EXPORT LOGISTICS FOR ACP COUNTRIES FOR FRUIT AND VEGETABLES AND HORTICULTURAL PRODUCTS

Study carried out based on the document of August 1998
COLEACP / Cabinet GRESSARD / UNCTAD
and EUROSTAT statistics for 1999

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1. PRINCIPAL EXPORT FLOWS of ACP COUNTRIES

Methodological note: the quantitative evaluation of these flows has been made according to import statistics of the European Union (COLEACP – 1996).

Two main types of flow can be differentiated: sea flow and air flow. Even if some fruit are exported both by boat and by air, one or the other mode of export will be at a higher level. It is therefore possible to catalogue products in one of two categories while remaining close to the actual figures for exported quantities.

1.1 *Sea flows*

Conditions for sea transport have considerably improved over the last few years; supply in vessels has developed and diversified: there are reefer boats, refrigerated containers to be found in the hold of these boats or loaded onto container ships which are equipped with refrigeration supply points.

Refrigerated containers tend to take segments of the market both from vessels and from planes as supply has developed so much, the services proposed have improved so much and the prices have gone down.

1.1.1. Origins and goods

West Africa and the Caribbean account for over 90% of exports of fruit from ACP countries to Europe.

The relative importance of large areas in the ACP for sending fruit and vegetables to Europe via sea routes

- The Caribbean 42%
- West Africa 50%
- Southern Africa and the Indian Ocean 5%
- East Africa 3%

Bananas, pineapples and citrus fruit account for 95% of the flows sent via sea (74%, 16% and 5% respectively) from ACP countries and thus flows of bananas are most significant in terms of sea export logistics for ACP countries to Europe. The capacity to export other products depends on the healthy situation of the banana market in the ACP. Two thirds of banana exports are provided by Côte d'Ivoire, Cameroon, St Lucia and Jamaica.

1.1.2. Main sea routes

There are four main banana routes:

- OCAB in the Ivory Coast
- DOLE in Cameroon
- Geest in the Windward Islands
- Fyffes in the Caribbean and Central America

Outside these routes specifically for bananas there are other sea routes which coexist alongside:

- Routes for citrus fruit from the ACP countries of Southern Africa, mostly developed in cooperation with South Africa.

- Routes for lychees from Madagascar: chartering of vessels in this case is organised by European importers.

- Routes for out of season avocados from Kenya, which are exported on container ships.

For other exporting countries, refrigerated containers are loaded on container ships which sail to ACP exporting countries owned by the Maersk company, CMB or SDV in West Africa; Seaboard Marine and Navieras NPR in the Dominican Republic; Sealand and Tecmarine Lines in Jamaica.

1.2 ***Air flows***

Products exported by air are usually more perishable goods than those exported by sea. Their shelf life is shorter; however, they are likely to be sold at a higher price in consuming countries because either they are known to be high quality products arriving on the market out of season, or because they are exotic.

1.2.1. *Origin and goods*

There are three prime goods which are sent by air from ACP countries: flowers, green beans and other vegetables (whether they be European, tropical or Indian). These account for over 80% of exports.

Air exports from ACP countries to Europe

Various	23%
Green beans	28%
Other vegetables	15%
Flowers	34%

Quantities exported by air are distributed throughout the ACP region in the following way:

Southern Africa	16%
The Caribbean	7%
West Africa	26%
East Africa	51%

Air export patterns vary according to country

Anglophone countries such as Kenya, Zimbabwe, Ghana and Gambia have succeeded in developing this type of exports in an effective manner. In the case of Kenya and Zimbabwe flower exports have become significant. In terms of value these exports are worth 50% more than total exports of horticultural products. For most ACP countries the tonnage is approximately 35% of total exported tonnage.

Francophone countries seem to have encountered more difficulties in this area. The political and economic environment is less favourable; currencies are linked to the French franc; air infrastructure is less well adapted. Some countries such as Guinea have long been absent from the export market. In general, given this background, exporters have not been able to develop a business of sufficient economic weight.

1.2.2. Planes and airlines

Products are loaded either onto passenger planes or onto cargo planes on regular routes of airline companies or else charter cargo planes belonging to specialized companies. On

scheduled flights exporters are dependent on the freight room offered to them per stopover. Availability will depend on the scheduled stopovers for each flight, the type of plane, the number of passengers on board, the season and competition with other products on a specific route (particularly fish)

It is clear that the viability of the route depends on north/south trade because the south/north trade is more impoverished in terms of products of high added value. These last pay a freight cost which is three to four times lower.

Sometimes, as is the case in Senegal, exporters have the option of developing a programme of chartered flights. Dependability for freight is greater where a large amount of goods can be loaded onto planes thus avoiding having to pay for empty space with space that is filled. Exporters in ACP countries often have to fight to obtain freight space on flights.

Where the exporter or the profession overall is not organised, the risk of having merchandise which cannot be exported grows and therefore planning becomes necessary. However, this is rarely carried out in adequate conditions.

1.3 The dynamics of flows

1.3.1.Bananas and other refrigerated horticultural products

The existence of exportable banana tonnage such as in Côte d'Ivoire, Cameroon enabled regular maritime routes to be set up on which other less voluminous or seasonal products can be transported, either in the holds or in containers on the deck on reefer vessels.

Usually these goods need to be transported at a lower temperature than bananas: 8 ° for pineapples, mangoes and papayas, 7 ° for green beans and 4 – 7 ° C for melons.

Where in the past it was necessary to fill a hold, nowadays with containers on deck there is more flexibility for exporting by sea which explains why mangoes are being exported more and more by boat.

Such exports require, however, that the goods be kept in good condition, brought about through appropriate packaging after picking and by putting the goods in a cold chain as soon as possible in the exporting country.

Possible synergies with products other than horticultural goods

As an example, on the African West Coast there is cooperation between banana shippers and Maersk. Banana boats have transported containers for Maersk and coffee and cocoa are regularly transported in containers on banana boats.

1.3.2. Exports of ACP fruit and vegetables to markets outside Europe

Some ACP countries such as Kenya, the Dominican Republic and Jamaica export to markets outside Europe. Kenya exports to the Gulf States: some mango containers are exported to Dubai and some products are sent there by plane from Nairobi.

The Dominican Republic exports fruit and vegetables on reefer boats, by container and by plane to the United States. The goods exported are principally melons and watermelons, avocados, papayas and mangoes.

Jamaica exports to the United States mainly by plane to New York and Miami either on passenger planes or on charters using companies such as American Airlines, Air Jamaica and a local charter company.

2. ORGANISATION OF TRANSPORT

2.1 Logistics on land

Logistics on land can be broken down into 4 phases:

1. Transport from packaging and production sites to the loading port or airport.

2. Loading onto boats and planes

3. Unloading of boats and planes on arrival in importing countries

4. Transport on land to the consumer markets.

2.1.1 Transport prior to dispatch: transport of produce to the loading port or airport

Generally in ACP countries produce is situated at medium distance from ports or airports for loading (under 200 km). The only exception are vegetables which may be further off, such as in Southern Africa, some hundreds of kilometres even 1 000 to 2 000 km according to which ports are used for exports: the Cape being the furthest from all the main production areas. Where produce is delicate, such as flowers or vegetables, they are usually produced near the airport.

