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CARGO UNITIZATION IN THE LIGHT OF INSTITUTIONAL REQUIREMENTS FOR ITS SUPPORT

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SUMMARY

While many forms of cargo unitization and especially that of containers have been utilized in the trade flows of developed countries since the early 1960s, these systems began to be introduced in ever-growing numbers at the ports of Latin American and Caribbean countries during the latter part of the 1970s. As a result, large investments have been made by the public and private sectors of this region in appropriate vessels and cargo handling equipment to facilitate their transport as well as port loading and discharge operations. Nonetheless, for the benefits of cargo unitization to be fully realized, it should be understood that containers and other cargo grouping units must not be treated as merely another means of packing goods for carriage, but rather as an entirely new transport system.

With a view to examining the institutional requirements of cargo unitization, chapter II of the present document analyses the evolution and impact of container and RO-RO transport systems and various activities which have been undertaken in this region to expand the utilization of these systems by carriers, shippers, etc., while chapter III evaluates the need to create an appropriate institutional infrastructure for cargo unitization.

In order to fully realize the benefits of cargo unitization, various institutional changes are called for which would permit the uninterrupted movement of such units from origin to destination without intermediate unloading for Customs' inspections and the official clearance of goods at destination. These changes, which are analysed in chapter IV, include the adoption of Customs transit and multimodal transport conventions as well as one of a regional nature for the limitation of civil liability of carriers engaged in land transport operations, so as to create a legal infrastructure for the through movement of goods; the establishment of interior cargo terminals at which the complementary services normally found at port can be performed; and the reduction, simplification and harmonization of commercial and governmental requirements, procedures and documents.

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CONTENTS

I. INTRODUCTION

Traditionally, transport operations were characterized by the individual packaging of merchandise in small non-uniform units (bags, bales, crates, barrels, etc.) for carriage, and by separate contractual arrangements between successive carriers and the owner of the goods or an agent acting on his behalf for transport services from origin to destination. These transport operations are usually referred to as segmented.

During the late 1950s an important technological innovation was introduced which dramatically changed segmented transport operations. This innovation permits individual cargo packages to be consolidated into standard-size units such as containers. While the consolidation of cargo into units of standard sizes might seem a rather small step, it was nonetheless a revolutionary one, and is discussed at some length in the following chapter. Even though the initital objective sought from the use of containers was a reduction in cargo handling costs at ports, this technological innovation has created enormous benefits in almost all parts of the distribution chain and, at the same time, a pressing need for changes in the institutional infrastructure. In fact, the revolution which occurred in the physical handling and transport of goods with the advent of unitization has brought about the need for an even greater revolution in the institutional infrastructure of transport to facilitate multimodal transport operations.1/

The institutional infrastructure for transport encompasses all the legal, commercial and documentary requirements for the international as well as domestic movement of goods. The institutional infrastructure which evolved for segmented movements is based upon the pivotal concept that the point at which goods physically or constructively change hands -and, hence, responsibility for losses begins and ends- is the ship's side or rail in ports.2/ However, the points of inception and termination of responsibility for taking charge and delivery of goods have changed as a result of the practical effects of cargo unitization, especially through the growing use of containers. The reason for this is that the consolidation of cargo into standard-size units permits the movement of goods from origin to destination without intermediate unloading to carry out, for example, customs inspection procedures. In this sense, the national customs authority in the country of importation can either accept the customs seals of the exporting country or place its own seals on the cargo unit at the port of entry (thereby permitting the through movement of goods to consignees), and subsequently inspect the goods at destination prior to delivery to the consignees. Moreover, due to the consolidation of goods in sealable cargo units such as containers, determination of when damage occurred to cargo and who is responsible has become particularly difficult. Since risks, costs, sales contract terms and responsibilities have been modified as well as transferred from ports to inland points, much of the institutional infrastructure utilized in segmented transport operations has been found to create unnecessary and costly restrictions on the use of containers and other forms of cargo unitization.

It should be understood that while unitization of cargo greatly facilitates the movement of goods by two or more means of transport, it is not indispensable for such transport operations. In other words, contrary to what many believe, even though multimodal transport is generally applied to unitized cargo -and especially to that in containers- it is in no way limited to such units, but may also be used in certain operations involving break-bulk and even bulk cargoes.

/As a

As a result of the ever-growing use of cargo unitization, during the late 1960s it became apparent that a new institutional infrastructure was needed to establish legal limits within which one document would cover the carriage of goods by two or more means of transport, for the undertaking and consequences of which one person would be responsible as a principal to the cargo owner, not only as regards carriage and delivery to the consignee but also as regards any loss or damage to the goods or delay in delivery. The principal motivating force behind this recognition was the need to secure clarity of commercial functioning, convenience, cost effectiveness in the use of new transport technologies, clear determination of legal relationships, and financial security for all the parties concerned.

II. CARGO UNITIZATION

The evolution of modern cargo unitization, and particularly that of containers, may be conveniently divided into two stages, i.e., prior to and after the oil price increases which took place during the period from October to December 1973. The first stage, which began in the late 1950s, includes the development of standard cargo units, cellular container ships and specialized port container handling equipment. It should be understood that container transport systems have continued their technological evolution since their inception and are today accepted on most world trade routes. While the second stage of cargo unitization began shortly after the 1973 oil price increases, it is necessary to understand that this stage did not replace the first but was (and still is) merely a parallel development. In this sense, the second stage began with the employment of roll-on/roll-off (RO-RO) 3/ vessels, which had previously been used on short sea routes, for the carriage of containers on longer deep-sea routes and has witnessed growing technological sophistication and specialization of such vessels as well as of related cargo handling equipment.

(a) Container transport systems

(i) Evolution and impact. While the container may appear to be merely another means to unitize cargo, such is not the case. Other transport units such as pallets and pre-slinging, even though extensively used, have not had such a profound effect on the entire transport chain as the container. For example, the extensive use of containers has resulted in the modification of docks and attendant cargo storage areas, shoreside cargo cranes, cargo handling equipment, ships, trucks, trains, transport documentation and customs procedures in order to facilitate their rapid and uninterrupted movement.

It should be understood that cargo had been loaded into special boxes for ocean transport long before Sea-Land Service, Inc., and Matson Navigation Company introduced large-scale containerization in the mid-1950s -Sea-Land in the Atlantic in 1956 and Matson in the Pacific in 1958. However, they were the first to put the concept into the framework of a system in which cargo would be loaded into a container at the shipper's place of business and travel all the way to the consignee without being removed from the unit en route. As rising costs of transport operations at that time were forcing freight rates up, and since carriers had to make major changes to control such upward movement of freight rates in order to ensure shipper demand, containerization was an idea whose time had come. While the intermodal or through carriage aspects of containerization were comparatively

/limited in

limited in the early development period, this system clearly worked. The effect of container transport on freight rates in the West Coast-Hawaii trade 4/ is a good barometer -by 1964 freight rates had been reduced to their 1961 level and there were no more increases until 1971, when inflation finally overtook container operations.5/

While the experience of Matson is most instructive as regards the cost savings that can be passed on to shippers, it should be understood that such savings are, in part, due to the legal environment in which this United States shipping company operates. Since Matson is predominantly a domestic maritime carrier, operating between the West Coast of the United States and Hawaii, any rate increases for this trade must be submitted to and approved by the United States Federal Maritime Commission (FMC),6/ and such requests must be accompanied by information which demonstrates that an increase in operating costs justifies the new rate. Thus, even though United States domestic maritime carriers have a controlled market position in the trade between the West Coast and Hawaii, Matson freight rates do not reflect such a position.

Although the Matson freight-rate experience might be considered unique, in a study issued during 1970 by the Federal Maritime Commission of the United States it was concluded that Sea-Land, at that time the largest carrier in the trade between the United States and Puerto Rico, had been able to keep freight rates down 7/ thanks to containerization, efficiency, competition, etc. With reference to freight-rate changes in that trade during the same (1958-1968) period, it was reported that

> "the over-all cost of moving consumer commodities from New York to Puerto Rico has declined 13.4% since 1958, even though the island's consumer price index has risen 33.7% during the following decade..." 8/

The freight-rate experience of many other trades resulting from the introduction of containers has not been comparable to that of Matson and Sea-Land. For example, following the New Zealand Government's initiative 9/ to study liner freight rates in its outbound trades, and in an effort to review conference practices for establishment of those rates, it was determined that during the last decade, while the consumer price index had risen by 182% and farm input prices by 175%, the cost of shipping wool to Europe had increased by 265%, butter by 349% and lamb carcasses by 431%.10/ The Deputy Director of Lincoln College's agricultural economics research unit, Dr. P. Chudleigh, indicated that from these data

> "one could conclude that the new (maritime transport) technologies adopted in the 1970s have been inappropriate or have been introduced inefficiently or that the lines have not been passing on savings due to the container revolution". 11/

While during the early 1960s there was growing recognition of the advantages of transporting cargo in containers, it was not until 1970, when the International Organization for Standardization (ISO) approved the standard dimensions,12/ which allow the transport of cargo units by any mode, that the use of containers really spread. Since the container facilitates door-to-door instead of port-to-port transport, its use found rapid acceptance among shippers and carriers from developed regions, and by 1975 one could speak of "containerization" as not only an established state of transport art but also the predominant transport unit used on liner trade routes.

/The rapid

The rapid spread of containerization is largely due to its semi-bulk nature, faster overall transit times and enhanced cargo protection. As bulk and semi-bulk cargoes present only one type of cargo unit to a port, for example, their handling is easily mechanized. In a similar manner, ISO standard containers present port authorities with a uniform cargo unit and an opportunity to change from labour-intensive break-bulk operations to a capital-intensive container handling system. This is accomplished by utilizing specialized equipment such as container cranes, straddle-carriers, fork-lift trucks, etc., which ensure the rapid and efficient loading and discharge of container ships as well as container movements to and from storage areas.

It is interesting to note that whereas a general cargo ship of 10 000 dwt would remain in port at least five days discharging all cargo, a cellular container ship of similar tonnage usually discharges the same amount of cargo in less than one day. While the aforementioned break-bulk vessel would require up to 125 stevedores to discharge cargo, the cellular container ship requires only 15. In this sense the managing director of the Ports Division for Medlloyd, Mr. R.P.M. De Bok, indicated that general cargo vessels remain in port to load and discharge cargoes, as well as waiting for appropriate services, an average of three days per call or about 50% of the time for an entire round-trip voyage. In comparison, container ships have an average port-stay time of less than one day, which is 22-28% of the time for an entire round-trip voyage.13/

While the disparity in port labour requirements for container ships and break-bulk vessels would seem to create the conditions for severe unemployment among stevedores, authorities at the Port of Rotterdam estimate that for every job at a container terminal, four new jobs will be generated in related areas such as container repair,14/ consolidation and deconsolidation of cargoes, etc.15/ Since the major markets for Latin American and Caribbean exports are those of Europe, North America and Japan, and as stevedoring costs at the ports for those markets greatly exceed similar costs in this region, Latin American and Caribbean exporters must either absorb such costs, thereby reducing their income, or utilize containers.

The productivity of a modern container ship in terms of ton-miles per annum is between five to eight times that of conventional cargo liner, and the productivity of a crew member on a large container ship in terms of ton-miles per seaman is approximately ten times that of a person on a conventional liner in 1965.16/ As a result, one container ship can take the place of from three to five break-bulk vessels.

