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EXPORT MARKET DEVELOPMENT OF PROCESSED FRUIT AND VEGETABLES*

Background Paper

Prepared by the International Trade Centre UNCTAD/GATT Secretariat

Based on the work of David Jones, ITC Consultant

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I. STATISTICAL OVERVIEW [1]/

(a) General

Total world imports of processed fruit and vegetables increased from about $US 7.3 billion [2]/ in 1983 to $US 11.7 billion in 1987 - an increase of 60 % on the base year figure. Progress upwards was relatively steady until the end of 1986 followed by a sharper rise in trade in 1987, i.e., an increase of 20.5 % compared with rises of 19 % from 1983 to 1984, 16.7 % between 1985 and 1986, and an actual fall of 5 % between 1984 and 1985.

As a percentage of world imports of processed fruit and vegetables between 1983 and 1987, the contribution of developed countries rose from 60.9 % in 1983 to 61.7 % in 1987. In contrast the contribution from developing countries fell from 35.8 % in 1983 to 35.2 % in 1987.

In terms of 1987 world total imports, this slight reduction in percentage contributions from developing countries amounted to a total of $US 70 million.

Processed vegetables accounted for over 47 % of total world imports of processed fruit and vegetables in 1987 with fruit juices accounting for about 28 % and processed fruit accounting for about 25 %. For vegetables, the reduction in the contribution by developing countries fell by a greater margin than total world imports, i.e., -.8 % for vegetables, compared with -.6 % for total world imports, of fruit and vegetables. The most marked fall in the contribution from developing countries was for fruit (other than juices) which fell from 35.4 % in 1983 to 32.4 % in 1987 - a fall of 3 percentage points.

For developed countries, their contribution to "vegetable" imports increased by 1.6 % and for "fruit, other than juices", by 3.2 % an indication that in the case of processed vegetables and fruit (other than juices) developed countries have been increasing their levels of processing and replacing developing countries as world suppliers. There has also been displacement of the centrally planned economies of Europe, including the USSR which have seen steady reductions in their world share of imports for both "vegetables" and " fruit, other than juices" in the five years under scrutiny.

The situation for juices is about somewhat different. World import figures reveal an increase from about $US 1.8 billion in 1983 to about $US 3.2 billion in 1987, with the percentage contribution by developing countries increasing slightly from 45.8 % to 46.6 %. In the same period, the contribution from centrally planned economies also rose, whereas that from developed countries fell by 1.8 %.

1/ See annex I (tables 1 and 2) for details of those products included in the totals for processed fruit and vegetables.

2/ $1 billion = $1 thousand million

(b) Products - general

A detailed breakdown of world import figures into product categories reveals particularly large increases during the five years for 'frozen vegetables' , 'vegetables and fruit prepared or preserved by vinegar or acetic acid', 'fruit frozen without sugar', 'fruit jams, jellies and marmalades', 'grapefruit juice', 'other citrus fruit juice', 'juice of other fruit or vegetables' and 'mixtures of fruit or vegetables juices'.

It is interesting to note from the statistics how those products which require a high degree of processing, such as 'frozen vegetables', 'canned vegetables', 'marmalades', 'fruit preserved by sugar', 'fruit peel, frozen, dried or provisionally preserved' are all mainly supplied by developed countries. Developing country percentage contributions to world imports only exceed those of developed countries for products which are simply processed, viz, 'vegetables provisionally preserved', and 'fruit provisionally preserved' - both unfrozen and/or canned. Although developing countries also provide the major contribution in 'fruit frozen with sugar' the actual quantities and values involved are relatively small.

The situation differs somewhat in the case of juices, with developing countries producing the major shares of orange juice and pineapple juice. The main growth product areas of "juice of other fruit or vegetables" and "mixtures of fruit or vegetable juices" are all dominated by developed countries.

This structure of trade, whereby developing countries tend to produce large quantities of the more simply processed products, provides an indication of the effect of various forces in the trade, resulting in most value being added (i.e., a higher level of processing) in the developed countries themselves.