There are of course some exceptions: green beans in Burkina Faso must sometimes travel over 200 km; in the case of avocados being exported from Kenya, about 600 km separates the Nairobi area from the port of Mombassa.

Where distances to be covered are in the order of 200 km and the road route is adequate, non-refrigerated lorries can be used because the transport duration is sufficiently short. However, the case of temperate cut flowers is a particular one since they must enter the cold chain immediately after packaging. Where distances involved are some dozens of kilometres, such as in Burkina Faso, for example, and in the absence of refrigerated lorries, night transport is necessary, with, on arrival at the airport, quality control of the goods. In Latin American exporting countries transport is also carried out in covered lorries, often in the late afternoon for a night loading.

Container ship companies give the option of taking the container right up to the packaging site and of loading on the spot. When a frontier must be crossed this can still be done as long as administrative formalities are fairly simple.

2.1.2. Loading of boats and planes

On arrival at a port lorries are usually unloaded and merchandise is loaded immediately onto a boat. In most of the banana-producing countries boats begin to refrigerate their holds 24 hours before arriving in the loading port in order to be able to achieve “mini” refrigeration. Sometimes, in the case of delays with vessels, there are facilities available in the port area which can be used for storage while waiting: refrigerated lorries, reefer containers, cold rooms.

Sometimes at airports there are specialized terminals such as in Nairobi or cold rooms such as in Dakar or Ouagadougou. In the airports plane delays, handling by poorly trained staff or long delays on the tarmac in the sun or rain are the most frequent reasons for the deterioration in quality of goods.

2.1.3. Cost of the trip and competitiveness

The cost of the passage in ports or airports varies greatly. On the West Coast of Africa the cost in the port of a type three container ship between Ghana, Côte d'Ivoire, Cameroon and Guinea can be four times higher: from US $ 3 500 in Tema, US $ 15 000 in Conakry and US $ 8 000 in Abidjan. Conakry has the highest costs and Tema the lowest. The same scenario applies to airports.

Comparative rates for different African ports

Cost per port of call by boat

	US $
Conakry	15 000
Abidjan (Côte d'Ivoire)	8 000
Tema (Ghana)	3 500

Port costs per 20' container

Aconage and taxes and cost of layby

Conakry	700
Douala	400

Cost of connecting the container

Conakry	70/day

Source: SDV. PAC

Conakry port suffers from massive debt which means that those using the port have to pay very high costs in order to service the debt. Negotiations are underway to reschedule the debt repayment.

2.1.4. Onward dispatch

The main ports for perishable goods arriving in Europe are:
Rotterdam/Antwerp/Southampton/Sheerness/Le Havre / Marseilles/ Dieppe / Tarragona / Vado / Genoa / Livorno ?

The main airports are: Amsterdam- Schipol / Ostend / Paris: Charles de Gaulle and Orly / Heathrow / Frankfurt.

Importing countries have infrastructures which are adapted to receipt of goods just as in the ports. Merchandise which transits there is therefore well handled thanks to the rapidity of the passage of merchandise at arrival points, the existence generally of refrigerators or air conditioned dock sheds in ports and airports, to the generally temperate climate between autumn and spring, which is the traditional importing season.

Often costs are high and variable between one port or airport or another. The cost of handling a pallet in European ports varies from 100 FRF in Spain and the United Kingdom to 220 FRF in France with an intermediate price of the order of 150 to 170 FRF in the ports in Northern Europe.

Entry points in the Netherlands and Belgium are the most highly performing: Rotterdam / Antwerp/ Zeebrugge / Schipol / Ostend.

Quality of service is measured on the basis of the following factors:

- Capacity for quickly unloading the boat
- Level of risk of strikes by dockers

- The presence of port operators which are efficient and appropriate facilities, the existence of a capacity to distribute onwards into the country (refrigerated lorries or isotherms in abundance, motorway networks, density of consumer outlets).

French, English, Italian and Spanish ports have for a long time been the most unreliable unloading ports because of the high cost of handling staff and highly unionized dockers which have a monopoly in handling in ports. However, in the last few years there has been a handling reform in all countries with differing results. English ports have improved considerably on their reliability while reducing the relevant costs:

Estimates of freight costs per pallet
in the main European ports

	FRF:
Barcelona/Vigo/Tarragona	75
Bremen	110
Southampton	110
Rotterdam	130
Antwerp	150
Hamburg	170
Port Vendres	170
Dieppe	195
Marseilles	220

France has not entirely resolved the problem in large ports, which remain expensive; their reliability is, however, improving noticeably. The smaller ports like Dieppe and Port Vendres have become very reliable and have tariffs which are relatively-speaking more competitive. Tariffs are also affected by paying off a social scheme relating to downsizing jobs amongst dockers.

All European ports have controlled temperature fruit terminals.

Freight transported via ports or airports is sent on afterwards by lorry. Goods are either sent as a single load of the same product, or as a mixed load containing many goods of several origins, or as a bulk load of the same product for different specific clients.

2.1.5. Land transport to consumer markets

Land markets to consumer markets in general takes place in refrigerated or isothermal lorries. Transport is rapid thanks to the motorway networks existing in European destination countries. France has road tariffs for a refrigerated lorry carrying 24 pallets going from 5500 FRF (US $ 920) over a distance of 6/700 km and of 12 000 FRF (US $ 2 000) for approximately 1200 km.

Competition is particularly keen between road hauliers and therefore costs are relatively quite low. Holland is particularly competitive in terms of price and road services. In Western Europe a lorry containing 18 to 20 tons of horticultural products costs between 1 200 and 3 000 Florins, which is US $ 600 to US $ 1 500 depending on distances. An equivlent Spanish 24 pallet lorry costs 4 000 FRF for haulage from Valencia to Perpignan. This tariff rises to 13 000 FRF for haulage to Germany and to 17 000 FRF for haulage to the United Kingdom.

Although reliable and competitive, road transport, which is a pollution factor, is questioned by ecologists and more and more in the political sphere. Already some countries like Switzerland and Austria, which are transit countries given their geographical position, have taken restrictive measures for lorries in transit. A recent agreement has been negotiated between Switzerland and the European Union on this subject.

Therefore rail is being increasingly used for transportation or trailers over long distances.

Two routes are appearing:

Benelux/Northern Italy via Luxembourg and France
Hamburg/Calabria via Nuremburg and Brenner

3. MAIN CURRENT TRENDS

3.1 The sea route

3.1.1 *Vessels*

For transporting fruit and vegetables there are two types of boat most commonly used: polytherm reefer boats and container ships.

Polytherm boats

The trend is towards large boats with a hold capacity of 4 000/5 000 pallets and up to 140 to 20' fridges which makes 5 400/5 900 pallets in total. A charter market exists and boat charter can be booked either by time or by trip.

About fifteen groups in the world own and/or manage polytherm boats. The main operator is Cool Carriers which manages about 90 reefer boats. Then there is Lauritzen, Seatrade, Lavinia, Star Reefers, Reefer Express and the Japanese groups: NYK, Kyokyuo, Nissui, Taiyo and Nichiro.

Alongside these specialized groups are the large banana companies: Chiquita, Dole, Noboa and Del Monte have their own boats and also charter them according to needs. Since the purchase of Del Monte by the Chilean exporting group UTC, a shipping company called Network was created in Miami to manage boats and chartering for the two companies.