No industry has obtained benefits from a technological innovation to the same extent as ocean transport has from containerization. Cellular container ships are loaded or discharged in one-sixth of the time formerly required, and containers can be moved off the piers in minutes compared with the hours and even days required to load trucks. Overall productivity in major ports has trebled with the advent of containers.17/ Despite the extra capital costs for container docks, storage areas, cranes and other handling equipment, investments in these facilities per ton of cargo handled are 60% below those of a conventional general-cargo berth.18/

/The movement

The movement of goods in containers permits faster door-to-door transit times, not because ships travel faster -there is no fundamental need for containerships to travel faster than break-bulk vessels- but because port operations and inland transport services have been rationalized, thereby reducing the time goods spend waiting for on-carriage. For example, Cast North America Ltd. operate their ships in the highly competitive North Atlantic container trade at 14 knots. According to Cast President, Mr. H. Graf, "In the final analysis, it's the total transit time from inland origin to inland destination which is of concern to shippers and consignees".19/ It is interesting to note that greater in-movement speed is cost-increasing while a reduction in the time goods spend waiting for on-carriage or final clearance is cost-reducing. Furthermore, faster overall transit times reduce the disadvantage of distance from the market. That is to say, there are less goods in transit at an average moment and so less capital is committed.20/

The number of cargo damage and loss claims presented to ocean carriers has decreased dramatically since the advent of container services, so much so that large reductions in insurance premium costs have been possible. This is, of course, due to the physical protection containers provide cargoes from damage by crushing, negligent handling, scuffing, etc. Moreover, as the number of occasions on which containerized cargo is handled is usually reduced -normally only upon stuffing and stripping of containers- this, in turn,reduces the opportunities for damage, delay, errors in sorting and pilferage.21/

The advantages to shippers, carriers, consignees and others in the transport chain from the use of containers are now generally acknowledged. While the experience with containers has largely involved those trades between industrialized countries, many developing countries are rapidly industrializing and can obtain the same benefits. The shift from the export of basic materials to more processed and finished goods lowers relative cargo density, and thus boosts demand for container volume.22/ Furthermore, many developing country liner cargoes are suited to container transport. For example, some developing country export products such as canned fruit have been particularly successful as container cargo, with a very marked reduction in damage. Indeed, with the passage of time many more cargoes will be found suitable for containerization than was originally thought likely.

Although containerization years ago was only an innovative shipping technique, it is today a vital part of international commerce, inherently tied to world trade. Containerization has proven repeatedly that it can be, by its cost efficiency, the single most significant factor enabling trading nations to sell and compete better in world markets. No longer an innovation, containerization has become the essential lubricant that allows the gears of world trade to function more effectively. According to Mr. H. Graf, President of Cast North America Ltd.,

> "Basically, we believe that the ship is just another vehicle in the transport system. It's immaterial. What's material is the container".23/

(ii) Regional activities. While those persons involved in Latin American and Caribbean ocean transport might have different opinions as to how quickly containerization will be utilized in each country's trades, there is agreement that the experiences of other regions such as the Middle East and South Africa would seem to indicate that the process could be quite rapid. Although the degree of container penetration and its timing will differ from country to country, the process of containerization is nonetheless inevitable. Naturally, the current excess tonnage of container vessels will play a part in this, as these vessels will be looking for employment.24/ There are still some major areas of the world that have barely been touched by containerization. As certain Latin American and Caribbean countries as well as numerous nations in Asia and Africa are just starting to utilize containers, one should see great changes during the 1980s in these areas.25/

Although the ocean transport of containers has yet to make a heavy impact on the total tonnage of goods carried in the Latin American and Caribbean trades, many countries have recognized the inherent advantages of this technology and begun to utilize cellular vessels in appropriate trade flows. For example, in February 1981 the Argentine national line placed a cellular container ship in its trade between Buenos Aires and Santos, Brazil.26/ Furthermose, Latin American national lines are investigating the feasibility of joint ventures with extra-regional shipping companies. For instance, Nippon Yusen Kaisha (NYK), Kawasaki Kisen Kaisha ('K' Line) and Compañía Chilena de Navegación Interoceánica (CCNI) have established a joint full container service between the Far East and the West Coast of South America. Each line has contributed one vessel in the 500 to 600 TEU 27/ class to provide an initial service of one sailing a month.28/ Another example would be the EUROSAL consortium, composed of members of the European, South Pacific and Magellan liner conference, which will provide cellular container services to the West Coast of South America from Europe beginning in 1984.29/

There has been a marked growth in the use of multi-purpose tonnage suitable for containers in Latin American and Caribbean trades. For example, it was recently noted in a specialized maritime transport magazine that 'K' Line is to introduce such tonnage with a TEU capacity up to 500 units on the run from Japan and the Far East to the West Coast of South America; Líneas Euroflot is utilizing four vessels of 200-300 TEU capacity from North European ports to Santos, Rio de Janeiro, Buenos Aires and Montevideo; and Current Marine is to offer multi-purpose tonnage from the United States Gulf Coast to the Eastern Caribbean and North Coast of South America.30/ Finally, during 1979 Lloyd Brasileiro began services with the 12 000 dwt multi-purpose Calandrini and Cantuaria, both offering spaces for 390 TEUs, of which 72 can be refrigerated.31/ Moreover, Lloyd Brasileiro has announced that six of its "Ita" class -fast and heavily geared vessels constructed between 1969 and 1972- are to be converted into fully cellular geared container ships during 1982.32/

In response to increasing shipper demand for more sophisticated tonnage, most of the major liner companies serving South America are switching to more modern, container-oriented vessels. In March 1980, for example, Hamburg Süd introduced the first fully cellular container ships, the Monte Sarmiento and Monte Olivia, both having a 530 TEU capacity, of which 300 can be refrigerated.

/These vessels

These vessels are to maintain a monthly sailing schedule between Hamburg, Bremen, Rotterdam, Antwerp and Santos, Montevideo and Buenos Aires.33/ Similarly, Nedlloyd has switched two of its 1978-built multi-purpose vessels, which offer a 676 TEU capacity and are fully self-sustaining, onto its trades from the Far East to Central and South American ports.34/ Further, four United Kingdom shipping lines -i.e., Blue Star, Houlder, Lamport & Holt and Royal Mail- have programmed a full container service between Europe, Brazil and River Plate ports with two cellular 384 TEU vessels, of which 132 TEU may be refrigerated.35/

Within Latin America, the Caribbean and Central America are more advanced in their acceptance of containerization than Mexico and South America,where in 1979 specialized container port facilities were practically non-existent. Nonetheless, due to the dramatic increase in the use of containers by Mexico and the South American countries (see following table), efforts to provide container port facilities have now been undertaken. In Argentina, for instance, while the principal emphasis of a port improvement programme costing more than US$ 300 million is on deepening access channels to the grain loading ports, container cranes and appropriate storage areas are included.36/

After a long delay, Brazil is now seeking to provide a smooth interface for the inter-modal capacities of its major trading partners and, in 1981 it inaugurated the initial phase of its container terminal at Santos. This terminal was designed for the exclusive use of container ships and will be capable of handling up to 145 000 TEUs per year, with flexibility for doubling that amount in the future. As the Government of Brazil requires an annual container movement of at least 50 000 TEUs to justify the construction of a special container terminal, during the first half of the current decade very few other ports, with the possible exception of Rio de Janeiro, are likely to have similar facilities. Furthermore, Brazilian Government officials favour the construction of only a few regional container terminals (such as that at Santos), which would serve as container receiving and dispatch centres for nearby ports.37/

In view of the increasing flow of containers through Chilean ports, a new storage area for such units has just been completed in Valparaíso. Although San Antonio, located to the south of Valparaíso, was originally constructed as a bulk-cargo port, it is also handling an increasing volume of general cargo and containers. As an illustration of this port's importance for containers, the joint NYK/K Line/CCNI container service selected it instead of Valparaíso.38/

While Ecuadorian trade flows include substantial amounts of petroleum and refrigerated cargoes, the port of Guayaquil has been enlarged to provide more space for stacking as well as stuffing and stripping containers. In Colombia, on the basis of the recommendations of a study financed by the United Nations Development Programme (UNDP), the Government is to seek a US$ 170 million loan from the World Bank to finance the construction of container terminals at Buenaventura on the Pacific and at an Atlantic port -possibly Cartagena or Santa Marta- which has yet to be determined.

As a result of the revenues derived from oil production, Mexico is seeking, through its National Industrial Development Plan, to locate new industries away from heavily populated urban centres such as Mexico City, Monterrey and Guadalajara.39/ One part of this plan is a 20 year, US$ 20.2 billion industrial ports programme that includes, in its first phase which was completed in 1981,

Table 1

EVOLUTION OF THE CONTAINER TRAFFIC IN SIX SOUTH AMERICAN COUNTRIES

(1969-1981)

(Units and tons of cargo)

Port	Year	Total movement No.	Total movement Tons	Containers loaded Full No.	Containers loaded Empty No.	Containers loaded Tons	Containers unloaded Full No.	Containers unloaded Empty No.	Containers unloaded Tons
ARGENTINA									
Buenos Aires	1969	...	3 040	421	...	1 390	415	...	1 650
	1981	152 242	1 070 499	41 007	29 839	385 593	78 561	2 835	684 906
BRAZIL									
Rio de Janeiro	1969	928	2 808	217	...	760	583	126	2 048
	1981	21 629	185 764	6 231	3 039	94 503	5 593	6 766	91 261
Santos	1969	2 605	13 294	568	722	4 194	1 049	266	9 100
	1981	130 403	1 259 693	55 685	10 477	794 100	25 450	38 791	465 593
All ports	1981	208 091	1 911 344	81 861	20 984	1 181 001	40 605	64 641	730 343
CHILE									
Iquique	1978	2 784	13 960	8	1 087	3 050	1 689	...	10 910
	1981	16 591	67 517	13	8 446	369	8 132	...	67 148
Valparaíso	1969	3 827	6 683	588	811	1 710	1 700	728	4 973
	1981	62 447	420 259	6 250	21 361	84 102	29 421	5 415	336 157
All ports	1981	115 402	746 431	14 815	39 236	198 347	49 669	11 682	548 084
COLOMBIA									
Barranquilla	1978	888*	6 218	296*	...	1 950	592*	...	4 268
	1981	10 753	64 857	2 000	3 370	15 821	4 863	320	49 036
Buenaventura	1969	...	86 200	...	...	22 900	...	...	13 300
	1981	14 748	85 995	2 936	4 372	38 453	5 198	2 242	47 542
Cartagena	1969	...	20 800	...	...	1 400	...	...	19 400
	1981	11 986	91 918	4 425	1 729	53 063	3 314	2 521	38 855
All ports	1981	50 044	261 679	12 370	12 341	116 394	16 367	8 966	145 285
ECUADOR									
Guayaquil	1969	4 620	23 025*	1 075	1 025	6 525*	2 460	60	16 500
	1981	23 316	160 874	4 685	6 002	57 315	10 647	1 982	103 559
Manta	1978	4 991	38 600*	1 492	989	14 000*	2 451	39	24 600
	1981	7 811	77 347	2 437	1 403	38 108	3 269	502	39 239
URUGUAY									
Montevideo	1977	2 446	...**	1 100	76	...**	1 130	140	...**
	1981	14 132	77 924	4 525	2 395	46 837	4 210	3 002	31 087

* Estimated.

