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# THE ROLE OF SMALL VESSEL SHIPPING IN THE DEVELOPMENT OF CARIBBEAN AGRICULTURE

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The Transportation Unit of the Caribbean Community (CARICOM) Secretariat is pleased to be able to make a contribution to the Sixteenth Conference of the Caribbean Agro-Economic Society. The theme of the Conference: *Changing Perspectives in Caribbean Agriculture* is especially timely having regard to the important role of agricultural production and trade in Caribbean economies traditionally, the steady decline in traditional exports - sugar, bananas, lumber - during the last 25 years and the simultaneous rapid increase in imported foods. There are currently several initiatives to stimulate agricultural production, to satisfy an increase share of the regional food demand and to upgrade or put in place complementary services such as transportation.

The spatial dispersion of the states which comprise the Caribbean Community demands that transportation services, in particular, maritime transport should be provided efficiently, reliably and at prices which are remunerative to operators. Given the external orientation and small size of the internal markets, attempts to prepare economic plans for any productive sector such as agriculture or industry would be largely meaningless without the existence of a reliable transportation service sector. Efficient transportation is not only necessary for final consumption goods but also for raw materials for processing.

The Regional Food Plan prepared by the relevant technicians outlines specific roles for several supportive institutions such as marketing boards, and seeks to involve these in a comprehensive distribution network which assumes efficient transportation operations.

Shipping has tended to be the dominant transportation mode in facilitating the free flow of goods between CARICOM States. These services have been provided by a number of private small vessel operators, by the government-owned West Indies Shipping Corporation (WISCO) and by large extra-regionally owned shipping lines.

This paper has as its objective an outline of the traditional role of and problems experienced by small vessel shipping in the development of Caribbean trade, with emphasis on the agricultural trade and the further provision of some information on the efforts to make this vital subject of Caribbean shipping perform its functions more efficiently.

## **The Development and Characteristics of Small Vessel Fleet in the Caribbean**

Generally, the term *small vessel* refers to vessels under 500 Net Registered Tons (NRT) and includes wooden sailing boats with auxilliary

engines, metal hull, motor propelled boats and wooden sailing boats or schooners. Specifically, this classification does not include pleasure craft, fishing vessels, trawlers or other non-trading vessels.

At present, there are about 325 small vessels trading in the East Caribbean and providing essentially a tramp service shuttling small loads of cargoes without fixed schedules or routes. This service is of special importance to shippers who have small consignments to deliver within short time-frames. Operators in Guyana, Grenada, St. Vincent and the Grenadines and Trinidad and Tobago account for about 70 percent of these vessels.

When the provision of scheduled shipping services from extra-regional sources was interrupted during the Second World War, attempts were made to organise this service within the ambit of the British West Indies Schooner Owners' Association so as to ensure regular supplies of essential commodities. These efforts resulted in a regulated and scheduled service being provided with common freight rates. However, after hostilities ended and the previous pattern of shipping returned, the tramp nature of the service was reintroduced. In addition, the Schooner Owners Association ceased to be as vibrant as it had been and subsequently represented the interests of small vessel agents rather than owners.

While most of the vessels provide a tramp service, it is often possible to identify and associate certain vessels with particular routes and sailing patterns. A small number of these vessels also engage in trade with non-CARICOM States. For example, vessels from Antigua and St. Kitts-Nevis have traded with the US Virgin Islands and Puerto Rico while vessels from Dominica and St. Vincent and the Grenadines trade with Martinique and Guadeloupe.

Another important aspect of this service is that freight rates charged in many instances are neither common nor final and are set by various shipping agents with little or no consultation with the owners and operators of the vessels.

It has been estimated that approximately 2,300 persons enjoy the benefits of direct employment from the existence of this service. Additionally, several persons are employed in the provision of support services such as shipbuilding and vessel repair, portage etc. Having regard to the high levels of unemployment currently being experienced in the region, these benefits cannot be overlooked.

One of the main problems relating to the operations of the small vessel fleet is the low level of safety practices in terms not only of the cargo but also of crew and its limited numbers of passengers. The fleet had been plagued with relatively high cargo losses, loss of ships and lives. In its current state, the small vessel service is considered by shippers to be relatively cheaper than alternative means of transportation. But this comparative gain by way of lower freight rates is eroded by the large financial losses which could be incurred as a result of the fleet's poor safety standards.

The majority of the vessels plying these routes are uninsured. It should be noted that unseaworthy conditions of operation are the most important contributing factors to their lack of insurance.

The type and nature of the navigational and safety equipment carried on board these vessels are in the main inadequate, given the frequent number of journeys made. In the event of engine failure, there is often no means of communicating with the shore. As most of these vessels were not built to service the movement of agricultural goods, they generally do not achieve and maintain the stringent storage and temperature conditions which are necessary for the carriage of fresh food and vegetables and only about 20 percent of tonnages carried is made up of agricultural commodities. Thus while the fleet has been performing an essential service to the CARICOM sub-region, its irregular nature, unsafe and unseaworthy conditions have been its major weaknesses.