Given the situation in the chartering market over several years, ship owners have tended to reduce orders for boats and to take off the market their oldest boats. However, between the beginning of 1998 and the first six months of 1999 about 40 new boats have been put on the market, that is 8% of the supply of boats of over 200 000 square feet. These boats were ordered several years ago.

Vessels which have come out of dockyards recently usually have a hold of approximately 535 000 cubic feet, with another 50% container capacity on the deck. In general a modern polytherm boat has four holds each with 4 mid decks, which makes 16 mid decks in total. There are 8 different cold sections on the vessel, one per two mid decks. The modern boats can all handle the cargo on their own thanks to their rigging which allows them to moor even in poorly equipped ports.

Container ships

In contrast to polytherm boats which can be sent to all producing countries depending on the demand for freight, container boats are used on regular routes and transport all types of containers.

These last few years the tendency has been to use larger container ships which can carry 6 000 containers. These large boats stop off in hub ports on various continents. From there container ships use "feeders" which are smaller container ships to deliver from the hub port to the other ports the company supplies.

Recent container ships have been equipped with a larger number of refrigeration supply sockets so that now 20% of the whole boat has them in contrast to 7 to 10% before.

The appearance of large container boats serving particularly the main trade routes from east to west has meant that smaller container boats able to carry 1 500 to 2 500 20' containers have been reassigned on the north/south routes which has attracted the fruit market.

There are three types of container boat:

- the Conair type container boats which are used less and less and are no longer built.

Containers are isothermic boxes which can be connected to the boats equipment by cold air flues to obtain refrigeration. Such container boats still exist in the French West Indies for the export of bananas and in Australia to export meat to the USA.

- *traditional container boats* which supply space for refrigerated containers which have electric power points enabling them to connect the reefer container. This last is equipped with its own refrigeration system which is linked to the boat's supply.

- *the few entirely reefer container boats* used by banana multinationals, which can load about 450 40' reefer containers.

On modern container boats the monitoring of the correct functioning of reefer containers is ensured thanks to a central monitoring system. A disk registering the temperature within the container is situated near the refrigerating area in the container.

The capacity of reefer containers in the world is estimated to be at 950 000 20 foot containers. Two thirds of containers are 40 foot. Although improving constantly, autonomous refrigeration systems on container ships are delicate and require good maintenance.

With the development of container boat routes and the number of refrigerating supplies on these boats, container ships tend to remove a share of the market from polytherm boats and planes.

There are certain conditions which need to be examined:

- whether there are possibilities to export at least once weekly
- whether journeys are rapid without two many intermediate stops
- whether containers of perishable goods will transit through a hub to be sent on afterwards to their final destination.

Requirements are:

- Well monitored transhipment
- Uninterrupted cold chain facilities

- A reduced wait in the hub port

Containers are appropriate for the more delicate fruit such as mangoes, avocados, melons, tomatoes, which are exported in small quantities.

In order to load a product needing continuous cold chain provision on a container then it is advisable to pre-refrigerate the goods. However, this step in the operation is all too often omitted in ACP countries.

The use of reefer containers means that loading ports need to be equipped with refrigeration supply sockets to maintain the cold chain while awaiting the arrival of container boats.

3.1.2. Costs of freight and season-related issues

The cost of chartering polytherm boats depends on the type of chartering, by trip or by time and the time of the year. On the market charter costs are usually expressed in US dollars and by month. They vary considerably from season to season depending on demand.

3.2. The air route

3.2.1.Trends

In ACP countries old charter planes are used. However, these are noisy and polluting and there is a prohibition for flights over Europe from 1 January 1998. Therefore supply is likely to become scarce.

As far as passenger lines are concerned, the trend in air companies is to reduce the number of intermediate stopovers and to increase the number of direct flights and for that to use smaller planes.

Some planes, like the Airbus 310 model, do not have much room for cargo (about 2 to 4 tons for a passenger flight). Other planes such as the Beoing 757 or the 737 do not take plane pallets in their hold which encourages companies send on their products by lorry once in Europe where distances are under 500 km.

We can give some examples of freight capacities available on passenger flights on the most common planes:

Boeing 747-400	20 tons
Boeing 747-100/200	10 to 20 tons
Boeing 777	14 tons
Boeing 767	9 tons
DC 10-30	14 tons
Airbus 300	4 to 6 tons
Airbus 310/320	2 to 4 tons

The use of Boeing 747 “combi” planes (that is half passengers, half cargo) are becoming more and more rare.

For their part, shippers of perishable goods prefer direct flights without goods changing planes so that they can reduce the delay in sending on goods and the risks of the merchandise deteriorating.

3.2.2. Airlines

Airlines have various strategies regarding their freight operations.

- *Lufthansa* wants to be both owner and operator of its cargo and basis its traffic on grouping merchandise together on some hubs such as Miami, Nairobi and Sao Paulo. The goods are all then flown to Frankfurt and sent on to Europe by plane or by lorry.

- *British Airways* does not have cargo planes. It transports most of its cargo traffic on passenger flights and charters 100% cargo planes from other companies or hires some space from them.

- *Air France* seems to be interested mostly in the most profitable business. Its scheduled cargo flights do not always remain unchanged. Itineraries can vary depending on demand for exports from France, options for return freight and the volume and the rates which the company hopes to obtain across the whole of the line.

- *Air Afrique* is owner of only 6 planes, mostly Airbus planes. It depends a great deal on freight traffic.

South/north rates are set in general by the people in charge of freight in the country of export taking into account the general economy factors of the route which is determined by those responsible for the freight sector in the headquarters of the company.

In general there is a certain amount of deregulation taking place. Trading rights are becoming easier to obtain, even in Africa.

However, there are certain bottlenecks appearing, particularly in small airports where assistance facilities for planes belong to the major company which does not always make it easier for competing companies.

Secondary airports such as Ostend, Liege and Chateauroux tend to develop their traffic as they offer services to attract clients and are not overwhelmed like large airports. In these cases it must be ascertained that there will indeed be speedy on-routing services.

3.3. Organization of shippers

In such a context of evolution of transcontinental modes of transport CHARGERS, and particularly the smaller ones, cannot communicate easily and on an equal footing with transport companies.

Their main asset is to have significant tonnage to export which will attract transporters. Thus ACP banana operators have learned to regroup within bodies such as OCAB, UBA, WYBDECO which are in charge of working out the logistics. Without this regrouping no reliable and sustainable maritime route could have appeared.

It is estimated that it requires a minimum tonnage of about 120 000 tons to create a weekly sea route for fruit between a producing and a consuming country.

For quicker transportation in the south/north direction it is preferable to limit the number of ports served by each boat and by turn round to two or three.

In the case of an extra stopover in a port several conditions must be met:

- The duration of turn round must not be affected
- The volume to be loaded must be at least around 400 pallets

- There must be speedy loading of this cargo
- There must be competitive port costs

To arrive on a fixed day of the week always in the consuming country and to create in that way a market and interest in clients, the duration of turn round in terms of number of weeks is to be chosen according to the distance there and back and the ports to be served. Usually turn round is of 21 to 28 days.

According to the distance, the speed of the boats, the length of time of loading and unloading, the time delay will be more or less tight or will be somewhat flexible. In the latter case there would be a certain margin for serving other ports in both directions.

