for Export**
 - Citrus, Banana, sugar, marine: shrimp, aquarium fish, lobster, aquaculture: shrimp and tilapia, livestock: beef, cattle, sheep
- iii. Non-Traditional Crops**
 - Papaya, red kidney beans/black bean, corn (yellow/white), hot pepper, cocoa beans, organic coffee, cotton, lime cowpeas, peanuts, rice and xate, Fisheries in marine: sea cucumber and fin fish, Aquaculture: cobia
- iv. Existing Value Added Products**
 - Hot pepper sauce, Jams, Fruit concentrates and spices
- v. Potential Exports**
 - Pitahaya, honey chocolate cocoa yam, chocolate, coconut water/oil, deep sea fishing, tuna, marlins, fin fish, direct consumption sugar, plantain by products, bread fruit, spices (anato) and condiments, fruit juices, leather (hind), cashew products, wine, seed, beef, pork and poultry
- vi. Foreign Exchange and Export**
- vii. Traditional products**, non-traditional products, existing value added products/crops and potential exports
- viii. Market Study Priorities**
 - Jams and jellies, cocoa, honey, hot pepper, beef, corn, beans, rice, peanuts, deep sea fishing, value added for fishery commodity, pitahaya and dehydrated/vacuumed fruits
- ix. Policy**

- Export credit
 - Port infrastructure
 - Role of Ministry of Foreign Affairs & Foreign Trade
 - Ministry of Economic Development
 - Beltraide: SME's
 - Export - office in USA and EU
 - Ministry of Agriculture and Fisheries active involvement in working with the priority listing
 - Belize Marketing and Development Cooperation to serve its purpose in agri-marketing
 - Farm organisation
 - Re-visit BFAC Model
 - Strengthen BAHA
 - Bureau of Standards and Beltraide
- x. A permanent, qualified, committee to follow up and implement viable actions in reference to foreign exchange and exports.

Conclusion

There is a need to identify the role of each Ministry and develop practical solutions to strengthen them. Need to develop a strategy. MAF needs to enforce BMDC to serve its legislative role in agro-marketing. Strengthening. permanent qualified committee able to in terms of foreign exchange and export.

3. Summary of Workgroup 3 - Import Replacement and Substitution

a. Objective is to save foreign exchange.

b. Import Substitution

- i. Substitution of imported products with the same products locally produced.
- ii. For example, substitute locally produced onions for imported onions.

c. Import Replacement

- i. Replacement of imported products with different products that are locally produced.
- ii. For example, locally produced guava for imported apples, and sweet potato and casava chips for imported potato chips.

4. Workgroup Four - Marketing and Finance

a. Marketing

- i. Where are the markets?
- ii. What are the requirements?

b. Finance

- i. How much financing we need?
- ii. For What?

- iii. Operations
- iv. Marketing
- v. Investment/Infrastructure
- vi. Capacity Building
- vii. GST/ Credit
- viii. Cost to the farmers

c. Resolutions:

- i. Need to have a clear policy statement on marketing and financing
- ii. Marketing Unit within MAF
- iii. Redefinition/refocus BMDC , must include BELTRAIDE
- iv. Need to have a greater focus/certification to access markets
- v. Organize farmer to address the challenges as a mean to form economies of scale
- vi. Promotion of local production (domestic and international Markets) (distribution)
- vii. Order of priority (determine priority commodity for domestic and export markets)

d. Financing:

- i. Interest rates (affordable and accessibility) Technical assistance (risk management)
- ii. Loans to the productive sector (firm and agriculture Credit Union, Producers/buyer arrangement)
- iii. Micro Finance
- iv. DFC (re-designed and restructured)
- v. Priority commodities for financing
- vi. Amount of resources required

e. More in-depth studies and analysis

- i. **Domestic Markets:** Tilapia, Hot peppers, Onions, Beans, Vegetables, Processing (dried fruits), Value added, Honey, Coconuts
- ii. **International markets:** Honey, Beans, Corn, Fish, Hot-peppers, Pitahaya, Processing/value added, Beef, Cocoa, Rice, Agro-Forestry (byproducts)