** Container tonnage is not recorded separately.

/modern container

modern container terminals at Lazaro Cardenas, Veracruz, Salina Cruz and Coatzacoalcos.40/ The latter two ports will primarily handle transit landbridge container traffic across the narrow Isthmus of Tehuantepec. This landbridge, inaugurated in 1981 at a cost of US$ 140 million, encompasses not only the already mentioned ports but also 305 kilometres of modern highway and rail systems which will facilitate the handling of inter-ocean container traffic, provide an alternative to the traditional route through the Panama Canal, and reduce the distance between, for example, the Orient and Europe by approximately 2 000 nautical miles, with corresponding savings of time and fuel. The landbridge is expected to handle between 70 000 and 90 000 units of containerized cargo during the first year of operation, with an annual volume of 500 000 units anticipated within five years.41/

While the container throughput at Montevideo, Uruguay, has hitherto been low, the strategic position of this port on the River Plate Basin for transhipment traffic with neighbouring countries induced the Government of that country, aided by a US$ 50 million World Bank loan, to begin the construction of a specialized container berth in 1979. The reclamation work is scheduled to be completed by 1981, with a projected start-up date of 1983.42/

Like Mexico, Venezuela is utilizing oil revenues to improve its ports. A five-year US$ 900 million investment programme has been undertaken by the Instituto Nacional de Puertos. While this programme largely focuses on port facilities for oil and break-bulk cargo, specialists have prepared port development plans which include container berths.43/

All the indications are that Mexico will be the point of concentration for the next stage of containerization in the Caribbean. While the use of containers for import cargoes on Mexico's Gulf Coast has reached an encouraging level, the liner trade between Europe and the Caribbean region as a whole retains its traditionally unbalanced character. However, this imbalance is perhaps not so marked as it once was, and there is now somewhat more cargo for the eastbound trip. This has in part been fostered by the introduction of containerization -opening up as it has a wider market for agricultural products from certain areas- and in part because the Association of West India Trans-Atlantic Steam Ship Lines (WITASS) has established commodity box rates 44/ and promotional rates for non-traditional exports. The latter have had a positive effect in attracting new exports of manufactures and cultural products from the Central American countries, Colombia and Jamaica.45/

(b) RO-RO transport systems

(i) Evolution and impact. By the early 1970s the liner trades had evolved into two distinct types. First, those between developed countries, in which the container had become the predominate cargo unit, with the cellular container ship as its means of transport. And second, those between developed and developing countries and between the latter countries alone, in which the general-cargo ship remained supreme. At that time, the division of international commercial movements into container and general cargo trades appeared stable, if not permanent, as many developing countries, then as now, lacked both the means to acquire the capital-intensive container-based transport technology and the "critical mass" of skills and institutions to operate and maintain such equipment.

/Although the

Although the liner trades were apparently stable, by October 1973, when the Organization of Petroleum Exporting Countries (OPEC) decided to raise the price of crude oil from US$ 1.88 to US$ 3.15 per barrel and on 1 December of the same year to US$ 11.65 per barrel,46/ the situation began to change rapidly. Due to the six-fold increase in the price of crude oil, the national treasuries of OPEC countries began to swell. As a result, many of the OPEC members, and especially those of the Middle East, suddenly appeared to have limitless import requirements. While national needs justified such imports, their port facilities were totally inadequate for this unprecedented quantity of goods. The consequences for liner companies operating to and from the Middle East were disastrous. Liner services virtually came to a halt as most ports were congested with general cargo ships at or awaiting berths, and port warehouses were full of break-bulk cargoes.

In response to this situation, all available RO-RO vessels, including those previously utilized in short sea trades between, for example, England and the European Continent and ships designed for North Sea and West Mediterranean RO-RO trades, were redeployed to transport cargoes to the Eastern Mediterranean and Red Sea countries. As RO-RO vessels can discharge cargoes on conventional break-bulk berths at rates barely equalled by cellular container ships with shoreside gantry cranes, these vessels provided a major response to such congestion.

During this early RO-RO period there was an attempt to employ trailer ships -that is to say, first-generation RO-RO vessels- on longer routes and, while the Middle East congestion lasted, they were successful. Nonetheless, due to the construction of modern port facilities by countries of that area and the employment of cellular container ships, the congestion was dramatically reduced and, in many cases, eliminated. As a result, the congestion component in freight rates was eliminated and the first-generation RO-RO vessels became, at best, marginally profitable. The main reason for the reduction in profits is that traditional RO-RO vessels waste an enormous amount of cargo space with chassis and other equipment which is utilized to move cargoes on and off such vessels. Consequently, shippers must pay not only for cargo transport costs but also those costs related to cargo space occupied by chassis.

At this point, owners and operators of RO-RO vessels began to evolve cargo storage and handling concepts which would permit them to regain previous levels of profitability. While this evolution has been slow, i.e., from weather and garage-deck storage of containers to a reduction in the number of cargo units on chassis, certain RO-RO shipowners have specialized in the residual cargoes cellular container ships cannot carry. In order to ensure that the transport of these cargoes would be profitable, a cost-effective cargo handling and storage method known as the "circular" or "merry-go-round" system was evolved. In this system the ship's own fork-lift trucks (FLTs) place import units, empty or otherwise, on trailers which are then pulled ashore over the stern ramp. Ashore, the terminal's FLTs remove the import units from the trailers and load the pre-stowed export units. The trailers then return to the vessel where shipboard FLTs effect stowage. Under this system, cargo flats, containers and other cargo grouping units do not have to be left on trailers for the duration of the voyage. Apart from the high cost of tying up so much capital in trailers, their use wastes cargo space and reduces possible freight revenues. As a result, this modified RO-RO system, aptly named STO-RO for STOwable RO-RO, provides an efficient liner service for cargoes which cannot be transported in cellular container ships.47/

/As the

As the STO-RO system permits a 33% better utilization of available cubic capacity than the pure RO-RO, the STO-RO vessel is considered the break-bulk ship of the future.48/ Moreover, the STO-RO system, with only six or seven stevedores, parmits cargo handling rates of 500 tons per hour or more.49/

It is interesting to note that RO-RO vessel owners consider the Mediterranean an ideal operating environment, since behind its northern shore is the European industrial hinterland, while quite close to the South and East are mainly developing countries. This is rather similar to the Caribbean, in that the Caribbean islands, the East Coast of Central America and the North Coast of South America are all areas of developing countries, separated by sea, which rely upon the United States not only as a principal market for many of their products but also as a source of capital and consumer goods. Consequently, the growth of RO-RO services in the Caribbean in the last decade has been dynamic.

While there are many factors which have contributed to this rapid growth, some of the more important are the increase in trade to and from oil-exporting countries of the Caribbean, close economic relations between such countries and the United States, and the surplus of RO-RO tonnage due to the construction of modern port facilities by Middle Eastern countries.50/ Moreover, a large number of new RO-RO ships were placed in service during 1978-1979, thereby creating a serious problem of overtonnaging and, consequently, a reduction in charter rates which made the use of this system attractive to Caribbean ship operators. In fact, during this same two-year period at least fifteen new RO-RO services were started in the Caribbean.51/

Although container ships and RO-RO vessels have been discussed as separate maritime transport technologies, it should be understood that certain efforts, both successful and unsuccessful, have been made to combine the advantages of each. For example, Sea Containers recently launched a new container/RO-RO vessel which can load and discharge containers with ship's gear and permits the use of up to 30% of the container space for RO-RO cargoes. As this ship incorporates ramps and two container cranes, the company believes it is especially well suited to developing country trades where container unloading facilities may be inadequate or non-existent and cargoes are mixed.52/

The employment of RO-RO tonnage in deep-sea trades received its original impetus in the Middle East, but soon these vessels were also carrying RO-RO cargoes to East and West Africa. For example, during the 12-month period ending May 1980, RO-RO operations at the Lagos (Nigeria) port of Tin Can Island experienced a five-fold increase over the previous reporting period. This impressive increase was due to 305 RO-RO vessels calling at the port, which can be compared with 330 general cargo ships. While the management of the terminal do not foresee the continuance of such rapid expansion, they are nonetheless confident of further growth.53/ Moreover, the improved RO-RO-facilities and streamlined procedures at the Scandinavian West Africa Line's terminal at Lagos have permitted the unloading of 15 000 tons of cargo in just three days.54/

RO-RO vessels utilizing the "circular" or "merry-go-round" cargo handling and storage system have been able to maintain discharge rates of 40 containers per hour, which are equal to and in some cases exceed cellular container ship rates.55/ As an example of the minimum port stays that can be achieved by utilizing RO-RO vessels, Trailer Maritime Transport (TMT) Corporation of the Unites States

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employs a number of three-deck barges with a capacity of 374 trailers between Jacksonville (Florida), Lake Charles (Louisiana) and San Juan (Puerto Rico). At each of these ports, TMT has installed three-deck ramps which match up with the barge stern. Since loading and discharge operations can be conducted on all three decks simultaneously, 374 trailers can be unloaded and a similar number loaded (a total of 748 trailer movements) in an eight hour period.56/ To better understand the quantity of cargo that these trailer movements represent, it can reasonably be assumed that each trailer carries an average of 12 tons of cargo. As a result, 748 trailer movements would represent 8 976 tons of cargo or a handling rate in excess of 1 100 tons per hour. By way of comparison, a container handling rate of 40 TEUs per hour for each crane at most terminals would be considered excellent. If each container carries an average of 12 tons, the cargo handling rate would be 480 tons per hour or substantially less than the rate obtained by TMT. Of course, very few areas provide a trade environment which would justify the investment in a RO-RO transport system such as that of TMT.

While RO-RO vessels can have cargo working rates equal to or exceeding those of container ships, it would appear even more instructive to compare the number of stevedores utilized by RO-RO vessels and general cargo ships to achieve similar loading and discharge rates. In one case, United Lines of Finland, a forest products carrier, has found that to achieve a loading rate of 120 tons per hour on a specially-designed four-hatch, four-crane general cargo ship, 32 stevedores were required and on a similar size RO-RO vessel only eight.57/ Moreover, the incorporation of bow and side ramps with a stern ramp or the use of a multideck shore ramp can increase cargo loading rates for RO-RO vessels with only a minimal increase in the number of stevedores. In contrast, any increase in loading rates for general cargo ships is severely limited by the nature of break-bulk cargoes, the size of cargo hatches and crane speeds.