Where it is necessary to serve two consumer areas such as the north and south of Europe to have a better commercial impact, tonnage - in bananas principally, as this is the fruit which can be exported on a weekly basis throughout the year - must be higher than 200 000 tons.

In this respect Côte d'Ivoire features with its bananas and pineapples as the ACP country with the most trading flexibility on condition, however, that shippers remain a group. It exports annually a tonnage rate of about 350 000 tons which is a weekly average of 7 000 tons. It is estimated that a sea route with a weekly service using modern boats of at least 450 000 cubic feet navigating at 19 knots must transport annually from 120 to 150 000 tons for minimum commercial flexibility. With 350 000 tons, that is about three times as much, one can serve the north and south of Europe weekly and have more of a trading impact.

Latin-American exporting countries do not have these problems because exporting tonnage often exceeds 500 000 tons of bananas per country, indeed much more. In many cases many boats per destination can be loaded each week.

The existence of a sea route for bananas remains the most efficient vector for the development of other products for sea export, either in the hold or in containers on deck.

The case of air transport or transport on regular routes by container ships is very similar.

If shippers work separately they will be less efficient than in a group. They do not always have the size, the economic weight to negotiate with freight companies, or the credibility or the capacity to forecast the harvest and to plan sufficient quantities of exports to have a sound and efficient logistics' plan.

Some discipline and good motivation must exist to work together.

It is often difficult of course when many exporters intervene to obtain sufficient consensus to set up a common logistics' policy. Ambitions and abilities diverge but this has an effect on overall efficiency.

Where ton volume is low or seasonal and products are perishable, collective organisation of logistics is even more indispensable. It guarantees better results for exports towards the destination country.

4. Examples of Freight Characteristics in Exporting Regions

4.1. Maritime logistics

4.1.1. Côte d'Ivoire

Côte d'Ivoire is the top exporter amongst the ACP countries. With more than 350 000 tons exported it represents 30% of boat tonnage sent by the ACP countries.

Two products dominate these exports: bananas (180 000 tons) and pineapples (150 000 tons). The existence of a regular sea route has facilitated the beginnings of this development of exports of pineapples and then of coconut and more recently of mangoes in holds and containers.

Exports via reefer boats are organised by OCAB, a body which includes the great majority of exporters in that country of fruit and vegetables. Since deregulation of maritime transport in Côte d'Ivoire, OCAB has been chartering boats on spot prices since 2000.

Every week a boat goes to the Mediterranean with Marseilles as main port. In peak exporting periods boats stop in Tarragona and in Genoa. Another weekly turn round is organised towards Dieppe and then Newhaven. Antwerp is used when there is a lot of demand for pineapples. This Belgian port is usually served by boats chartered on spot prices.

The turn round time for bananas is 21 days. The cost of freight is $ US 28 for the pallet in the north of Europe and $ US 98 on the Mediterranean. By comparison, 40 foot reefer containers are invoiced at between 16 000 and 18 000 FRF between Abidjan and France.

4.1.2.Cameroon

Cameroon is the second exporting country in the ACP. It exported 170 000 tons in 1996 of which 166 000 tons were bananas.

Freight is organised by UBA which regroups the two main exporters: the Compagnie Fruitière and Del Monte. UBA charters reefers which take over 28 days per trip. They go to Port Vendres and Vado in Italy every week and to Antwerp every two weeks. Six boats are necessary for the whole line. For the last three years, these boats have regularly gone to Ghana to load pineapples, about 300 to 500 pallets in high season and 100 pallets in the summer. The cost of freight from Cameroon can be estimated at $ US 135 per pallet.

4.1.3.Geestline

Geest provides the biggest shipping route between Europe and the Windward Islands. The Geest Line is a branch of Geest with Fyffes and Wybdeco as shareholders, a body which represents the producers in the Windward Isles.

Four boats serve the route and the trip takes 28 days. Loading in the islands is weekly and on a particular day. Boats are freighted in time charter. These are reefer boats with a deck capacity for containers. They are about 525 000 cubic feet in size.

Each boat loads in five ports: Grenada, St Vincent, St Lucia (two ports: Vieux Port in the South and Castries in the north of the island), Dominica.

The port where goods are unloaded is Southampton where Geest Line has a terminal of 40 000 m2 with a hangar for bananas, one for general goods and an area reserved for containers. A special service is organised from Southampton for exports to the Caribbean, however, the return freight is organised around the constraints of the banana freight. In no way does it impose its constraints on the banana freight. The banana has priority on the route.

This return freight is attractive financially and can be organised efficiently despite banana priorities. Two to three thousand tons are therefore exported weekly to the Caribbean.

From Europe to the Caribbean Geest Line serves the following ports: Southampton, Le Havre, St Kitts, Antigua, Guadeloupe, Dominica, Martinique, St Lucia, Trinidad, Barbados, Grenada,

St Vincent. The ports which are underlined are served on a weekly basis, the others every two weeks.

With the route organized in this way there is competitiveness for the return freight which is at significant volumes: in the order of 2 000 tons per week.

The cost of a 20 foot container in Europe last season was at $ US 2 700 and the 40 foot container was at $ US 5200.

4.1.4.Madagascar

Madagascar is an exporter of a relatively small size compared to the exporters mentioned earlier. This country does however, produce an abundance of fruit: lychees sought after particularly for end of year celebrations. This fragile fruit must be kept away from the light after picking, be kept in the cold and handled appropriately in order to ensure that it arrives in a good condition during a sea trip. However, Madagascar is a relatively poor country with very average infrastructure.

In order to assist development of lychee exports which have a two month season it was in the past necessary to set up a joint operation amongst exporters, COLEACP and French importers. This operation has been a success since every year Madagascar exports more than 10 000 tons of lychees mostly by sea.

Every season European importers charter reefer boats. In 1997 they grouped together to form a single freight company. In the year 2000 two boats were loaded in Tamatave each with 4 000 pallets, as well as three boats of 1 000/1 200 pallets. The average cost of the freight was of $ US 130 per pallet containing 200 5 kg packages or 408 2 kg packages.

Alongside this the containers were also sent to Europe during the season on container ships belonging to the Capricorn Line. The cost of a 20' container on Europe was last season at 3 000 XEU and of a 40' at 5 800 XEU.

4.1.5.Citrus Fruit from Southern Africa

South Africa is the prime exporter in the region. A vast production region exists in the Transvaal.

Three ACP countries produce and export citrus fruit out of European season: Zimbabwe, Swaziland and Mozambique. They generally export via the port of Maputo or Beira, where the port facilities have been modernized. Exports also take place via South Africa via Durban, Port Elisabeth and the Cape ports, the latter being more than 2000 km away from the ACP production regions. They benefit from a highly effective South African logistics' system.

Swaziland works with Capespan and has done so for many years. Oceanic is by far the main exporter in Zimbabwe: it exports via Beira on chartered boats going to Hamburg.

4.1.6.Exports via containers – examples of Kenya and the West Coast of Africa

Kenya has avocados which can be exported out of season from March to September. Now they are principally exported by containers from Mombassa. ICTC has placed a stock of 25 40 foot refrigerating containers in Mombassa. Last year it was able to transport mangoes avocados and fish from Lake Victoria. Containers are loaded onto container ships on regular routes to Marseilles as France is by far the best market for avocados in Europe.

During the season there is an arrival almost every week from East Africa in Marseilles.

