

# **USAID GEO**

## **Guyana Economic Opportunities**

### **Packaging Materials and Technology Assessment for Export of Fresh and Processed Foods**

#### **Trip Report**

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*To:*

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## **Executive Summary**

### **Packaging Materials and Technology Assessment for Export of Fresh and Processed Foods**

Having conducted a rapid assessment of the packaging industry through meetings and on-site visits with package manufacturers and food processors, the problem solving and technical support delivered to the Guyanese food processing industry demonstrates an unsupported basic packaging sector in need of technical education, on-site training and package upgrading using local resources; technology transfer in processing and packaging, market research assistance, machinery sourcing and product and package handling.

Food processors are importing cartons, flexible pouches, glass and plastic jars and caps from the US and generally cartons and printed labels from Trinidad. Second hand material such as netting bags are sourced locally as are some recycled glass containers. Polyethylene film and flexographic printed bags, and poly and polyester (PET) bottles are produced locally. Processors can purchase these plastic bottles locally less expensively than similarly sized imported glass bottles.

Exporters will need to ship fruits and vegetables and many other liquid (i.e. sauces) products now in glass in plastic in order to compete with foreign suppliers in targeted markets who now have their products packaged in plastic. They do not yet understand the importance to transition from glass to plastic and will have to be educated. Advantages of reduced breakage and lower freight costs will become obvious in the near term.

The sector needs a level of services medium term. These include (in priority)

1. Market research assistance
2. Shipping carton upgrading and technical support
3. Label design and application assistance (including bar codes and nutritional panels)
4. General packaging technical assistance and problem solving
5. Assistance with international packaging standards and testing
6. Technology transfer
7. Processing and packaging machinery assistance

Requests have also been made for

1. Assistance with US visas to meet with importers and brokers
2. Credit practices, procedures and policies

Most companies visited do not have a clear idea of how to source and evaluate importers and brokers. They generally feel that CARICOM is of little help. Firms realize the capability of Caribbean Container to supply cartons but need assistance in defining their carton needs. On-site packaging assistance is further encouraged due to the vast level of

problems encountered. Label design and application is needed in order to compete in export markets as this is a basic requirement. Many small processors have problems sourcing right sized (pilot) equipment for production. Generally, without a foundation for a locally assessable body of knowledge, packaging technology can not be disseminated successfully.

## **Introduction**

The packaging industry in Guyana is in a state of infancy. In the past packaging was not important. With the Government's initiative to increase food exports, it has been realized that packaging must now play an important part in exporting if the country and food sector is to compete successfully in and outside the region.

Almost all exported fruit, vegetable and marine products are exported in shipping cartons, hence carton manufacture and use has received more attention than other packaging forms such as glass and plastic jars and bottles, closures, flexible pouches and labels. Caribbean Container Inc. (CCI), the only carton manufacturer in-country has tried to meet the demands of the food industry but has had problems obtaining financing to upgrade the facility. In the process, shippers' needs have not been met. Shortages of recycled raw material, inadequate machinery (headbox) and potential growth, CCI's prognosis for improvement and expansion might be considered overly optimistic. Excessive shipping damages due to inadequate carton strength ensure high product and monetary losses.

A rapid assessment of the packaging used in the food industry demonstrates the basic and incomplete state of the art in Guyana as well as a lack of understanding regarding the role of packaging, either for export or for domestic use.

Guyanese food processors do not know how to purchase packaging, nor do they have any specifications to work from. There is little in government regulations to specify minimal packaging requirements for safety, security or protection of product. Standards have not been introduced into the industry. There is much to be done to set packaging standards for food products through education, training and implementation, in a cooperative effort through government and with industry.

## **Visits Conducted and Technical Support Delivered**

### **Guyana National Bureau of Standards**

Our discussion centered on the necessity for food package upgrading and the steps the Bureau wishes to incorporate into their laws and guidelines. Currently, the Bureau has few packaging references in their regulations. Broad references are normally extracted from other international "Codex" references and modified for local use.

Packaging regulations for commodity rice and sugar are vague and incomplete. Guidelines for processed and other fresh products is generally non-existent. With new packaging sizes of 1,2,5 and 10 kg, the Bureau understands packaging export guidelines are important.