(ii) Regional activities. As Latin American and Caribbean countries represent important trade partners for general cargo in and out of United States Gulf ports, it is not surprising that liner company officials and most port authorities on that coast agree that in the future RO-RO vessels will carry an even greater portion of the growth in cargo volume of those countries. For example, a New Orleans port official indicated that

> "...four years ago, not a single RO-RO vessel regularly served the trade with Latin America, while today as many as 35 operate in scheduled services between New Orleans and Latin America".58/

The importance of this trade is highlighted by the fact that 23% of New Orleans' total foreign trade is accounted for by its combined commerce with Central America, Mexico and South America.59/ In this sense it is interesting to note that the Uiterwyk Corporation has initiated weekly sailings from New Orleans to Central America utilizing its new RO-RO vessel, the Guatemala, which has a capacity of sixty-two 40-foot trailers.60/ Furthermore, the Nicaraguan national line utilizes two 1 000 dwt RO-RO vessels in its trade between United States Gulf ports and its Caribbean port of Arlen Siu.61/

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Based upon a diversity of trade patterns, changing cargo volumes and varying transport needs, there are, possibly, as many as 60 individual shipping companies serving the Caribbean. Of these carriers, most are small, often one-ship operators, providing services between United States Gulf ports and the islands of the Eastern Caribbean. As regards the larger operators, there is, for instance, the Tropical Shipping Company, which operates a RO-RO/container service five times a week between West Palm Beach and Nassau, the Eastern Caribbean islands and Trinidad with seven vessels and a fleet of self-constructed TEUs.62/ Another example is the Danish/Norwegian joint venture Nopal Lines, which employs four RO-RO vessels, aggregating 16 400 dwt, between United States Gulf ports and those of the Eastern Caribbean, Netherlands Antilles and Venezuela. During 1979 this company rationalized its services and began stacking containers on the trailer decks of its RO-RO vessels, a technique which dramatically increased existing vessel capacity.63/ Finally, Concorde Overseas Corporation, which in 1977 began providing RO-RO services between Miami and Port-au-Prince, has expanded this service by chartering additional vessels and now includes Aruba, Curaçao, the Dominican Republic and Jamaica. Moreover, this company has chartered cellular container ships and seeks to fill the void created by the demise of Sea-train.64/

Due to the nature of its bauxite exports, the Jamaica Merchant Marine (JMM) has traditionally operated bulk carriers. Nonetheless, that company has acquired the Morant Bay, a RO-RO vessel with a capacity of sixty-four 40-foot trailers, and provides services between Miami, Kingston and Port-au-Prince.65/ Further, JMM-Atlantic Line has entered into a space chartering agreement with the Streamline RO-RO vessel consortium,66/ which will provide Jamaica with access to various continental Caribbean and North European ports.

In 1980, two Scandinavian shipping lines established the Atlanticargo consortium, which provides RO-RO services between European ports, those on the East Coast of the United States and Veracruz, Mexico. During its first year, results from operations were so favourable that orders for five additional RO-RO vessels have been placed.67/

While the use of the RO-RO transport system in South America is, as yet, quite small in relation to the total volume of goods transported, Ferrelyneas of Argentina began a RO-RO service to Brazil in 1978 utilizing one of its 1 500 dwt vessels and another chartered vessel. During 1980 TRANSROL Navegação became the first Brazilian company to establish a similar RO-RO link to Argentina,68/ and by February 1981 Brazil had ten RO-RO operators.69/ Furthermore, in the latter year, two of those operators were authorized by the National Superintendency of the Merchant Marine (SUNAMAM) to trade between Brazil, Chile and Peru.70/ Perhaps the greatest impulse for utilizing RO-RO vessels in appropriate Brazilian trades has been the need to reduce the consumption of petroleum products,71/ as that country imports most of its energy needs.

It is interesting to note that the rapid establishment of RO-RO shipping lines has not gone unnoticed by Brazilian shipbuilders. For example, a newly developed feeder RO-RO/LO-LO 72/ 260 TEU geared vessel from Companhia Comercio e Navegação (CCN) has attracted the attention of a number of operators around the world, including major vessel leasing companies. A Brazilian line, Navegação Mercantil, became the first to place an order for four of these vessels.73/

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The ever-increasing use of RO-RO transport systems in Brazil led the Minister of Transport of that country to announce in early 1981 that by 1982 appropriate terminals would be available at all principal ports of that country, i.e., Belém, Cabedelo, Fortaleza, Paranaguá, Recife, Rio de Janeiro, Rio Grande, Santos and Vitória.74/

The Streamline consortium, which includes Johnson Line (Sweden), EFFOA (Finland), the Royal Mail Line (United Kingdom) and FLOMERCA (Guatemala), employs two 14 800 dwt multi-purpose RO-RO/container vessels and provides services to five European ports and eight ports in the Caribbean, Central and South America.75/ Argentine interests are reported to be considering the purchase of a RO-RO vessel, the Seaspeed Dima, which has a capacity of 103 trailers.76/ Finally, it should be highlighted that, parallel with the rapid growth in RO-RO services in the Caribbean and on the East Coast of South America, the Compañía Peruana de Vapores has recently placed in service two 16 700 dwt RO-RO equipped, container/bulk/general cargo vessels for its trade between Europe and the West Coast of South America.77/

III. INSTITUTIONAL SUPPORT FOR CARGO UNITIZATION

For the most part, the introduction of new maritime transport systems in Latin American and Caribbean trade flows has taken place without the needed changes by the institutions which intervene in international commercial movements. In some cases, considerable investments have been made in new port facilities and equipment for the handling and transshipment of unit loads, but these have not been accompanied by corresponding institutional modifications. Rather, they have gradually generated pressures to, inter alia, (a) participate actively in the elaboration of the United Nations Convention on International Multimodal Transport of Goods, (b) modify procedures for reception and handling of cargo at transshipment and destination points, (c) streamline Customs procedures and regulations, and (d) simplify, harmonize and reduce commercial requirements, procedures and documentation.

(a) The United Nations Convention on International Multimodal Transport of Goods

As a result of the impact of cargo unitization on international trade flows and its growing importance for both developed and developing countries, during the late 1960s many efforts were undertaken to prepare draft conventions on multimodal transport (or combined transport of goods as it was then known) by organizations such as the Economic Commission for Europe (ECE), the International Chamber of Commerce (ICC), the International Maritime Organization (IMO) and the International Institute for Unification of Private Law (UNIDROIT). Due in part to these early efforts, at its 48th Session in May 1970 the Economic and Social Council of the United Nations (ECOSOC) took the decision to convene a joint UN/IMO Conference on International Container Traffic in Geneva, Switzerland, during November and December 1972, to discuss the draft multimodal transport convention prepared by the ECE and IMO. Further, ECOSOC resolved, inter alia, that an intergovernmental preparatory group should be convened for that Conference and invited the regional economic commissions to examine the consequences of the ECE/IMO draft convention, particularly for developing countries.

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During the Third United Nations Conference on Trade and Development (UNCTAD-III), held at Santiago, Chile, in May 1972, UNCTAD resolution 68(III) was adopted. This resolution requested, in part, that the developing countries indicate their positions on the ECE/IMO draft convention to the regional economic commissions. Subsequently, CEPAL convened three subregional meetings during June 1972 in Brasilia, for countries of the River Plate Basin; in Mexico City, for Mexico and the Central American countries; and in Lima for countries of the Andean Group. These meetings were utilized by the Latin American countries to establish a common position on various aspects of multimodal transport for the UN/IMO Conference.

While the UN/IMO Conference agreed upon an International Convention for Safe Containers and a Customs Convention on Containers, as well as approving various resolutions, it was recognized that a convention on the multimodel transport of goods included significant institutional aspects and was, therefore, much wider than the physical movement of containers. Based upon this recognition and extensive discussions in the Third Committee at the Conference, it was recommended to ECOSOC that UNCTAD be requested to undertake new studies of all relevant aspects of multimodal transport, in co-ordination with the regional economic commissions and other appropriate organizations; to establish an intergovernmental preparatory group (IPG) to elaborate a preliminary draft multimodal transport convention, and to request the General Assembly of the United Nations to convene at the end of 1975, subject to completion of the aforementioned efforts, a plenipotentiary conference to finalize a convention on the multimodal transport of goods.

In its resolution 1734(LIV) of 10 January 1973, ECOSOC endorsed the recommendations of the UN/IMO Conference and requested UNCTAD's Trade and Development Board to establish an IPG to elaborate, in consultation with other United Nations bodies, a preliminary draft convention on international multimodel transport. The Secretary-General of UNCTAD accordingly established an IPG in which eleven Latin American countries participated, namely, Argentina, Brazil, Chile, Colombia, Cuba, the Dominican Republic, El Salvador, Jamaica, Mexico, Peru and Venezuela.

As was previously indicated, the Latin American countries had an opportunity to study various aspects of multimodal transport at the three subregional meetings convened by CEPAL during June 1972. These efforts bore fruit at both the UN/IMO Conference (December 1972) and the first session of the IPG (29 October to 10 November 1973). Prior to the second session of the IPG, which was held from 11-29 November 1974, and in order to continue the initiative begun at the aforementioned meetings, two additional meetings were held: the Second Meeting of the Council for the Physical Integration of the Member Countries of the Cartagena Agreement (Lima, 7-12 October 1974) and the First Latin American Regional Preparatory Meeting on the Convention on International Intermodal Transport (Mar del Plata, 21-30 October 1974).

Since certain members of the Group of 77 (the developing country group within the United Nations) had not studied in advance the problems to be dealt with at the second session of the IPG, the Latin American delegates successfully utilized their common understanding, of the issues before this session, developed at the above-mentioned additional meetings, to convince those members of the need for and desirability of having a multimodal transport convention and of taking an active part in its preparation. It was argued that developing country participation

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in the elaboration of this convention should be viewed as a most important means by which it could be ensured that new maritime transport technologies based on unitization were employed under rules suited to those countries' national interests and aspirations.

The IPG held six sessions between October 1973 and March 1979; at its sixth and final session, the IPG completed its work and approved the text of a draft convention on international multimodal transport for submission to the Trade and Development Board, with a request that the Board inform the General Assembly through ECOSOC of the outcome of the IPG's efforts.

In anticipation of the conclusion of the IPG's work, the General Assembly, in its resolution 33/160 of 20 December 1978, decided to convene a conference of plenipotentiaries and requested UNCTAD's Trade and Development Board to determine the dates for such a conference on the basis of recommendations made by the IPG. Thereafter, the Board, at its tenth special session (19-27 March 1979), requested the Secretary-General of UNCTAD to make the necessary arragements for the convening of the United Nations Conference on a Convention on International Multimodal Transport in early November 1979 as well as for the convening of a resumed session of the Conference if considered necessary. Subsequently, the Conference was convened from 12 to 30 November 1979 and from 8 to 24 May 1980.

At the eighth and last meeting of the Conference, on 24 May 1980, the United Nations Convention on International Multimodal Transport of Goods 78/ was adopted by consensus. While very little time has elapsed since the Conference completed its work, as of 1 December 1981 the following six countries had already signed the Convention, subject to ratification: Chile, Mexico, Morocco, Norway, Senegal and Venezuela. It is interesting to note that on 11 February 1982 Mexico 79/ became the first country to ratify the Convention, and on 7 April 1982 Chile 80/ became the second.

(b) The reception and handling of cargo at transshipment and destination points

Since Latin American international commerce has traditionally involved ocean transport, the ports of this region have been natural concentration points for a series of complementary services -such as customs, banking, freight forwarding, storage, packing, insurance, documentation, health and agricultural inspections, etc.- utilized in export and import operations. It should be understood that the major difference between the domestic and international commerce of a country is precisely that the latter involves not only the movement of goods from one place to another but also these complementary services. While in the past the official clearance of general cargo at Latin American ports did not create undue obstacles for commercial flows, as each box, bale, crate and barrel was handled individually, modern container and RO-RO transport systems have rendered this practice unworkable. As a result, the governments of this region should consider directing their efforts not just towards expanding port cargo handling operations and making them more efficient, but also towards developing an efficient institutional infrastructure to ensure that container and RO-RO cargoes reach consignees promptly.

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Undoubtedly, of all the links in the distribution chain, the most delicate is the port. It is the most difficult link, especially in developing regions where general conditions such as the economic situation and national labour policies do not always make it possible to solve technical problems merely by applying what might appear to be the best technical solution. As a result, port authorities are often required to solve problems in a manner which is almost contradictory to the content of the problem. It is apparent that port authorities are aware of these problems and realize appropriate solutions can be arrived at only through co-operative efforts by ministries of transport, customs administrations, connecting land transport, banks, freight forwarders, consignees, shippers, labour organizations, etc.