The trip lasts 12 days with a stopover in Port Said. The cost of freight between Mombassa and Marseilles is of $ US 6 300 for a 40 foot container. It is possible to have a better rate by making a seasonal commitment.

Containers can be transported from Mombassa to Nairobi to the production area and then sent on once full to the port. The cost of overland transport Mombassa/Nairobi/Mombassa is estimated at 120 000 Kenyan shillings which is about $ US 2 000.

The West Coast of Africa is served by regular shipping routes of container ships belonging to the Maersk, SDV and CMB companies. These companies offer refrigerating containers including the high cube type which are larger containers because they are higher. Mangoes from Abidjan, Conakry and Dakar are sent on these routes. Melons leave Dakar in containers.

The main problems encountered are linked to turn round of boats and the number of stopovers before arriving in Europe.

If the voyage is too long then the risk is that the good will deteriorate.

On paper Maersk offers an attractive service. However, exporters have had problems during the obligatory transit of containers through the Algeciras hub prior to being loaded onto a feeder.

From the African West Coast the use of a 40 foot container for a regular route costs about $ US 5 000 to $ US 5 500 depending on final destination and $ US 3 200 for a 20 foot container.

Maersk offers the option of positioning containers in loading zones inside countries, where required, even at distances which are far from ports.

A plan to use passenger trains for refrigerating containers between Burkina Faso and Abidjan (it takes 24 hours from Burkina Faso to reach Abidjan) is being studied.

4.2.Examples of air logistics

Air logistics includes regular flights of large companies (regular passenger flights or cargo flights of regular lines) and charter flights usually using older planes such as the Boeing 707s or the DC 8s which belong to small companies and where use is more and more limited by European regulations.

Three cases provide examples of this: Kneya, West Africa and Israel.

4.2.1. Kenya

Kenya is the number one ACP country in terms of the number of perishable goods to be exported by air. Air flows in the country are estimated at 60 000 tons of which half is flowers and the rest is vegetables for the most part.

Kenya is the specialist in graded and high quality green beans as well as Asian vegetables. Nairobi's airport is well located. Production is localized in Kenya on the high plateaux close to Nairobi. For a long time Nairobi airport has been equipped with a terminal for perishable goods. In this region of East Africa dispatches by plane take place at the beginning of nightfall. The temperature remains mild on the high plateaux all year round.

The country has benefitted from Western investments in terms of flower production. As far as fruit and vegetable is concerned many Kenyan exporters are dynamic and have learned how to develop markets for their products.

Nairobi is an attractive tourist destination and many air companies stop over there. It is also a technical stopover for flights going to South Africa. Flights going to large importing countries, such as Reunion Island, stop in Nairobi on the way back to take freight from South/North.

Lufthansa World Cargo has built its strategy on the creation of freight hubs where tonnage is regrouped and then sent to Frankfurt and dispatched afterwards to its destination point. Nairobi is the hub chosen for East Africa. A 747 cargo plane serves Nairobi every day.

Kenya has both a large amount of tonnage to export by plane and a geographical location which is attractive for large airlines. It is quite understandable therefore that flows are regular and significant. All the large airlines: Air France, British Airways, Swissair, KLM, Lufthansa, Alitalia go to Nairobi several times a week with passenger flights and cargo flights.

In the same way, companies which serve the Middle East: Saudia, Emirates, Gulf Air, stop over in Nairobi.

For fruit and vegetables air freight from Nairobi to Europe costs 8.80 FRF in the winter and 7.8 FRF in the summer. Avocados have a preferential summer rate of 4.2 FRF.

4.2.2. West Africa

Tonnage exported by plane from West Africa is dispersed amongst a dozen countries principally and together makes up an estimated volume of 22 000 tons, which is a third of what Kenya can export from a single airport.

No country has an attractive amount to export for an airline company to be interested and exporters are smaller which does not help them to organize transport, which is often also seasonal.

Two regions can be denoted:

- English-speaking countries which have succeeded in creating air exports at relatively low prices in the order of 4.35/4.50 FRF/kg.

- French-speaking countries which have costs of around 5.6/6.35 FRF/kg according to the product except the Cameroon which has a rate of 4 FRF /kg.

English-speaking countries strategies tend to favour exports.

In French-speaking countries forming part of the Air Afrique group this company in association with Air France dominates the market. Air Afrique often has service and assistance facilities for planes in the airports. Politically-speaking, in practical terms, it influences whether trading rights are granted to other companies.

It is more difficult in French-speaking countries to go through companies other than these two main companies.

However, as the potential for freight offered to exporters is not always sufficient in terms of volume and regularity, some exporters have decided to take the risk of chartering planes. The

freight does not travel cheaper but this system allows them to put in place regular and dependable flights. They therefore have to make sure they avoid having false freight.

These charter planes belong in general to small specialized companies. The flights first go to secondary airports like Ostend where landing permission is easier to obtain than in main airoprts.

However, European norms do not allow planes of over 25 years and in April 2002 planes must be at level 3 in terms of noise. In the short term that means the disappearance of B 707s and DC 8s. Transitory measures are being take in favour of developing countries and emerging countries in order to allow them to progressively change their air fleets.

Amongst the countries using these chartered flights let us cite:

- Since the end of 1994 Senegal has set up a programme with Air Afrique. To do so the EU provided technical and financial support. Since 1997 the separation of exporters into two organizations has largely disrupted chartering.

- Côte d'Ivoire where a Canadian NGO has put in place some charter flights from the Yamoussoukro airport to Ostend at an attractive rate of 4.4 FRF /kg.

This rate results from the cost of infrastructure available in the capital's airport. In fact Yamoussoukro airport has cold rooms which are little used and of a whole range of service and service equipment for planes provided at a competitive price. Bringing pineapples from Abidjan was too difficult for exporters, however, and now the experiment has ceased.

This policy of charter planes enables access to a regular and guaranteed volume. However it means paying the plane immediately, avoiding false freight by precise planning of exports. Charter flights have become even more indispensable since Air Afrique like Air France is using airbus 310s more and more for passenger traffic to Africa with a lower freight capacity.

Furthermore, regular cargo flights go from West Africa on their return from South America. The volume offered can vary according to the tonnage loaded in South America and depending on the volume of exports of fish from Africa, which is a big competing product to fruit and fresh vegetables.

Rates for fish are 20 to 40% higher than horticultural products and fish freight is there all year round which explains the interests of airlines.

4.2.3.Israel.

Agrexco is the main Israeli exporter of flowers and fruit and perishable vegetables. As well as a sea route which is at least weekly from Ashdod to Marseille with two reefer boats with a capacity of 3 000 pallets, Agrexco also sends goods by plane.

This company exports to Europe via 747 cargo planes which take off from Lod, the Tel Aviv airport, during the busy season every working day. They leave in the afternoon so as to arrive in Europe during the night (in Liège) and there the goods are sent off via lorry to various European markets.

It is a well-organized service with a high volume to export. Traffic is based on two hubs: one departing from Lod and the other in Europe in a central point, Liège, which has a good motorway network to reach European markets. The cost of freight is estimated at $ US 0.5 which is about 3.5 FRF.

5. KEY REQUIREMENTS FOR THE SUCCESS OF ACP LOGISTICS

- To have a leading product, a locomotive to draw on the rest of the exports, like the banana in West Africa. Pineapple in Côte d'Ivoire would never have developed as an export without the banana tonnage, coconuts then mangoes also benefitted from the same drag effect. The annual minimum tonnage of this main product is in the order of 120 000 tons.