Bar code technology as well as label printing technologies were discussed. Limited product output makes typical application solutions impractical. We mentioned small scale on demand print technologies that might solve these issues of limited output and will continue to follow-up on this important technology.

We provided the Bureau with the National Label Education Act of 1996 source, bar code organizing bodies UPC and EAN locations and Rutgers University nutritional label software capabilities.

### **Guyana Office for Investment (GO-INVEST) 5/5/03**

We met with the CEO of Go-Invest who explained the Agency's activities with food processors and the packaging industry. A principal problem is convincing processors that better quality shipping cartons may cost more but will provide increased performance. All locally produced cartons use recycled paper and are in short supply at times due to limited waste availability. It has therefore been difficult to provide export grade cartons. Thus, some cartons are imported at a 10-15% duty.

The CEO feels a comprehensive approach to an export oriented strategy is necessary having looked at many elements of the export cycle. Quality packaging is just one important aspect for exporting food products. The estimated loss from field to market for fresh product is 40-45% (and maybe higher). The feels it is necessary to 1) continue to educate farmers on a cost/performance benefit of packaging and 2) work with the local carton supplier to improve the performance of his product.

An issue related to fresh product losses that also needs attention is the cold chain. Losses due to inadequate storage at the seaport and airport need to be addressed. We recommended a study be conducted by Bally Refrigeration or another similar company as has been done elsewhere to provide a roadmap and plan to implement adequate cold storage at the seaport and airport.

## **New Guyana Marketing Corporation**

Meeting with the General Manager and mainly discussed the need for export grade cartons. He sees this as a major issue in exporting consolidated products to Barbados and other destinations. He wishes to identify appropriate cost effective packaging.

We toured the packing house and made several on-site suggestions. The taping of boxes is random so we suggested a taper unit, low cost and low tech. This would automatically tape boxes and provide a uniform flat taped box which would use less tape. We also discussed the use of woven bags for large items such as pumpkins. There are a few different styles used, mostly because these are discarded bags from another company. The use of an open weave polypropylene sack would provide a more consistent and presentable export package.

We also made a simple recommendation to use low cost tin-tie materials to secure open bags rather than randomly available string, rope or thread of various colors and strengths which are generally unacceptable, unsightly and inadequate.

## **Caribbean Container Inc.**

We met with the Managing Director along with the Sales and Marketing Manager and other officials. The Director was very candid about where Caribbean Container has struggled in the last few years, both financially and technically. It is apparent that he knows what the company needs to make a good export shipping carton but lacks sufficient additional resources to continue the modernization of the plant. To date the company has upgraded the pulp mill but suffers from a lack of recycled paper. Currently Caribbean Container makes 150 GSM to 205 GSM and can make up to about 250 GSM (gram per square centimeter) paper cartons. Because they have only one headbox to feed the pulp onto the paper machine, they cannot make a two-layer paper (heavier paper), thus they import 337 GSM paper for about 15% of their sales. A second headbox is not a priority just yet as they have other more pressing problems to contend with.

The company purchased a Measurex weight scanning system for their paper line to measure and adjust pulp out of the headbox. Unfortunately, it has never worked and they are now in litigation with Measurex. Until the problem is settled, I doubt they will be able to take any corrective action to put a weight scanning system in place. This has repercussions in quality control, consistent product output and unit cost, all negative for the time being.

Because their pulp needs are about 15% lower than actually needed, they only run the paper line about 10 to 12 days per month. This has put run limits on the corrugator as they run out of paper. Fortunately, the box finishing operation is running two shifts, five days per week. If they can begin to source recycled paper from Suriname and Trinidad as they expect, they will be able to meet market demands. Currently, they cannot meet demand. Growth will only result if they can get adequate raw recycled materials.