While the complementary services performed at ports are largely instituted to assist commercial flows and, at the same time, comply with certain government and private commercial requirements, they can create situations in which the movement of goods by a certain transport mode can become uneconomic. In this sense, it is instructive to note that the Pacific Mexico Container Line (PAXICON) recently suspended its container service between the ports of Long Beach, California (United States), and Manzanillo, (Mexico), due to documentation and customs clearance difficulties at the latter port.81/ As the goods which were carried by PAXICON are now imported into Mexico by truck, this situation might be thought to create unnecessary costs for international trade. Nonetheless, it should be understood that because of the growth in the Mexican economy, a heavy strain has been placed on that country's ports to handle extra vessels and import cargoes. In an effort to avoid costly port congestion surcharges, such as those that occurred in the Middle East during the early 1970s, the Government of Mexico might have decided to favour land transport for its commercial exchanges with the United States and those countries with which it has common borders, and maritime transport for other trade partners.

Apart from the changing concepts of transport, brought about in a large measure by the ever-increasing use of containers, it is necessary to understand that the historical role of ports has also changed. Today, in cases where ports employ the services of interior cargo terminals (ICTs) to consolidate and disconsolidate cargoes, stuff and strip containers, and provide other complementary services such as customs, banking, insurance, land transport, storage, freight forwarding, etc., they have principally become a conduit or interface between ocean and land transport modes. While ICTs have come to provide invaluable services to commercial movements, they can also have a beneficial effect on the trading and industrial activities of a country or region, since such terminals enhance the attractiveness of a region for industrial investments. Moreover, ICTs provide governments with an imoprtant tool to achieve regional equilibrium as regards economic and social development and, consequently, employment opportunities.

The port of Keelung, on the island of Taiwan, is an excellent example of what can be accomplished, in terms of the movement of containers and other unitized cargoes, when port operations are combined with the use of ICTs. While Keelung, with a container throughput of 659 643 TEUs in 1980, is one of the world's leading container ports, it nonetheless has severe topographic and urban restrictions for container operations.82/ In fact, as the port of Keelung is surrounded by hills and a large city, it may be easily compared to many ports in

/this region

this region such as Buenos Aires, Argentina; Rio de Janeiro, Brazil; Valparaíso, Chile: Veracruz, Mexico; and Port of Spain, Trinidad and Tobago. Moreover, since the port of Keelung does not have either the land to devote to container handling facilities nor the possibility of making extensive use of landfill such as was done at Kobe, Japan,83/ and in view of the pressing need to utilize the most efficient transport modes, i.e., container ships and RO-RO vessels, the solution proved to be the establishment of approximately 14 ICTs between the port and the capital city. These terminals offer the same full range of complementary services normally found in ports, thereby permitting vessels to discharge containers and RO-RO cargoes for immediate movement to any of such facilities.

As the customs clearance of container and RO-RO cargoes at Latin American and Caribbean ports has resulted in major congestion problems, certain countries of this region have begun to emulate those of other regions by establishing cargo terminals at major export and import centres. In this sense, it is interesting to note that the Government of Argentina, by means of Decree 425/80, gave its national customs administration the authority to grant concessions to operate ICTs. As a result of this Decree, it is now foreseen that five such terminals will be established within 30 kilometres from the centre of Buenos Aires and will offer the same full range of complementary services found at the country's ports, thereby permitting the clearance as well as consolidation and disconsolidation of container and RO-RO cargoes.84/

At present, containers utilized in the foreign trade of Latin American countries have only recently begun to move beyond port boundaries to consumption and export centres. This situation is partly due to one or more of the following: first, the application of traditional break-bulk cargo handling systems to unitized cargoes; second, an inadequate inland transport infrastructure -for example, bridges and tunnels of insufficient size- for container movements; third, customs requirements regarding the clearance of goods at ports of entry; fourth, the lack of ICTs at which those complementary services normally found at ports -such as customs, banking, insurance, land transport, storage, freight forwarding, etc.- would be offered; and fifth, the lack of an adequate customs transit regime which would permit sealed cargo units to be transported between ICTs in different national customs territories without being opened at ports or frontier crossings.

The need to achieve a constant berth throughput or productivity level to justify investments in container cranes and other sophisticated equipment has resulted in many innovative efforts on the part of port authorities to ensure that vessels arrive at their container facilities ready for productive work and that there are no delays during loading and discharge operations. For example, South African Railways, which operates that country's ports, instituted in 1979 a charge of Rand 200 (US$ 233.52) per half hour or part thereof that a wharf crane stands idle. A spokesman for the ports noted that

> "...we have invested a lot of money (in container ports). Ships that work containers in a stop-start manner because hatch covers have to be moved or because cargo must be shifted to allow access to containers in holds will be penalized".85/

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As a result of this measure, as well as the programmed maintenance of container cranes and other handling equipment, container handling rates at South African ports are among the fastest in the world:86/ a remarkable feat considering that this occurred in two-and-one-half years from the date when containers were first introduced into that country's trade flows.

While the imposition of a penalty upon shipowners for any delays in cargo handling operations would appear a negative response to the problem, such is not the case. As South African ports are reported to have container handling rates equal to those of the most sophisticated ports in the world, it would appear that the penalty has given shipowners an incentive to avoid such delays and, consequently, has contributed positively to the achievement of that rate. In fact, it might be useful to evaluate the effect of a similar penalty upon those organizations and agencies providing complementary services for international cargo movements, in order to determine if the results would be equally positive.

(c) Customs procedures and regulations

From a customs point of view, the basic difficulty posed by cargo units such as containers is that the time required for their transfer between successive means of transport is greatly reduced and the goods themselves can be physically examined only by unloading and reloading cargo units at intermediate points. It is obvious that in such circumstances the performance of traditional customs formalities at ports and frontiers would constitute a hindrance to trade. Conversely, the streamlining of customs transit requirements to permit the through movement of goods between origin and destination points without intermediate unloading and reloading would permit cargo grouping technologies to increase the efficiency of the overall transport system.

While national customs authorities perform necessary functions for, inter alia, the fiscal security of their respective countries, it must be recognized that any delay in the execution of such functions can greatly increase the prices of delivered goods. For example, during the period between unloading a large truck valued at US$ 100 000 from a vessel and delivery to the consignee, a minimum cost of US$ 30 per hour is incurred. In order to place this cost in perspective, it may be noted that the truck can be moved 35 miles for approximately the same amount.87/ Moreover, if the delay were extended to five days, the cost would increase to US$ 3 600. In this sense, then, it is interesting to note that a specialized transport magazine indicated that

> "The biggest bottleneck almost everywhere, shipping people agree, is in Customs. Even today in many parts of the world Customs procedures haven't altered in a century. Not only is this true of the Third World, but many developed countries are still clinging to outmoded Customs procedures which no amount of efficiency on the part of carriers can overcome. The rules are the rules, and that's it".88/

It should be understood, nonetheless, that customs authorities have very little flexibility in the execution of the legislation which they are responsible for applying. The fact is that the legislative body of a country prepares customs regulations in response to many national goals and policies. As a result, delays in the movement of goods between national customs territories may be caused by many other factors, such as requirements that transport within a given territory

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be effected only in trucks of that particular country. In those countries of Latin America which have these requirements, a costly infrastructure has grown up to provide services for cargo storage as well as for its transfer between trucks. While this requirement does not apply to the trade corridor between Buenos Aires, Argentina, and São Paulo, Brazil, it is instructive to note that trucks utilizing this corridor are normally delayed two days at the frontier, due to various customs and commercial requirements. The cost of such delay has been estimated by carriers at US$ 250 per day for each truck.

During the latter half of 1981 the Government of Brazil inaugurated a new container port at Santos with an annual capacity of 145 000 TEUs. Since Brazilian exporters have begun to utilize containers, road and rail connexions with the industrial areas around São Paulo and with the rest of the country will need improvement to ensure the most efficient movement of unitized cargoes. Furthermore, to provide an adequate level of complementary services for over 12 000 TEUs per month, the South American director of a major container leasing company indicated that

> "The entire customs legislation has to be adapted. When the first full container ship unloads 1 200 TEUs there, they won't know what to do with them..." 89/

While many full container ships have utilized the port of Santos without the difficulties envisioned, certain changes in the customs legislation of all Latin American countries should be considered to ensure that the benefits from cargo unitization and especially containerization are fully realized. In general, these changes should permit containers to be treated as containers and not just as another packing crate for break-bulk cargo. To accomplish this, two principles should be observed: first, a customs transit regime must be adopted which permits the through movement of customs-sealed units from origin to destination without intermediate inspection of the contents at ports of entry or frontier crossings; and second, legislation must be adopted which permits the official clearance of goods at destination. It is necessary to understand that these two principles, i.e., uninterrupted through movement of goods and their official clearance at destination, are fundamental to the cost-effective utilization of container and RO-RO transport systems.

In order to utilize the experience of other countries for the improvement of services offered at its ports, the Government of Mexico has collaborated in its industrial ports programme with, inter alia, the port of Oakland, United States, in the training of port operators and management personnel. The programme director for the port of Oakland considers one of the major problems at the port of Lázaro Cárdenas is that

> "...right now you have one customs house and one customs agent, if a ship comes in and unloads 40-50 containers, they all go downtown on trucks at the same time, stopping traffic, to go through customs". 90/

Moreover, due in part to the lack of interior cargo terminals in Mexico, the majority of containers are stuffed and stripped within port areas, and those which do move inland are normally returned empty to ports for storage prior to repositioning. 91/

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The basic customs transit regime is the national procedure, which is subject to national law and regulations and involves the use of national documentation and guarantees to ensure payment of any import duties and taxes which may become chargeable. In addition to the national procedures, several international customs regimes have been established by agreements between the countries concerned. The purpose of such agreements is to provide procedures whereby goods may pass through a number of countries with only a minimum of customs checks during the journey and without the need for national documentation and guarantees.

Various regional and sub-regional efforts have been undertaken to facilitate the movement of unitized cargoes through Latin American national customs territories. For example, the Expert Group on Customs of the Latin American Free Trade Association (now known as the Latin American Integration Association) elaborated the "Recommended standards for customs treatment of containers" which were approved in 1976 and deal with the certification, temporary admission and handling of containers. Further, parallel efforts were undertaken to standardize and simplify the customs treatment of unitized cargoes in the form of Decisions 56 and 56A of the Board of the Cartagena Agreement (Andean Group). Finally, on the basis of a World Bank approach to individual Latin American governments concerning the importance of adopting an international customs transit agreement to facilitate their extra-regional trade flows, the Meeting of Ministers of Public Works and Transport of the Southern Cone Countries (Cochabamba, Bolivia, June 1979) requested CEPAL, in collaboration with other organizations, to undertake a work programme to assist such governments in their evaluations of existing customs transit agreements, as well as to examine the feasibility of implementing the 1975 Customs Convention on the International Transport of Goods Under Cover of TIR Carnets (TIR Convention) in the region. In the execution of this work programme, various studies have been prepared 92/ and meetings held 93/ to assist such countries with their evaluations. In October 1980 the Government of Uruguay adopted the TIR Convention, and approximately two years later the Government of Chile did the same.