In recent years, one consequence of the commercial structure of the small vessel fleet has been the peculiar development of excess capacity and over tonnage which coexists with irregular vessel visits. In addition, gaps occur in the demand and supply of shipping space to specific ports especially those in the Less Developed Countries (LDCs) and there tends to be a concentration of vessel calls at Port of Spain, Bridgetown and to a lesser extent, Georgetown.

Despite these developments, however, it is recognised that the small vessel fleet has potentially a significant role to play in servicing intra-regional trade in general and the regional agricultural trade in particular. While it may be true that the present unregulated, free and openly competitive nature of the fleet had its origins in the profit motivations of its operations, its organisation has not often worked in favour of expanding regional trading activities. As consignments are often picked up at intermediate ports on a long route, where such consignments are large, vessels often abort their initial schedule.

### **Efforts to Upgrade the Operations and Performance of the Small Vessel Fleet**

The valuable services provided by regionally owned and operated vessels over time have been recognised as being of paramount importance to fulfilling the broad objectives of the Caribbean Community. Indeed, as far back as 1975, at the Second Meeting of the Conference of Heads of Governments of the Caribbean Community, the Standing Committee of Ministers responsible for Transportation (SCMT) and the CARICOM Secretariat were directed to pay urgent attention to the development of small vessel shipping in the Community's work programme in maritime transportation.

In pursuit of the 1975 mandate by Conference, the CARICOM and ECCM Secretariats, in conjunction with the West Indies Shipping Corporation (WISCO) and the Economic Commission for Latin America (ECLA), prepared a comprehensive study of this fleet which has traditionally carried about 50 percent of total traffic flows generated regionally. The study compiled information on the registration, ownership, age, trading patterns and characteristics on the basis of which the fleet's services were assessed together with its suitability, operating costs and freight rate structure. This analysis of the problems and deficiencies of the fleet was later used to form the definition of the Regional Cooperation in the Development of Shipping Project which places emphasis on small vessels and schooners.

In an effort to begin to address these weaknesses, the Standing

Committee of Ministers responsible for Transportation at its Fifth Meeting which was held in Belize in 1979, approved a 33-month project for regional cooperation in the development of shipping. This project which is anticipated to be completed in 1983 pays special attention to the problems of small vessels and schooners. Based in St. Lucia and funded by UNDP, the project provides a variety of advisory services in the fields of shipping economics and statistics, ship inspection, maritime safety, ship repairing and ship building, marine works, navigational aids, ship insurance and ship finance. In addition to the 12 CARICOM States, eight other Caribbean states are beneficiaries under the Project. The immediate objectives of the project are:

- (i) assistance in the definition of alternative policy guidelines on maritime development in the Caribbean, by carrying out analysis of the function and appropriate size of the small vessel fleet and its relation to regional and foreign carriers, and by ensuring effective coordination with other related maritime economic studies. Where requested, the project is to assist in the commercial development of effective shipping services compatible with the chosen policy guidelines, including the trade development and marketing action needed to provide viable shipping services;
- (ii) establishment of the basis for national decision-making in the maritime transport sector by setting up a sub-regional information system and by providing advice on national statistical systems where requested;
- (iii) improvement in the operations of the small vessel fleet in the Eastern Caribbean by introducing a financial scheme for repairing and improving vessels and an approved technical standard of safety and maintenance, by extending insurance coverage throughout the fleet by means of lower group premiums linked to these technical standards, and by introducing improved standards of management; and
- (iv) assistance to participating countries for the establishment of competent Maritime safety administrations and to promote the timely adoption of an appropriate Model Maritime Safety Code, to set up, in close cooperation with the local authorities Maritime Safety Rules and to promote their implementation, including the creation of suitable training schemes for inspection personnel.

During the past year, experts completed detailed assessments of the current situation in most of the participating countries with regard to Maritime safety administration and ship building/repair facilities.

The Maritime safety expert identified as one of the major problems in the Region, the inadequate infrastructure with regard to both the organization and personnel, for ensuring the required standards of safety on board small vessels in particular and ships in general. It was considered desirable that the relevant international standards should cover not only the ships themselves and their personnel, but related Maritime matters as well. With regard to Maritime personnel, the acute shortage of qualified marine officers, especially engineers, was identified as a severe limitation. The need for the updating of Maritime legislation both primary and subsidiary was also recognised.

The expert has advanced several solutions to these problems including the proposal that an exclusive unit with qualified marine officers be established in the appropriate Ministry or Department in each Member State.

While it is not necessary to examine these recommendations at this forum, it should be noted that they are being studied by the relevant technical committees in the Caribbean Community.

The work programme of the project's ship inspector is directly relevant to upgrading the design and construction of small vessels. A naval architect by profession, the ship inspector has completed a boarding programme of vessels in St. Lucia and Barbados and has begun a technical evaluation of the fleet. One surprising result of this evaluation was the discovery that the scantlings of these vessels were built stronger than those on typical wooden vessels currently in use in the North Atlantic and exceeded the safety limits for vessels in this class. Their inauspicious history seemed, therefore, to be one of operational rather than structural failure. The view has been expressed that based on a useful life of 15 years without surveyors' care or 20 years with frequent inspections by surveyors, these vessels could make good collateral for any financial scheme which may be devised to upgrade the fleet. The ship inspector is in the process of devising a scheme for both wooden-hulled and metal-hulled vessels, through which finance would be made available for upgrading these vessels to meet specified technical standards.