Issues regarding overall cost of shipping cartons were discussed. They realize the price sensitivity of the local processors and other customers to any cost. Their overall plan is to get their volumes up (most probable) and increase quality (longer term). Their efforts to change the pulp treatment process from an alkali to an acid system and add sizing to the paper has improved their quality since last September. Efforts to reduce energy costs by going to energy generation from diesel fuel has also paid off. Guyana Power and Light (GPL) charges about \$0.28 kwh for unreliable electric power versus the \$0.12 kwh unit cost using reliable self generated diesel.

Paper prices today are fluctuating rapidly world-wide and have been for many months. Mills are shutting down for extended periods because of inventory or pricing issues. Paper pricing for bags, boxes, fine writing papers etc are in total flux, hence pricing is predicated on a processor receiving a quote today and placing an order within 7-10 days to guarantee the purchasing price. An analysis performed the week of April 12, 2003 shows the following average pricing in US Dollars in effect for typical die cut shipping cartons for fresh produce in minimum quantities of 4100 pieces each FOB Miami and include 15% import duty. Freight not included. (Note - an RSC is not the preferred carton type but is predominately used in Guyana, hence this direct comparison as well as a price for a two piece banana box).

	Fruit & vegetable box 489x366x356 mm RSC <u>single wall</u> carton w/die cuts printed 1/c/unprinted	Fruit & vegetable box 489x366x356 mm RSC <u>double wall</u> carton w/die cuts printed 1/c/unprinted	Banana box 333x283x110 body, 335x295x120 cover, <u>single wall</u> printed 1/c (top and bottom)	Banana box 333x283x110 body, 335x295x120 cover, <u>double wall</u> printed 1/c (top and bottom)
Caribbean Container	\$1.02/0.97	\$1.56/1.51	\$0.45	
Carton Sales & Manufacturing, Miami, FL		\$1.16/1.14	\$0.46	\$0.69
Price differential USD		-25.6%/-24.5%	+2.2%	

It appears that there could be a significant cost savings if purchasing out of Miami, albeit freight charges would need to be added.

We agreed that box cost is related to performance and any decrease in box cost is going to reduce acceptable performance. A problem voiced by others as well is that the Guyanese exporter does not understand the relationship of performance to cost and losses in shipment. It is necessary to educate exporters that a minimally higher quality shipping carton will reduce shipping losses and ensure higher returns. The current mentality of

making a slim profit with any level of losses may be difficult to break. Hopefully, we can begin to change perceptions of the purpose of the carton through seminars.

CCI's Director has offered to provide his facilities for a 1 ½ hour box manufacturing seminar for food processors along with a plant tour of the corrugator line and box finishing department.

### **New Era Enterprise**

Met with the Managing Director. The company markets coffee, both bean and vacuum packed ground. The exports are all bean in large sacks. They pack vacuum ground coffee into printed PET/foil/sealant preformed pouches, purchased out of Miami. They are looking for small scale processing equipment and marketing assistance. We recommended looking at coffee brokers on the Internet based in Miami and New York and make a limited 3-5 year agreement with them to learn the market and trends.

The company has a gassing problem with the vacuum packed ground coffee. We suggested a series of simple processing tests that could be done to determine the cause of the problem. We also recommended a less expensive flexible coffee packaging that is, a metalized film and polypropylene film which is suitable for packaging coffee. We discussed trends in unit serve packaging and other value added packaging concepts.

### **Tandy's Manufacturing Enterprises**

A meeting was held at Tandy's Manufacturing. The company manufactures jams, jellyies and peanut butter, achar and pickles. All jars and caps come out of Miami; printed labels from Trinidad. They produce predominately two sizes, 340 and 570 gram products; 40,000 units every two months.

Tandy's Manufacturing is using the Internet, letter and phone to source brokers, commissioned agents and importers. We are encouraged them to continue and not be discouraged with limited responses to date. They are looking for machinery and we have recommended Madison Equipment and Frain Industries, both in Chicago, for refurbished used equipment. Both firms are on the Internet and it was suggested to send both potential vendors initial emails with their requirements.

The company is looking for assistance on credit policies and practices. They have a very good quality product but need assistance in handling potential customers inquiries and collections.