(d) Simplification, harmonization and reduction of commercial requirements, procedures and documentation

The employment of reusable cargo units, especially containers, has accelerated the movement of merchandise by dramatically reducing the time spent in ports awaiting onward carriage. It has become important, then, that trade procedures and documentation be simplified and harmonized to ensure that such units are not delayed due to the lack of the necessary documentation. The need to facilitate trade procedures and documentation is a natural outgrowth of container and RO-RO transport technologies, since the economies which are attributed to these technologies depend in great measure on institutional changes which enable such technologies to be utilized to their fullest advantage. That is to say, it is not the mere use of these maritime transport technologies, but rather of unitization in its broadest sense, which produces the majority of economic benefits associated with such technologies. Consequently, many of the benefits of container and RO-RO transport systems cannot be fully realized without institutional changes.

/Because of

Because of the growing recognition among Latin American and Caribbean countries of the need for and benefits resulting from the simplification, harmonization and standardization of governmental and commercial procedures, formalities and requirements, such countries at the eighteenth session of CEPAL adopted resolution 390(XVIII) requesting the CEPAL Secretariat to convene in the principal geographical areas of the region meetings 94/ of experts in facilitation to identify problems which significantly affect commercial movements and the development of transport institutions in each area, and to establish priorities and suggest measures which might contribute to their solution. In response to this resolution, the CEPAL Secretariat prepared meeting documentation 95/ to assist the experts with their deliberations and, in collaboration with appropriate governments and national and international organizations, made arrangements for such meetings. It is interesting to note that while the experts highlighted problems in their meeting reports 96/ which are unique to each geographical area, e.g., customs transit for Central American land transport and inter-island transport systems for the Caribbean, there was, nonetheless, a common recognition at all meetings of the need to facilitate commercial movements through the simplification and harmonization of international trade requirements, procedures and documentation.

Another related problem is that of excessive administrative requirements imposed on vessels and their cargoes as regards shipping documentation at ports. These requirements contribute to unnecessarily high transport costs and to delays in the dispatch of ships and cargoes, as well as constituting an excess of work which causes inconveniences to shipping, port, customs, immigration, health and police officials who are obliged to process the resulting documentation. As evidence of the limited usefulness of many of these requirements, one had only to compare maritime and air documentation requirements for the receipt and dispatch of vessels and aircraft and their respective cargoes, to determine that airport authorities require far fewer documents than their maritime counterparts, even though the functions performed by each are quite similar. Moreover, in the last two decades most developed nations have abolished many of the formalities previously required for the receipt and dispatch of vessels and their cargoes, and there are specific recommendations to do the same in this region from the International Maritime Organization (IMO), the Latin American Integration Association (ALADI) and the Organization of American States (OAS).

Consular intervention is another requirement which creates inconveniences, delays and unnecessary costs in the dispatch of vessels and imported goods. The use of consular visas has been totally suppressed in other regions, but certain Latin American countries still maintain these obsolete requirements.

In an effort to provide a basis for simplifying shipping documentation and promoting the suppression of consular interventions, CEPAL -in collaboration with the Organization of American States, through the OAS/CEPAL Transport Programme- has prepared and published a manual of shipping documentation 97/ required for vessels and cargoes which utilize Latin American ports. The first part of this manual, published in April 1979, contains the documentary requirements for South American ports on the Pacific Ocean and all Central American ports. The second part, published in April 1980, contains similar requirements for the Atlantic Coast ports of South America. The third and final part, published in September 1981, contains the documentary requirements for ports of the Caribbean, Mexico and Panama.

/IV. CONCLUSION

IV. CONCLUSION

Investments by port authorities in the most technologically advanced cargo handling equipment and adoption by them of streamlined cargo handling procedures can assist companies which utilize container ships and RO-RO vessels to control operating costs. Nonetheless, if port improvements and new transport technologies are to fully benefit the Latin American and Caribbean economies, those agencies which provide complementary services to international cargo movements, such as national customs authorities, insurance companies, banks and freight forwarders, will have to adapt their services to conform to the most recent political, economic and technological developments. No longer can such agencies ignore the impact they have on trade flows and the very real need to provide services on a timely and efficient basis.

While there are many actions which Latin American and Caribbean countries might undertake to ensure the rapid and uninterrupted movement of containers and RO-RO cargoes from shippers to ports and from ports to consignees, some of the more important are (a) the adoption of international conventions, (b) the establishment of cargo terminals in the interior of each country, close to major centres of production and consumption and offering customs, banking, insurance, storage, freight forwarding and transport services, and (c) the simplification, harmonization and reduction of commercial requirements, procedures and documentation.

(a) Adoption of international conventions

The ever-growing use of cargo unitization and especially containers in Latin American and Caribbean trade flows has been accompanied by large investments in specialized vessels, port facilities and cargo handling equipment. However, modernization of the transport institutional infrastructure to ensure the cost-effective use of containers has only recently begun. While there are many important international instruments which might assist with the creation of a modern transport institutional infrastructure, some of the more important are: (i) the United Nations Convention on International Multimodal Transport of Goods, (ii) the TIR Convention (1975) and (iii) a regional convention limiting the civil liability of carriers engaged in international land transport of goods.

(i) The United Nations Convention on International Multimodal Transport of Goods. From the outset it should be understood that even though the international movement of goods normally involves two or more transport modes (ship, truck, railway, barge, etc.), the multimodal transport of goods is an institutional concept, based on the idea of one single document evidencing the entire transport operation from origin to destination, with one person responsible as principal to the cargo owner or shipper for any loss of or damage to the goods as well as delay in delivery. Nonetheless, as cargo unitization permits the rapid and efficient transfer of such units between modes, international multimodal transport only became a commercial reality with the advent of containerization.

Although multimodal transport operations are, in principle, compatible with conventional transport technologies, the institutional concept has seldom been applied to break-bulk cargoes. The reason for this is that, under conventional transport technologies, the risks of damage or pilferage of cargo during the handling operations at each interface point and difficulties in controlling the

/entire movement

entire movement of goods along the transport chain discouraged prospective multimodal transport operators (MTOs) 98/ from accepting responsibility for the whole operation on the basis of a single contract. In contrast, modern transport technologies involving the unitization of cargoes -in particular containerization- permit more effective control of the goods and successive carriers so that MTOs can more easily assume responsibility for the entire operation.

While through bills of lading and many of the institutional components utilized in multimodal transport operations came into existence nearly 100 years ago, it should be understood that these aspects evolved in response to specific needs on defined trade routes. As a consequence, a diversity of commercial practices for international multimodal transport operations came into existence. Although such diversity may have provided certain trades with a degree of flexibility for commercial transactions, it nonetheless, created serious obstacles for participation by developing countries in multimodal transport operations. In response to this situation, the United Nations Convention on International Multimodal Transport of Goods was elaborated to, inter alia, provide a uniform legal framework which ensures clarity of commercial functioning and financial security for all parties concerned in such operations. While there are many significant aspects of this Convention, some of the more important for developing countries are the establishment of the legal existence of MTOs, a limitation of the civil liability of MTOs for loss of or damage to goods as well as delay in delivery, and an internationally recognized multimodal transport (MT) document.

The legal existence of MTOs is established by defining their corresponding rights 99/ and responsibilities.100/ Basically, any person executing an MT contract as a principal with the owner or shipper of goods for carriage by at least two modes of transport between different countries, either of which is a contracting party to the Convention, is an MTO.101/ Once the MT contract has been executed, the MTO must comply with various provisions of the Convention regarding care and custody of the goods in transport, as well as after acceptance and before delivery, or respond to the owner or shipper of the goods in amounts determined by relevant provisions of the Convention.102/

It is interesting to note that while the Convention establishes the legal existence of MTOs, it does not impair the right of any country to license MTOs and to impose such conditions as may be reasonable in the situation. It should be understood that specific national provisions regarding the licensing of MTOs can provide developing countries not only with sufficient flexibility to create a basis for local participation in multimodal transport but also with the means to control any possible abuse of the Convention by local or foreign MTOs.103/

For international trade transactions, the bill of lading is normally utilized as both a document of title and as a negotiable instrument. This dual use enables multiple transfers in ownership of the goods to take place during transport operations and the seller to borrow against the proceeds of the sale before the importer pays for such goods. In this sense, foreign banks may be hesitant to grant credit on the basis of an MT document issued by an MTO carrying substantial liability who is located in a distant country, unknown to them, and whose financial and general business standing they may not be in a position to ascertain easily. The international recognition of an MT document in the

/Convention, however,

Convention, however, permits economically weak but operationally competent carriers, freight forwarders and other appropriate persons of this region to become MTOs, as it assists in overcoming difficulties in securing acceptability by foreign banks of the MT documents they issue. On the other hand, without an internationally recognized MT document, MTOs of developing countries would probably find that their documents would have a lower status than those of operators from developed regions, and they would consequently have difficulties in generating a sufficient volume of business to justify needed investments.

(ii) The TIR Convention (1975). The legislation of each Latin American country contains provisions which regulate the movement of goods in transit through its national customs territory from a customs office of departure in another country to an office of destination in a third country. As there has been very little harmonization of customs transit procedures, documents or standards on a regional basis, to all intents and purposes there is one customs transit policy per country, resulting in as many documents and control systems.

Although modern container and RO-RO transport systems have increased the speed with which goods may be transported between shippers and consignees, this benefit has been diminished by the number and diversity of national customs transit requirements. Latin American governments are faced with the need to adapt national customs transit systems so as to facilitate intra-regional as well as extra-regional commercial movements. However, as long as the large numbers of different transit requirements exist, the crossing of frontiers will be a complicated operation and a source of delays for customs officials and users alike.

In order to promote the rapid and efficient movement of goods between different customs territories, the TIR Convention requires physical, financial and legal measures be taken to ensure that goods do not wrongfully enter the economy of a transit country. First, physical security measures, in the form of construction requirements for vehicle cargo compartments, ensure that there are no hidden areas where goods may be placed, that all spaces capable of holding cargo are readily accessible for inspections, and that after the customs authorities have sealed the cargo compartment no goods may be removed from it. These strict physical security requirements for cargo compartments ensure customs authorities of transit countries that no goods may be removed from such compartments without leaving visible evidence of tampering. Second, financial security measures, in the form of an international guarantee chain, ensure that if any goods wrongfully enter the economy of a transit country, by means of the cargo compartment of a transport vehicle, the customs authorities of that country may obtain from the party responsible the required duties and taxes. Finally, legal security measures, in the form of a customs transit document, i.e., the TIR Carnet, provide evidence to the customs authorities of a transit country that the required physical and financial security measures have been taken in respect of the goods, and indicate the persons and institutions responsible in the event of any wrongful importation.104/

It is interesting to note that as the TIR Carnet accompanies or moves with the corresponding sealed unit load, customs authorities at ports of entry in this region can utilize that document to permit the transfer of such units from the port area to an ICT, even though other documentation, such as bills of lading, has not been received. The advantages of utilizing the TIR Carnet in this manner

/should not

should not be underestimated, as the use of limited port areas for unit load storage is uneconomic in comparison with similar use of ICTs, and can quickly lead to port congestion and surcharges by liner conferences.

(iii) A regional convention which limits the civil liability of carriers engaged in international land transport of goods. Historically, ports have been the beginning and ending points for international movements of goods. Previously, the hinterland or zone within which cargoes are attracted to a port was usually limited to the port city and immediate surrounding areas. Now, however, with the advent of unitization and especially containers, the effective hinterland of a port has greatly expanded. The principal reason for this is that standard-size cargo grouping units may be rapidly and efficiently transferred between various means of transport without intermediate unloading, thereby permitting their uninterrupted onward carriage to inland destinations. Even though the use of containers can expand the hinterland beyond the port city and immediate surrounding areas, the size of a hinterland is nonetheless limited by factors such as institutional obstacles (e.g., lack of a uniform regime for carriers' civil liability, requirements that shippers and consignees must utilize national ports and carriers, etc.), competition from other ports, physical restrictions of the inland transport infrastructure, and the content and direction of trade flows.