- To have a large exporter or an organisation of sound exporters like OCAB in the Côte d'Ivoire.

- Taking in hand the logistics through a group if one does not produce enough alone to justify using a boat or a freight charter flight. Successes in this area are rarely isolated exporters.

- Products which are entirely adapted to transport conditions and to the tastes of clients on the destination markets.

- An internal market able to absorb in good conditions having some produce discarded and excess production.

- Control of the cold chain right the way through from as close to picking as possible right up to destination markets. The saying is "one hour lost in departure to being refrigerated will be one day less for the sale in the destination".

- Having regular daily flights and weekly sea trips.

- Providing arrival ports on the day agreed in order to reach consumer markets on fixed days.

- Being present, ideally, all year round like bananas or pineapples in West Africa or beans in Kenya so that the logistics are permanent and it is possible to negotiate the best rates with air and sea companies. It is always very difficult to impose an origin on a brand product which buyers have not seen for several months. It is also difficult to have to relaunch an origin on the market, as most sales are carried out by telephone. Some Spanish citrus fruit producers have understood this phenomenon and in the summer they market Latin American citrus fruit under the same brand with the same presentation as their own product.

- Ability to control production according to markets in terms of quality and quantity. Avoidance of origins competing with themselves.

- Control of logistics, rather than being controlled by it. This means production planning for every product of every origin.

6. IDEAS FOR ACTIVITIES TO BE STUDIED

This study has allowed us to look at the different logistical constraints on exports for ACP countries both by sea and by air.

In considering past relations between the ACP countries and the EU since the beginning of the treaties, we can consider that some countries have been able to develop an export activity and others have had many more difficulties without these being explained by clear reasons, such as geographical or economic ones.

We can see successes also in terms of exports by air despite the negative and positive developments in air transport that can be seen over the last 30 years.

Successes by sea can be explained more easily by the possibility of cultivating and exporting a voluminous product like the banana towards consumer markets in Europe protected up to 1 July 1993. A second explanation concerns the political and economic environment in the exporting country which is more favourable to exporters than in other countries which intrinsically might have just as many assets.

It would be interesting to research the successes of countries such as Kenya, Côte d'Ivoire and Zimbabwe more and to take from them principles to be developed elsewhere.

In the same way, examples outside the ACP such as the success achieved in less than 25 years of a country such as Chile could be useful.

In the past, few ACP countries neighbouring large exporting countries in sea terms have been able to benefit from cooperation in shipping terms. What are the reasons for this.

- How can cooperation in this area be developed?

- What are the potential problems?

- What can one hope for in the future?

Four principal consumer regions import products from overseas:

The EU, North America, Japan, the Gulf States

Exports towards the EU from ACP countries are well monitored. However, existing links or potential markets to other zones are less well known.

It would be interesting to examine the potential of these markets for ACP, the strategic approach and logistic means to put in place to fulfil it.

Technical logistic assistance for exporters in ACP countries needing the most help would seem to be a subject to look into.

Recently Senegal benefitted from such a package.

If logistic cooperation between neighbouring countries must be developed, this assistance becomes essential on condition that it is provided by competent specialists who have had operational responsibilities in this field and who have an idea about trade negotiations between countries and exporters.

Container ships tend to take a share of the market from reefer boats and planes.

It would be interesting to thoroughly examine the probable evolution of this trend over the next five years because for non-banana-producing ACP countries the container is certainly a logistic means of transport of the future, provided that turn round times of container carriers, the total duration of the voyage by sea and the freight cost are compatible with the inherent constraints of fruit and vegetables.

7. ANNEXES

ESTIMATION OF LOGISTICAL COSTS

ESTIMATION of the COSTS for FREIGHT BY PLANE per KG for FRUIT AND VEGETABLES FOR THE EUROPEAN UNION

- Burkina Faso	5,75 FRF
- Senegal	5,35/5,75 FRF
- Côte d'Ivoire : Charter	4,40 FRF
Scheduled flight	5,35 FRF
- Gambia	6,60 FRF
- Ghana	4,35/4,50 FRF
- Cameroun	4,00 FRF
- Kenya: Winter	8,80 FRF
Summer	7,80 FRF
Avocados	4,20 FRF
- Zimbabwe	11,00FRF
- Egypt	4,70/5,50 FRF
- Israel	3,00 FRF
- Morocco	
- Republic of South Africa	9,25 FRF
- Chile	10,00 to 14,00 FRF depending on the time of the year

ESTIMATION of the COSTS for FREIGHT BY PLANE per KG for FLOWERS

- Côte d'Ivoire/Paris	1,50 $
- Nairobi/Europe	1,75 $
- Mauritius/Europe	1,70 $
- Colombia/Europe	2,75 $
- Rep. of South Africa/Europe	1,82 $
- Zimbabwe/Europe	2,64 $
- Israel/Europe	1,00 $

ESTIMATION of the COSTS for FREIGHT per PALLET by REEFER BOAT to the EU

	$ US
- Côte d'Ivoire :	
Northern Europe	128
Southern Europe	98
- Cameroon	135
- Windward Islands	
Other places in the Caribbean	
- Costa Rica	120
- Morocco (to France)	100
- Israel (to Marseilles)	70/100
- South Africa	175
- Chile	240

ESTIMATION du FREIGHT COSTS for a 40' CONTAINER

	$ US
- Kenya/Europe	6 300
- Kenya/Dubai	4 500/5 000
- Madagascar /Europe	6 250
- Argentina/Europe	4 000
- South Africa/Europe	3 500

ESTIMATION of PORT COSTS in EUROPE per PALLET

- Barcelona /Vigo / Tarragona	75 FRF
- Bremen	110 FRF
- Southampton	110 FRF
- Rotterdam	130 FRF
- Antwerp	170 FRF

-	Hamburg	170 FRF
-	Port Vendres	170 FRF
-	Dieppe	195 FRF
-	Marseilles	220 FRF

SUCCESS FACTORS in EXPORTS' LOGISTICS

1. GENERAL FACTORS

- Favourable economic and political environment in the producing country
- Liberalization of transport travelling abroad
- Existence of satisfactory airport, port and road infrastructure and competitive rates
- A critical volume for exports which permit the organization of a weekly logistics' programme
- Existence of a leading product for exports
- Competence on the part of exporters in terms of logistics, planning and organization of exports, negotiations with transporters
- Ability on the part of exporters to develop an exports' strategy which takes into account the possibilities for local production, the needs of the consumer markets, cost prices and ways in which to access boats or planes.
- Possible cooperation between exporters to organize and manage logistics' systems in common
- Existence of local industries to provide consumables for exports and services to exporters: such as lorry businesses, transit means, cold rooms, etc.
- Capacity for receiving technology transfers in terms of logistics and to be able to implement them
- Possibility of beginning the cold chain in the exporting country
- Simple administrative procedures with, if possible, an administrative office dedicated to exports
- Policy for monitoring exchange rates adapted to the needs of exporters

- Possibility for exporters to arbitrate amongst themselves on strong currencies

2. FACTORS RELATED TO MARITIME TRANSPORT

- A significant level of bananas for exports higher than 120 000 tons enabling the creation of a regular sea route sailing at least once per week

- A supply of containers on regular routes and on reefer boats permitting the offer of space adapted to the most delicate products, with appropriate temperature levels during transport

- Well-managed flows in reefer containers even where there are transhipments in hubs. The possibility of being able to load at least every 10 days. A voyage length of no more than 10 days.