### **Major's Food Manufacturing**

The owner of Major's Food Manufacturing requested a meeting to discuss glass bottle packaging issues. Currently they package in a few sizes and uses tamperproof sleeves on a few products. Some of the caps are of the crown type, screw-on and friction fit snap-on variety. We discussed the features and acceptability of these three closures in various

markets. The company is seeking assistance with bar coding requirements. We provided UPC and EAN information. They are looking for label graphics revision and bottling machinery. We recommended Frain Industries and Madison Equipment in Chicago be pursued through email. They also need assistance with creating a nutritional panel for their products.

In general, the glass bottle packaging is very good and acceptable for mature and other markets. they are quality conscious and want to improve the package presentation. Issues with the samples provided included wrinkled labels, inadequate gluing, some level of poor printing and tight packing in shipping cartons. The Director readily accepted these problems and suggested that they would be corrected shortly. They look forward to additional assistance.

### **Jack's Honey Establishment**

The company is interested in containers and labels for their five honey products now packaged in plastic bottles purchased from Chin's Manufacturing. Jack's Honey Establishment supplies an organic honey derived from flowers. They print their self designed labels on an inkjet printer and apply a fixative to set the ink, somewhat of a unique innovative concept in label production. They are looking for assistance on bar code registration, label re-design, nutritional panel information as well as nutritional analysis of their products.

We recommended a few label printer suppliers and contact with the UPC organization in Chicago for company registration to obtain a bar code. They are interested in package design to enhance his product presentation for export and to comply with the legal and regulatory requirements for getting his products into export markets. Currently the company exports (officially illegally) to neighboring countries that have lax border regulations.

### **Food & Drug Department 5/8/03**

We met with the Director of the Food & Drug Department. She indicated they have no packaging regulations in the current laws and some broad label guidelines. They have no specific recommendations they can make to industries and are looking for guidance. We indicated that we can supply international packaging standards and test methods for Government and industries as there is a need to create a basic body of knowledge in-country.

They Agency is interested in nutritional panel guidelines and the National Label Education Act of 1996 (NLEA) out of the U.S.

They are interested in establishing a cooperative association with industry so they can jointly promote package and label guidelines.

### **Patricia Sam 5/8/03**

Ms. Sam manufactures bakery products similar to a friable pita bread product. She packages in preformed polyethylene bags and uses a small printed label for domestic distribution. She does not export but is interested. She currently manufactures about 2000 units per day, hence she is a candidate for professionally printed labels with superior marketing information.

Because she manufactures a bakery product, we recommended a 10 pt. lightweight white board box with a see through clear panel window. She needs the protection of a structural carton for her friable hard product. It has a tendency to flake and crack.

A suggestion was made to punch a hole in the poly bag and paper label and use the poly bag package to hang the package on the wall. This will ensure additional selling space in the establishments she serves (three currently). We also suggested that she contacts Sentinel Sealing Company for a low cost manual heat sealer to seal her poly bags.

### **Adventure Manufacturing Company**

A meeting was held with the Managing Director. The company produces jams and jellies in four consumer sizes and exports frozen juice and pulp in 5 gallon plastic jugs and 55 gallon drums. The company no longer supplies fresh juice in plastic consumer packaging but would like to get back in the business through exports to Trinidad and Barbados. They are looking to develop business in Suriname. The glass containers for jams and jellies come from Trinidad and caps from the U.S. the Director expressed interest in the Washington, DC area for a small filling plant to supply the U.S. regional market. We discussed the pros and cons setting up a finishing facility in the U.S. and capital costs associated with such a venture.

Labels for jams and jellies are produced locally and they are looking to import labels from Hyline Label Company in Barbados for his printing needs. The company has a UPC company registration for bar codes but no nutritional content information.

They would like assistance with market research and re-designing of their labels to incorporate a bar code and nutritional panel.

### **Mohan's Fish Enterprise**

A meeting was held in the GEO office with Mr. Rajendra Mohan. Mr. Mohan exports fresh and frozen fish to Toronto. He has also tried to export fresh fruits and vegetables but without much success due to poor shipping channels. Losses have amounted to 40 to 80% as trans-shipment through Trinidad has caused delays with corresponding loss of product. No cold chain facilities are available for fruits and vegetables.