Due to the importance of through transport operations for container and RO-RO systems, i.e., uninterrupted movement of goods from origin to destination, and, at the same time, the need to minimize institutional obstacles to such operations, the United Nations Convention on International Multimodel Transport of Goods specifically incorporates the limits of carriers' civil liability in applicable unimodal conventions or national laws, where they exceed those provided in that Convention.105/ These provisions permit contracting States to establish higher limits of carriers' civil liability, which might be more appropriate to local or regional circumstances, either through national legislation or an international agreement on the matter. It should be emphasized, nonetheless, that varying levels of carriers' civil liability established by differing national legislations would create institutional obstacles to the through movement of goods and, hence, additional costs, as carriers and cargo owners would have changing legal responsibilities during the execution of the same transport operation.

In view of the expansion of the hinterlands of Latin American ports, growing commercial interchanges between countries of this region by land transport, and a broad-based recognition that individual legal systems utilized by each country to determine the civil liability of carriers for loss of or damage to the goods transported as well as any delay in delivery create costly and unnecessary obstacles for international land transport, the Sixth Meeting of Ministers of Public Works and Transport of the Southern Cone Countries, held in November 1975, agreed to promote the preparation of an international land transport convention for the countries of the Southern Cone and requested collaboration from CEPAL in this effort. Upon learning of CEPAL's intention to begin work on such an agreement, the Second Latin American Regional Preparatory Meeting on the International Convention on Multimodal Transport (Buenos Aires, Argentina, December 1976) requested that its geographical scope be widened to include the entire region. In accordance with these requests and with the work programme of the Secretariat approved at the seventeenth session of the Commission, an original

draft convention limiting the civil liability of carriers in the international land transport of goods was prepared. Subsequently, this original draft was circulated to various national, international, regional and sub-regional organizations for comments and suggestions. After receipt of comments and suggestions, a Group of Experts was convened in December 1977 to review and where necessary amend the aforementioned draft convention. The Group of Experts carried out this work and further recommended in its report 106/ that the Secretariat should undertake a study on the effects of establishing relatively high or low limits of financial liability for such carriers. As a result of this recommendation, a study 107/ in the matter was prepared and distributed.

An Intergovernmental Preparatory Meeting was held from 4 to 8 September 1978, at which government delegates from CEPAL member nations reviewed the draft convention as prepared by the Group of Experts, made such changes as they considered necessary, and recommended that various additional studies be undertaken by the Secretariat. The Intergovernmental Preparatory Meeting's report,108/ which contains the draft Latin American Convention on the Civil Liability of Carriers in the International Land Transport of Goods (CRT), as approved by the government representatives, was circulated to all member countries of the Commission and other interested organizations. Thereafter, the CEPAL member countries at their eighteenth session in La Paz, Bolivia, April 1979, adopted resolution 390(XVIII) which, inter alia, requests CEPAL to prepare the studies recommended at the Intergovernmental Preparatory Meeting.

(b) The establishment of interior cargo terminals (ICTs)

Due to the vast increase in port productivity or throughput generated by container ships and RO-RO vessels, the establishment of ICTs in Latin American and Caribbean countries has become a necessity. Whereas existing commercial procedures and customs requirements worked quite well when ships took days to load and/or discharge cargoes, such systems have broken down under the pressure of extremely short port stays, which are often numbered in hours rather than days. Particularly where port throughput levels are very high, the complementary services can, and often do, cause delays in the movement of containers and RO-RO cargoes to their final destinations. Moreover, such delay is often self-generating in the sense that its presence enhances the likelihood of its further extension.

In this connexion, it must also be understood that if land transport systems are not rationalized to remove containers and RO-RO cargoes from ports in an equally efficient and rapid manner to that of their arrival, even those ports which have made necessary investments to facilitate the loading and discharge of container ships and RO-RO vessels, thereby minimizing vessel port-stay time, face the very real risk that container storage areas will become congested. While the congestion of container storage areas might seem a relatively minor problem, it should be remembered that container ships and RO-RO vessels cannot be unloaded unless there is container storage space available. As a result, customs and port authorities must actively collaborate with those enterprises engaged in the land transport of containers and RO-RO cargoes to ensure the rapid and efficient dispatch of such units from port storage areas to ICTs.

/Apart from

Apart from reducing the overloading of port container handling equipment and the congestion of attendant storage areas, two additional reasons can be identified for establishing ICTs. First, they provide important cargo consolidation and disconsolidation functions, which require substantial amounts of space, as well as a relatively inexpensive storage or staging area for containers prior to being transferred to a port for vessel loading operations. And second, ICTs provide shippers with a level of personal service which ports find it difficult to offer, as large marine container terminals principally seek to satisfy the requirements of vessel operators rather than those of shippers.109/

While much has been written about the possibilities of "door-to-door" transport operations which utilize sealable unit loads such as containers, it should be understood that door-to-door transport is an "ideal" and that, in reality, most unit movements are from ICT-to-ICT. The reason for this is that many containers are loaded with goods from a number of shippers for various consignees. In this situation, unnecessary costs would be generated if the container were transported to each shipper's "door" for receipt of goods. Moreover, this "door-to-door" service would require that each container be accompanied by persons who could provide needed complementary services such as packing and customs sealing of the container after receipt of goods from each shipper. In a similar manner, every loaded container would have to be transported to each consignee's "door" for delivery of his part of the goods as well as clearance by customs authorities. It is interesting to note that even when a container is loaded with goods for only one consignee, the costs to the consignee of having such goods officially cleared and having other appropriate complementary services performed at his "door" are normally prohibitive. For certain high volume exporters and importers, it is true, the provision of such services at their "doors" has been found cost-effective. However, it should be understood that these exporters and importers have not so much avoided the use of ICTs, but have, rather, constructed ICTs especially for their own private use. Consequently, then, ICTs provide a convenient location where shippers and consignees can have their goods consolidated or disconsolidated for unit loading, and where the necessary complementary services can be performed without undue cost to the individual shipper or consignee.

(c) The simplification, harmonization and reduction of commercial requirements, procedures and documentation

As Latin American and Caribbean commercial movements do not yet have a uniform institutional infrastructure, such trade is governed by bilateral agreements, by each country's commercial code, and by agreements among sellers, buyers, freight forwarders, banks, carriers and other commercial interests. In all cases not specifically prohibited by their respective countries' legislations, the aforementioned parties are free to conduct business in any manner they choose, and in these circumstances they can and generally do develop a multiplicity of procedures, formalities and requirements that, while serving their own particular needs, usually place economic and financial burdens on trade flows. For example, most government and institutional procedures, formalities and requirements in regional and international trade necessitate the preparation of documents, so that as noted in Trade Documentation Information (TRADE/WP.4/INF.29),

> "the cost of drawing up documents amounts to 10 per cent of the trade transaction, increasing the price of products and the cost of distribution".

/During the

During the last 10-15 years container and RO-RO transport systems have developed in revolutionary ways, leading to a situation whereby goods may arrive before documents, causing delays in clearance, congestion in ports and added costs. Thus, while container ships in 1974 made round trips from the West Coast of the United States to Japan in 22 days, another 10 to 21 days were needed before the required trade documentation arrived and the containers could leave the port areas. Now that containers and RO-RO cargoes have begun to reach Latin American and Caribbean ports, a similar situation will occur there too unless corresponding efforts are made to streamline the documentation requirements and customs procedures.

The late arrival of documents or needed information at the destination delays release of the goods and may give rise to costs such as fines, demurrage and loss of business which can be far more significant than the direct cost of document preparation. As both direct and indirect documentation costs are incorporated into selling prices, either importers pay higher prices for purchases or exporters make smaller profits by absorbing some of the costs. Thus, the costs of trade documentation can seriously endanger an exporter's ability to compete in world markets and can make imported goods more expensive than necessary.

Trade facilitation programmes normally focus upon the detailed study and critical review of commercial procedures, formalities and documents. For example, a review of the information contained in trade documents will reveal whether each item of information is required, and for whom it is required. Such a review normally includes the preparation of flow charts which illustrate the movement of information between the various parties involved; these charts make it possible to detect bottlenecks in the procedures and to identify possibilities for rationalization of the data flow. National facilitation committees, which should include representatives from all organizations and agencies concerned with international trade operations, will then be able to formulate proposals for the elimination of unnecessary information and the inclusion of the remaining data in a minimum number of documents which could be harmonized with international standards such as the United Nations Layout Key. Thereafter, national facilitation committees normally provide continuous technical assistance to ensure that the facilitation proposals are correctly implemented. Finally, it should be highlighted that these facilitation procedures are not merely an analytical exercise but have been utilized by many countries to elaborate concrete proposals which, when implemented, have reduced the costs of trade document preparation by up to 70%.

Most industrialized countries have been in the forefront of the movement to simplify, harmonize and reduce trade and transport documentation. Due to the cost reductions made possible by trade facilitation activities, the Latin American countries too should carefully evaluate the advantages of undertaking comparable activities. However, prior to each country creating a work programme to facilitate its trade documentation and procedures, it is necessary to recognize that the institutional aspects of international trade are largely controlled by national customs authorities, banks and insurance companies. While many other persons and organizations participate in international trade operations, these organizations establish the "rules of the game" which determine the acceptability of a trade or transport document for commercial and government purposes. As a result, the active collaboration of these sectors is particularly important when establishing national facilitation committees, elaborating a work programme and implementing the resulting measures.

/Notes

Notes

1/ Paragraph 1 of Article I of the United Nations Convention on International Multimodal Transport of Goods (TD/MT/CONF/16) defines international multimodal transport as the "carriage of goods by at least two different modes of transport on the basis of a multimodal transport contract from a place in one country at which the goods are taken in charge by the multimodal transport operator to a place designated for delivery situated in a different country".

2/ Subparagraph (e) of Article I of the International Convention for the Unification of Certain Rules Relating to Bills of Lading (1924).

3/ The roll-on/roll-off or RO-RO transport system consists of chassis, upon which are placed containers and other unitized cargoes, that are pulled by tractors onto vessels specially equipped with one or more external ramps to the dock and various internal ramps or elevators for cargo movements within such vessels.

4/ It is interesting to note that the law reserving ocean transport between any two or more United States ports to vessels constructed in that country as well as owned and crewed by its citizens was adopted in 1817 (3 Stat. 351) and is still in force (Title 46 USC section 11 et seq.).

5/ Transport 2000, November/December 1980, p. 48.

6/ Title 49 USC section 901-923.

7/ Federal Maritime Commission, Puerto Rican - Virgin Islands Trade Study, Washington, D.C., April 1970.

8/ Via Port of New York, September 1970, p. 5.

9/ Fairplay International Shipping Weekly, 18/25 December 1980, p. 9.

10/ Fairplay International Shipping Weekly, 1 January 1981, p. 9.