- More competitive freight if the average rate of loading of reefer boats in both directions can be optimized while giving priority to the constraints of the exported goods

- A reasoned choice in the length of the turn round, the number of port calls when leaving and destination ports, taking into account particularly the possibilities of being able to distribute the merchandise rapidly outside the port

- Possibility of reaching large consumption areas on a weekly basis
  For example, in Europe to seek to reach both North and South Europe and in the US, both the East and the West Coast

3. FACTORS RELATED TO AIR TRANSPORT

- Use of planes with palettized freight capacity on regular routes

- Direct flights to main airports without transhipment of merchandise

- Possibility of chartering planes, of having trading rights and ability to load at a competitive rate without obstacles locally

- Knowledge of air traffic going from north/south as it has an effect on the amounts and the rates for south/north traffic

- Ability to find charter planes which meet European airport norms at competitive rates

1. KEY FIGURES FOR IMPORTS OF FRESH FRUIT AND VEGETABLES

In 1999 climatic changes although less important than the previous year, did nonetheless have an effect on production in certain areas of the world, particularly in Europe, Africa and in South America. The volumes exported of some origins lessened considerably but have often been compensated by growing contributions from other sources. We will analyse the results of trade by product in order to supply more precise data on individual performances.

Imports of fresh fruit and vegetables in the EU came to almost 10 million tons, which is 8 billion Euros in 1999. This result means a growth in imports from outside the Union both financially and in volume.

The share of the market of ACP countries is tending to grow in volume in 1999 (+12%) and (+9%) in value. At the same time, **the Southern Hemisphere and the Mediterranean Basin** are progressing at a slower rate in volume (+7% and +8% respectively). This lower rate in these two regions can be explained by a slowdown in imports (particularly citrus fruit) because of the unfavourable climatic conditions (frosts, droughts) and a time in which the production had relaunched after Hurricane Mitch hit Central America. The value of these products on destination markets has particularly benefitted products from ACP countries.

The Southern Hemisphere relates to: Argentina, South Africa, Brazil, Chile, Namibia, New Zealand, Swaziland, Uruguay, Zimbabwe.

The Mediterranean Basin (code 1051 Eurostat) relates to: Albania, Algeria, Bosnia Herzegovina, Ceuta and Melilla, Cyprus, the West Bank, the Gaza Strip, Croatia, Egypt, Gibraltar, Israel, Jordan, the Lebanon, Libya, Malta, Morocco, Republic of Yugoslavia, Slovenia, Syria, Tunisia, Turkey.

Fruit continue to be the main products imported in 1999, with shares in the market of 87% in value and 86% in volume of total imports of fresh fruit and vegetables, because of the importance of the banana which represents 25% of value of all imports from outside the EU of fruit, that is 1.8 billion Euros.

Vegetables represent the second largest import group with 14% in volume and 13% in value of community imports of fresh fruit and vegetables in 1999, a growth of 93.500 tons in comparison with the preceding year.

Many originating countries in the Mediterranean Basin (Israel, Morocco), and in the Southern Hemisphere (New Zealand, Kenya) have seen a growth in

imports of their products of between 20 to 30%. It is to be noted that Egypt (-33%) and Hungary (-9%) have seen a decrease in their export volumes.

For most European markets, the values of imports of fresh fruit and vegetables from outside the EU have gone up in 1999, with the exception of UEBL, France, Portugal and to a lesser extend Denmark and Ireland. It is to be noted that the UK retains its leading position in 1999, Germany is in second place and Holland is ahead of France, in contrast to 1998. Two groups of countries can be defined: the group linked to the EURO and the other group linked to the American dollar. The depreciation of the EURO in 1999, by more than 10% with regard to the American dollar, caused a lowering in interest on certain exporters principally from the Southern Hemisphere, Central and South America for the European market, to the credit of American and Asian markets.

Principal exporting countries to the EU in 1999

Of the 9.8 million tons of fresh fruit and vegetables imported by the EU in 1999, six countries provided almost 4 million tons:

South Africa	868.964 tons	**Costa Rica**	832 289 tons
Ecuador	703 314 tons	**Morocco**	669 447 tons
Turkey	601 261 tons	**Colombia**	576 764 tons

- The Southern Hemisphere provides 28% of fruit and vegetables imported by the EU, that is 2 600 000 tons. Apples, pears, plums, grapes and kiwis account for more than 1 264 000 tons and citrus fruit for approximately 830 000 tons. Avocados and mangoes account for 80 000 tons.

- The Mediterranean Basin provides almost 2 140 000 tons (22%), of which 710 000 tones are citrus fruit, as well as 450 000 tons of early potatoes, 210 000 tons of tomatoes, 54 000 tons of grapes, 54 000 tons of aubergines, peppers and courgettes, 42 000 tons of melons and almost 35 000 tons of green beans.

- The ACP countries as a whole have provided almost 1 120 000 tons of fresh fruit and vegetables in 1998, of which 680 000 tons were bananas. Although 56 of them are cited by Eurostat as origins having supplied the community markets, 22 have exported less than 100 tons over the year. However, 25 exported more than 1 000 tons, 14 more than 10 000 tons and 2 more than 100 000 tons. Côte d'Ivoire (399 000 tons) and the Cameroon (168 000 tons).

2. Imports of fresh fruit and vegetables

2.1 FRUIT

Fruit represent a value of 87% of total imports from outside the EU, which is 7 billion Euros and 86% of total volume, that is 8 million tons in 1999.

The top zone providing these is Latin America (47%) which provides mostly bananas and temperate fruit. The Mediterranean Basin (15%) has second place providing mostly citrus fruit, followed by the ACP countries (12%). The ranking remains the same even disregarding the banana. South Africa has third position with citrus fruit and temperate fruit.

The 70 ACP countries are in third place behind South Africa and offer a large range of tropical and temperate fruit. The ACP countries provide most of all bananas (677 000 tons), pineapples (213 000 tons), citrus fruit (70 000 tons), other tropical fruit such as coconut (24 000 tons), mangoes (15 000 tons), lychees (12 600 tons) and temperate vegetables such as peas and green beans (54 000 tons).

Bananas remain the leading product imported (40%) on the European Union markets (3.2 million tons originating outside the EU at a rate of 1.8 billion Euros) on a quota of 3 553 000 tons).

For the most part shares of the market for different fruit imported in 1999 have remained stable with regard to 1998, except for apples and pears which have grown by 3%.

Principal providers of fruit:

The difficult climatic conditions suffered in 1998 have been overcome by most countries in Central and South America where bananas are produced. Ecuador achieved a growth of 22% in exports and regained the top level amongst supplying countries. Honduras which was severely affected by Hurricane Mitch has regained its 1997 levels (almost 70 000 tons) while Costa Rica, Colombia and Panama's volumes have grown at a lower rate.

Contributions of grapefruit from South America (Argentina: -5 000 tons) and the United States (Florida : -13 000 tons) have gone down because of very harsh climatic conditions (frost). However, the deficit in community production of apples was compensated by an increase in imports particularly from the Southern Hemisphere (+113 000 tons).