He does not necessarily have problems with packaging and feels his waxed boxes for fish are suitable.

## **Chin's Manufacturing**

We met with the owner of Chin's Manufacturing. The company produces low, medium and high density polyethylene plastic blown film rollstock up to a 32" width tube and printed preformed bags for local sale. He can print bags up to four colors flexographically. All resin comes from the US.

Chin's Manufacturing imports glass bottles and caps from the U.S. His polyester (PET) bottle manufacturing capability was sold March 2003 to a long time employee who now runs the plastic bottle facility. Chin's imports jars when needed by their customers but makes no plastic jars in-country (only plastic bottles). Their pressure sensitive labels come from Trinidad. He sell imported shrink wrap (from the US) to customers who export for wrapping pallets for transport.

Chin's Manufacturing exports products in plastic bottles. They have a registered UPC bar code and permit food processors to incorporate bar codes on their own products using their company's registration for a one-time fee.

## **Supreme Enterprises**

We met with the Director. They produce tomato ketchup from imported paste and other condiments in small quantities (40 bottles/batch) in 3 sizes and larger quantities of local spices in small pouches. Currently they package seventeen products.

Their labels are printed locally; clear pouches for spices are obtained from Chin's Manufacturing and ketchup glass bottles and caps are imported from the United States. Tamperproof sleeves are bought from Chin's as well.

The company is losing market share from the bottled ketchup business because a local competitor is using less expensive imported flexible printed pouches from Trinidad. They have had little luck purchasing the pouches from the same supplier. Unfortunately, shelf life in these pouches is very limited as they do not have any oxygen resistance, important to retain taste, color and consistency. We recommended they contact New Era Enterprises to determine from whom they get their PET film/foil/sealant pouches from in Miami. Such a structure would provide sufficient shelf life and be less expensive than the imported glass bottle and cap.

The company's immediate needs are to supply a domestic market. They would entertain exporting semi-finished product as a first step to value added exporting.

## **Summary**

A rapid assessment of the Guyanese packaging sector indicates that limited packaging is available for export of fresh and processed food products. There is a need for improved strength corrugated shipping cartons, plastic jars and redesigned labels with appropriate regulatory and legal information. Processors also need market research assistance and various types of right sized machinery to upgrade and expand their present manufacturing operations.

Because of the lack of packaging standards and quality control principals, a body of knowledge must be transferred to provide a foundation so processors and exporters can meet targeted markets competitively. A cooperative effort to make industry and Government departments aware of the importance of standards should be undertaken.

Efforts to deliver technical services and problem solving to processors who use other types of glass containers, trays, pulpable packaging, flexible pouches, overwraps, printing and adhesives will also need assistance which should not be overlooked.

## **Next Steps**

The following activities were identified for the short term:

1. Seminars/workshops on Packaging Design for Marketing
2. Seminars/workshops on Corrugated Box Manufacture for Food Processors
3. Problem solving and technical support to additional food processors wishing to export
4. Assembly and presentation of appropriate international packaging standards to industry and Government

The following activities were identified for the medium term:

1. Label design
2. Machinery sourcing assistance
3. Introduction of quality control procedures and testing of packaged products for export and domestic sale

## Persons/companies contacted

**Table I - Food Processing and Packaging Companies**

Name	Company
Jowala Somai	Guyana National Bureau of Standards
Geoffrey Da Silva	Guyana Office for Investment
Nizam Hassan	New Guyana Marketing Corporation
Ronald Webster	Caribbean Container Inc.
Zulfikar Samdally	Caribbean Container Inc.
Krishna Seegopaul	New Era Enterprise
Burt Denny	Tandy's Manufacturing Enterprises
Allan Major	Major's Food Manufacturing
Mr. E. Jack	Jack's Honey Establishment
Marlilyn Collins	Food & Drug Department
Patricia Sam	Pat's Bakery
Fitzroy Fletcher	Adventure Manufacturing Company
Rajendra Mohan	Mohan's Fish Enterprise
Mr. Compton (Roy) Chin	Chin Manufacturing
Mr. Roy Shivtahal	Chin Manufacturing
Mr. Clement Corlette	Supreme Enterprises