11 Ibid.

12/ The International Organization for Standardization's Technical Committee 104 (ISO/TC/104) published in 1970 ISO Recommendation R 688 and three years later that Recommendation was again published as an International Standard for freight containers. While ISO 688 encompasses three series of containers, Series 1 includes containers of 2 438mm x 2 438mm (8 feet x 8 feet) uniform cross-section, of nominal lengths from 1 500mm to 12 000mm (5 feet to 40 feet). Also included in Series 1 are 2 438mm x 2 591mm high (8 feet x 8 feet 6 inches) containers of 6 000mm, 9 000mm and 12 000mm (20, 30 and 40 feet) lengths. The ratings of the containers from 1 500mm to 12 000mm long are from 5 to 30 tons.

13/ Fairplay International Shipping Weekly, 8 July 1982, p. 12.

14/ CEPAL, An evaluation of the circumstances under which it would be feasible to establish container repair and maintenance enterprises (E/CEPAL/L.257), February 1982.

15/ Cargo Systems, February 1982, p. 56.

16/ Alexander, Sir Lindsay, The Challenges to British Shipping 1965-1990, the 13th Blackadder Lecture 1979, published by North-East Coast Institution of Engineers and Shipbuilders, Newcastle upon Tyne.

17/ Transport 2000, September/October 1980, p. 15.

18/ United Nations Department of International Economic and Social Affairs, Office for Programme Planning and Co-ordination, Transport Newsletter, Volume 3, No. 1, September 1980, p. 6.

19/ Transport 2000, January/February 1981, p. 24.
20/ International Chamber of Commerce, The development of international container transport: Its application in developing countries, 1977, p. 6.
21/ Ibid.
22/ Container News, October 1980, p. 17.
23/ Transport 2000, January/February 1981, p. 24.
24/ Container News, October 1980, p. 17.
25/ Container News, May 1980, p. 2.
26/ ALAMAR, Informativo No. 293, 16-22 February 1981, p. 2.
27/ The acronym TEU or twenty-foot equivalent unit refers to a Series 1 International Organization for Standardization (ISO) container of 6 000mm length, 2 438mm width and 2 438mm or 2 591mm height (20 feet x 8 feet x 8 feet or 8 feet 6 inches) and is commonly utilized as a base measure for, inter alia, vessel carrying capacity and port productivity.
28/ Seatrade, March 1981, p.32, and El Mercurio (Santiago, Chile), 22 April 1981.
29/ ALAMAR, Informativo No. 320, 24-30 August 1981, p. 3, and Fairplay International Shipping Weekly, 29 October 1981, p. 15.
30/ Fairplay International Shipping Weekly, 24 July 1980, p. 11.
31/ Fairplay International Shipping Weekly, 27 March 1980, p. 8.
32/ Fairplay International Shipping Weekly, 9 April 1981, p. 11.
33/ Fairplay International Shipping Weekly, 27 March 1980, p. 8.
34/ Fairplay International Shipping Weekly, 18-25 December 1980, p. 11.
35/ Seatrade, December 1981, p. 29.
36/ Seatrade, Latin American Shipping, 1981, p. 61.
37/ Ibid., pp. 61 and 63.
38/ Ibid., p. 65.
39/ Cargo Systems, April 1981, p. 27.
40/ Seatrade, March 1982, p. 32.
41/ Container News, October 1980, p. 20, Cargo Systems, April 1981, p. 36, and Seatrade, Latin American Shipping, 1981, p. 65.
42/ Cargo Systems, November 1980, p. 127.
43/ Seatrade, Latin American Shipping, 1981, p. 45.
44/ Seatrade, February 1981, p. 27.
45/ Seatrade, December 1981, p. 29.
46/ Mullen, J.W., World oil prices: Prospects and implications for energy policy-makers in Latin America's oil-deficit countries, Cuadernos de la CEPAL, 1978, pp. 15-16.
47/ Cargo Systems, April 1982, p. 29.
48/ Cargo Systems, January 1982, p. 44.
49/ Ibid., p. 45.
50/ Seatrade, May 1981, p. 29.
51/ Shaerf, P.S., The Caribbean RO-RO market - Current status and future opportunities, RO-RO Preceedings, p. 29, International Conference on Marine Transport using Roll-on/Roll-off methods, 15-17 April 1980.
52/ Seatrade, June 1981, p. 87.
53/ Ibid., p. 107.
54/ Seatrade, July 1981, p. 29.

/55/ Belloni,

55/ Belloni, E., The Carrying of Containers on Second Generation RO-RO Ships, RO-RO 80 Proceedings, p. 115, International Conference on Marine Transport using Roll-on/Roll-off methods, 15-17 April 1980.

56/ Cargo Systems, February 1981, p. 43.

57/ Cargo Systems, May 1981, p. 81.

58/ Seatrade, US Gulf Study, June 1981, p. 3.

59/ Ibid.

60/ Seatrade, May 1981, p. 31.

61/ Seatrade, September 1981, p. 21.

62/ Seatrade, January 1982, p. 83.

63/ Seatrade, March 1982, p. 27.

64/ Seatrade, January 1982, pp. 93-95.

65/ Seatrade, August 1981, p. 91.

66/ Fairplay International Shipping Weekly, 5 August 1982, p. 8; and Seatrade, August 1982, p. 31.

67/ ALAMAR, Informativo No. 295, 2-8 March 1981, pp. 3-4.

68/ Seatrade, June 1980, p. 31.

69/ ALAMAR, Informativo No. 293, 16-22 February 1981, p. 2.

70/ ALAMAR, Informativo No. 318, 10-16 August 1981, p. 2.

71/ Portos e Navios, November 1980, p. 65, and May 1981, p. 52.

72/ The lift-on/lift-off or LO-LO transport system consists of individual cargo units, whether ISO standard containers or break-bulk, which are loaded on and discharged from vessels by cranes that employ vertical (lifting) and horizontal (between dockside and vessel) movements. The LO-LO system may be utilized individually, as in the case of cellular container ships and break-bulk cargo vessels, or in combination with the RO-RO transport system.

73/ Fairplay International Shipping Weekly, 17 June 1982, p. 56.

74/ Portos e Navios, April 1981, p. 63.

75/ Fairplay International Shipping Weekly, 28 January 1982, p. 7.

76/ Fairplay International Shipping Weekly, 11 March 1982, p. 7.

77/ Ibid., p. 9.

78/ TD/MT/CONF/17

79/ UNCTAD, Situación del Convenio sobre el Transporte Multimodal Internacional de Mercancías (TD/B/C.4/236), 27 January 1982, p. 4.

80/ UNCTAD, Draft report of Sessional Committee II (TD/B/C.4(X)/SC.II/L.1/Add.2), 23 June 1982, p. 3.

81/ Fairplay International Shipping Weekly, 15 July 1982, p. 13.

82/ Cargo Systems, September 1981, p. 73.

83/ Yamazaki, T., Container repair and refurbishment in Japan, p. 40, Proceedings of the Container Repair and Refurbishment Conference, Amsterdam, June 1981.

84/ Cargo Systems, October 1980, p. 29.

85/ Seatrade, January 1979, p. 33.

86/ Seatrade, September 1979, p. 115.

87/ Svensson, R., The adaptation of the RO-RO concept to the integrated transport system, RO-RO 80 Proceedings, p. 24, International Conference on Marine Transport using Roll-on/Roll-off methods, 15-17 April 1980.

/88/ Container

88/ Container News, November 1979, p. 48.
89/ The Journal of Commerce, 7 December 1981, p. 7C.
90/ Seatrade, March 1982, p. 32.
91/ Cargo Systems, April 1981, p. 28.
92/ CEPAL, El Convenio TIR: Un estudio con vistas a las necesidades de los países del Cono Sur (E/CEPAL/G.1101), November 1979; CEPAL, El Convenio TIR: Una respuesta al creciente desarrollo industrial de los países de América Latina (E/CEPAL/G.1134), October 1980; CEPAL, Manual para la aplicación del Convenio TIR (E/CEPAL/R.298), November 1981; and CEPAL, Tránsito aduanero en los países de Sudamérica (E/CEPAL/L.258), December 1981.
93/ 1979 IBRD/CEPAL/ECE/LAFTA customs transit seminars in Argentina, Brazil, Chile and Uruguay; 1980 IBRD/CEPAL/ECE/LAFTA customs transit seminars in Bolivia, Paraguay and Peru; 1980 EEC technical assistance mission on customs transit to Southern Cone countries and Colloquium; 1981 course on customs transit sponsored by Customs Authority of Spain for Latin American customs administrations in Madrid; and 1982 courses on customs transit sponsored by Customs Authority of Spain for Argentina, Chile and Uruguay.
94/ Three sub-regional meetings were held: (1) Guatemala City, Guatemala, 5-8 August 1980, for the Central American countries, Mexico and Panama; (2) Santiago, Chile, 16-20 March 1981, for the countries of South America; and (3) Paramaribo, Suriname, 27-30 October 1981, for the Caribbean countries.
95/ Líneas generales para establecer un programa de facilitación del comercio y del transporte internacional en los países centroamericanos (E/CEPAL/L.217); Líneas generales para establecer un programa de facilitación del comercio y de fortalecimiento institucional del transporte en los países de América del Sur (E/CEPAL/L.237); Guidelines for a Caribbean work programme on trade facilitation and strengthening of transport institutions (E/CEPAL/L.246); and Requirements for Caribbean trade facilitation and transport institution strengthening (E/CEPAL/L.247).
96/ Informe de la reunión de expertos en facilitación del comercio y del transporte internacional de los países centroamericanos, México y Panamá (E/CEPAL/G.1127); Informe de la reunión de expertos en facilitación del comercio y fortalecimiento institucional del transporte internacional en Sudamérica (E/CEPAL/G.1178); and Final report of the meeting of experts on facilitation problems and the strengthening of transport institutions (E/CEPAL/G.1192).
97/ Manual de documentación naviera para los puertos de América Latina (E/CEPAL/1060), (E/CEPAL/1060/Add.1) and (E/CEPAL/1060/Add.2).
98/ Paragraph 2 of Article I of the United Nations Convention on International Multimodal Transport of Goods (TD/MT/CONF/16) defines multimodal transport operator (MTO) as "any person who on his own behalf or through another person acting on his behalf concludes a multimodal transport contract and who acts as a principal, not as an agent or on behalf of the consignor or of the carriers participating in the multimodal transport operations, and who assumes responsibility for the performance of the contract".
99/ See, for example, appropriate paragraphs of Articles 6, 7, 12, 24 and 25 of TD/MT/CONF/16.
100/ See, for example, appropriate paragraphs of Articles 9 and 14-21 of TD/MT/CONF/16.

/101/ See

101/ See Article 2 of TD/MT/CONF/16.

102/ See Article 18 of TD/MT/CONF/16.

103/ See Article 4 of TD/MT/CONF/16.

104/ For additional information concerning the TIR Convention (1975), the reader is directed to the CEPAL documents indicated in footnote No. 92.

105/ Article 19 of the United Nations Convention on International Multimodal Transport of Goods.

106/ Report of the Group of Experts on the meeting to draw up a draft Latin American convention on the civil liability of carriers in international land transport (E/CEPAL/1047).

107/ Limit of civil liability of carriers in international land transport in Latin America: Criteria for its establishment (E/CEPAL/1047/Add.1).

108/ Report of the Intergovernmental Preparatory Meeting on a draft Latin American convention on civil liability of carriers in international land transport (E/CEPAL/1054).

109/ Pong, F., Container freight stations outside the port limits, in ESCAP, Report and technical papers of the seminar on port development for unit loads and containerization, Hong Kong, 1976, p. 88.