2.2 VEGETABLES

Vegetables represent 14% of volume, that is almost 1.4 million tons, and 13% in value, which is 1 billion Euros, of the total of fruit and vegetables imported in the EU in 1999.

The Mediterranean Basin represents, by far, the main area of supply for the EU with 63% of tonnage and 51% of value of total imports. The main products are early potatoes, onions and tomatoes.

The 70 ACP countries tie for fourth place in volume with Latin America and second place in terms of value. They supply mostly green beans which, thanks to its high quality, provides attractive remuneration on the European Union markets. Furthermore, this group of countries also offers not insignificant volumes of root vegetables (for example, yams, cassava), of Asian vegetables (for example: dudhi, karella, gombo) and various out of season vegetables.

Main suppliers of vegetables:

Morocco, Egypt and Israel are amongst the prime suppliers in the European Union thanks to early potatoes. The deficit in European supply has meant imported volumes could increase. Other origins such as Cyprus (100 000 tons of potatoes) have also seen a great increase in their export volumes.

Vegetables of the onion and garlic family, with 20% of European imports, are the second largest imported product. Many origins share first place depending on the product: New Zealand (125 000 tons) accounts alone for 44% of onion imports and Argentina (16 500 tons) for 40% of imports of garlic, while Madagascar accounts for 2 500 tons of onions and has maintained its position since 1997 amongst the 20 largest suppliers.

Tomatoes accounting for 15% of imported levels of vegetables is the third largest product. Morocco with 195 000 tons leads this market, while Israel (11 500 tons) is in second position. Fourth place, it should be noted, goes to Senegal (839 tons) where exported production is mostly composed of cherry tomatoes.

Green beans, with 5% of imported volumes, includes seven ACP countries amongst the top ten suppliers with, for the most part, sharp increases. Kenya (21 000 tons, +37%) is now in first place ahead of Egypt (18 500 tons, +5.5%). Morocco (15 000 tons, +37%), Senegal (5 600 tons, +17%), Ethiopia (3 200 tons, +41%), Zimbabwe (3 000 tons, +45%), Zambia (2 000 tons, +127%) and Gambia (1 000 tons, +45%). Only Burkina Faso shows a slight decrease (2 600 tons) while maintaining its position. The share of the market for ACP countries is of 53% in 1999, up two points in comparison with 1998 (51%) thanks to the good performance of a certain number of origins.

1. KEY FIGURES

1.1 ORNAMENTAL GOODS

Figures for 1999 have gone up by 3.2% since 1998

- The share of ACP suppliers has reached 24% of ornamental goods and imports continue to increase slightly at the same level as in preceding years (+15% with regard to 1998 against +14% between 1997 and 1998)

- Decrease in European imports of fresh flowers

- Strengthening of their shares of the market by African suppliers of cut flowers by comparison with 1998.

- Stability on the part of the market for foliage, which remains at 24% of total European imports.

Global imports for the European Union come to **5.38 billion Euros**, which has gone down by 4% with regard to 1998.

82% of these imports relate to the Intra-European market. 18% of imports from a third country are at a level of 997 million Euro, an increase of 1.5% in comparison with 1998.

54% of imports from third countries are fresh cut flowers and **24%** are foliage. The share of cut flowers has decreased by comparison with 1998 (56%), whereas the share of foliage is identical (24% in 1998).

Principal importers

Holland is increasingly the prime importer of products from third countries with **54% of European imports**. A large part of imports to Holland is re-exported throughout the world.

If we look at all trade (imports from third countries + trade within the European Union), Germany maintains its position of prime European importer with 1.57 billion Euros. However, 90% of German imports come from other European countries of which 83% come from Holland.

Principal suppliers to the European Union of all Ornamental Goods in 1999

- Israel, Kenya and Colombia for cut flowers,
- Costa Rica and Israel for potted plants
- USA and Costa Rica for foliage

Latin America accounts for 33% of supply to the EU of all ornamental goods.

All the major exporters have benefitted from the increase in imports, Kenya has gone up to first place in the running order ahead of Israel and Zimbabwe where exports have gone up by 3%. Other countries maintain their initial position in the table of suppliers.

- 44 ACP countries have exported ornamental products to the EU to a value of **240 million Euro** in 1999, including **217 million Ecus worth of cut and dried flowers**

- Only 16 countries amongst these exported for more than 100 000 Euros and only 10 at over 1 million Euros. Their market share is 24% for all ornamental goods, but they have a 40% market share for fresh cut flowers. This last has progressively increased (17.9% in 1992).

ACP countries which are developing their exports:

Kenya is increasing its exports (+21%) while the results from the Côte d'Ivoire (+4%) and from Zimbabwe (+2%) remain stable, but the greatest increases have been seen in **Tanzania** (+53%), **Uganda** (+36%), **Zambia** (+31%) and the **Cameroon** (+23%).

ACP countries where exports are decreasing:

Rwanda has decreased in exports to the European Union by 80%. Four other ACP producers have also seen their exports go down. The Dominican Republic (-71%), Malawi (-58%), Suriname (-23%) and Mauritius (-21%).

1.2 CUT FLOWERS

Imports from outside the European Union of cut flowers come to **540 million Euros** in 1999, of which **527 million relate to fresh flowers and 13 million to dried flowers**. Imports of cut flowers are going down for the first time since 1993 (-4.7% by comparison with 1998). The decrease is mostly attributable to the drop in exports from Israel which can be explained by several factors: growing competition from East African suppliers, slump in the Euro rate in comparison with the dollar, increase in energy prices which has repercussions on transport and on heating and cooling of greenhouses. It is also to do with a comparative decentralisation in terms of how European markets are approached, since Israeli exporters can now negotiate directly with importers, without going through boards.

ACP countries have exported **217 million Euros** worth of cut flowers to Europe, of which **216 million Euros worth were fresh flowers** and **1.1 million Euros worth were dried flowers**. The ACP group has increased its

share of the market amongst European imports of cut flowers by 6 points between 1998 and 1999, while it had increased by 4 points between 1996 and 1998.

The prime supplier in ACP countries is **Kenya which accounts for 60% of exports from the ACP countries of cut flowers to the EU**, followed by Zimbabwe, Zambia, Tanzania, Uganda, Côte d'Ivoire and Mauritius. Eight out of the ten top ACP suppliers to the EU are to be found in East Africa and Australia as well as in the Indian Ocean. Kenya and Zimbabwe alone provide 83% of exports from ACP countries of fresh cut flowers.

Those flowers which are mainly imported into the EU are:

Roses	234 billion Euros	43%
Other fresh flowers	159 billion Euros	29%
Carnations	114 billion Euros	21%0

Roses have increased their share of the market (from 18% in 1991 to 43% in 1999), while imports of chrysanthemums are going down as well as carnations (-9.7% by comparison with 1998). Imports of "Other Flowers" have gone down in value (-12%) as has their share of the market which is two points lower than in 1998.

97.8% of ACP exports of fresh flowers are made up of temperate flowers (roses, carnations, summer flowers), only 2.1% of these are tropical flowers (anthurium, heliconias, alpinias, orchids).

NB: European Customs only classify 5 species: Roses, carnations, Orchids, gladioli, chrysanthemums. Other kinds of flower are simply listed as "other flowers".