Having regard to the unsafe loading techniques utilised in the Region, the ship inspector is researching a simplified Loadline and Stability Test which would be geared to eliminating overloading and other poor loading practices. It is proposed that this test will be conducted by the harbour master in the case of small vessels not covered by the International Loadline Convention.

In summary, the project activities are aimed at improving the operations of the small vessel fleet in the East Caribbean by introducing a financial scheme for repairing and improving vessels together with a set of approved technical standards of safety and maintenance. It is also proposed that insurance coverage should be extended to the entire fleet through low group premiums linked to these technical standards and the introduction of improved standards of management. However, one crucial aspect which the project has not specifically addressed is the provision of incentives to operators to regulate their ship visits to meet the specific demands of shippers of agricultural commodities.

### **The Shipping Requirements of the Regional Agricultural Trade**

Shippers of agricultural commodities have more stringent requirements in terms of the type of shipping service they require than do shippers of other commodities. Firstly, since these are perishable, it is essential that a scheduled and therefore predictable service, be provided to carry agricultural produce to their various destinations in the shortest possible time. Secondly, agricultural produce needs to be carried in vessels which have some device to control heat and air if the levels of losses is to be contained within reasonable limits. This would mean that small vessels be fitted with refrigeration facilities or at least fans or blowers, to ensure that the goods arrive

at their destination in an edible condition. At present, less than 10 percent of the fleet has refrigerated capacity.

Another requirement relates to the synchronisation of chilling facilities on board with those on shore at both ends of the voyage. Where such shore-based facilities do not exist, the need for swift discharge and speedy delivery of these commodities is compounded. Stevedores also need to be trained in better handling and loading techniques.

In order to meet these demands of the agricultural trade, small vessel operators need to incur the cost of acquiring and installing cooling devices on board. The Caribbean Food Corporation (CFC) has researched and should shortly begin testing two prototypes of a 10-foot refrigerated mini-container designed to be used by small vessels to assist the agricultural trade. These containers will be tested on separate routes, in the first instance, on the Dominica-Antigua-St. Kitts/Nevis route, and secondly, on the St. Vincent-Barbados-St. Lucia-Trinidad route. Depending on the results of these tests, a commercial company will be established to produce these units, the provisional cost having been estimated at TT\$25,000.

One distinct advantage which this container has, is that four could be strapped in tandem and carried on larger vessels utilising the space of a 40-foot unit. In addition, as each unit is divided into compartments and has baskets, it lends flexibility to the kinds of vegetables and the various packing methods which could be employed.

Thus, in addition to the efforts being made to devise a scheme to assist in the financing of safety improvement using the vessels themselves as collateral, another scheme will have to be initiated to permit operators to install blowers, mini-containers, etc., to improve their refrigerated capacity.

Shippers of agricultural produce in the Region have always lamented the unavailability of scheduled shipping services offering refrigerated or chilled facilities.

During 1981, a group of Canadian consultants studying Agricultural Marketing Corporations (AMCs) in the Region, recommended that a small vessel could be chartered for a trial period to provide these facilities on a scheduled basis. The consultants further proposed that operations during the 2-year trial programme should be subsidised in an effort to increase the demand for the service and thus justify its continued supply. But having regard to the movement of agricultural produce, it is felt that more than one vessel would be required for this purpose. The volume of the subsidy would have to be significant in order to compensate the operator or operators for their loss of flexibility and any shortfall in loads. The Canadian consultants anticipated a total subsidy of US\$800,000 over the 2-year period and the proposed Regional Marketing Project for fruit and vegetables which is to be funded by CIDA will further explore the possibility of implementing this scheme.

Based on our knowledge of the movements of agricultural goods, it has been possible to ascertain the major routes along which any scheduled services could move to expedite the trade in fruits and vegetables. It is anticipated that these trading patterns would naturally form hubs in the

islands of Antigua, St. Lucia, Barbados and Trinidad. Specifically, produce from St. Kitts-Nevis and Montserrat could be carried to Antigua for transshipment to the other CARICOM States via St. Lucia, Barbados or Trinidad or to sub-regional points such as the United States Virgin Islands. Dominica, St. Lucia, St. Vincent and the Grenadines, and Barbados would form another grouping for trade. These routes are shown as an attachment which shows possible scheduled shipping routes by way of straight lines and supplementary routes by means of broken lines.

## Conclusion

This paper sought to provide an overview of the characteristics of a small vessel fleet in the Caribbean Community and the initiatives being undertaken to upgrade its safety and operational efficiency. Given the fact that only a small proportion of cargoes carried by these ships is made up of agricultural products, installation of cooling devices and refrigeration would pave the way for more agricultural trading links in the Region. But a more efficient Maritime transportation sector would be of benefit, not only to the agricultural sector, but also to the economies of the Member States of the Caribbean Community in general.