(c) Countries - general

Of developed country exports the major world exporter was the EEC supplying 46 % of the total world imports in 1987. Total European exports (EEC plus other West Europe) accounted for 49.1 % - an increase of 4.5 percentage points on the figures for 1983. Other "developed region" exporters were North America supplying 6.1 % of total world imports in 1987, followed by the "developed" countries of Asia with 3.5 %. Both the latter regions experienced reductions in their contribution to world imports during the five year period 1983-1987.

Of the "developing" countries, the major suppliers of processed fruit and vegetables were the countries of South America with 14.5 % of total world imports in 1987. Although this is an increase over the total of 12.8 % in 1983, it is less than their percentage contribution of 18.4 % in 1984 and 16.4 % in 1985. The developing countries of the Middle East and Asia contributed 12.7 % in 1987, having experienced a steady decline in relative importance during the period from 1983 when they were the largest developing region exporter with 14.2 % of total world imports. Developing African countries contributed 2.3 % in 1983, falling to 1.7% in 1987.

The largest, single country, world supplier of processed fruit and vegetables in 1987 was Brazil with $US 1.19 billion or 10.2 % of the total, followed by the Netherlands with $US 1.17 billion or 10 % of the total. Growth of export by the Netherlands was considerably faster however, showing a 1987/ 1983 index of 192 compared with 176 for Brazil. Other suppliers in order of contribution in 1987 were Italy, Spain, China, the United States, France, "other Asia - NES", F.R. Germany, Belgium, Luxembourg, Greece, Israel, and Thailand. All other countries contributed less than 2 % of world totals. Developing countries are notable by their absence from the above ranking (except perhaps for "other Asia - NES").

The largest importing country in 1987 was the Federal Republic of Germany with $US2.2 billion or 19 % of world imports. The F.R. Germany was followed by the United States with $US 2.19 billion, the United Kingdom with $US 1.2 billion, Japan with $US 1 billion and France with $US 922 million. Growth in these markets, as estimated by a 1987/1983 value index was highest for Japan (183), the United States (173), France (172), F.R. Germany (158) and the United Kingdom (152). The fastest growing country in the top ten of the importers in 1987 was Italy with an index of 252 and a total of $US 456 million. [3]/

(d) Canned fruit and vegetables

For canned vegetables total world imports in 1987 amounted to $US 3 billion, with a 1987/83 index of 144. Of this total, developed countries supplied 71 %, with 28.2 % from developing countries. The largest country exporter was Italy with $US 509 million or 17 % of total world imports. The other main suppliers were the Netherlands (12.3 %), China (12.1 %), Spain (11.8 %)and France (8.4 %). Fastest growth over the period 1983/1987 was experienced by Indonesia, Thailand, Tunisia, Guatemala and Madagascar, although in the latter cases the quantities involved were very small.

The major importing country was F.R. Germany with $US 735 million, followed by the United States - $US 442 million, the United Kingdom - $US 282 million, - France - $US 258 million and Japan with $US 223 million. Of the top ten importing countries, the fastest growing market according to the simple 1987/83 index was Italy, followed by Japan, the Netherlands and France. The major supplying country to F.R. Germany was the Netherlands - followed by France, Italy, China and Belgium - Luxembourg. Highest growth was registered by Thailand, New Zealand and Indonesia although relative quantities were very small for the latter two countries.

For canned fruit total world imports in 1989 amounted to $US 1.84 billion, with a 1987/1983 index of 142. Of this total, developed countries supplied 61 % with 38.4 % coming from developing countries. The largest country exporter was Italy with $US 222 million or 12 % of

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[3]/ It is, of course, obvious that taking an arbitrary five year period and applying simple indexing can lead to base year/end year distortion. - The figures are at best a general indication of the major participants in the trade.

world imports. The other main suppliers were Greece (11.6 %), Thailand (9.3 %), Spain (9.3%), Philippines (9.2%), and South Africa (7.1 %). Of these countries, fastest growth in exports over the period was experienced by Greece, Spain, Thailand and Italy, in that order. Very high market growth was experienced by Guatemala, Indonesia and Peru, although quantities were relatively insignificant.

The major importing country was F.R. Germany with $US 386 million, followed by The United States - $US 325 million, United Kingdom $US 273 million, France $US 154 million and Japan with $US 138 million. Of the top ten importing countries, the fastest growing market according to the simple 1987/83 index was Italy (10th in importance) followed by the Netherlands, France, Japan and the F.R. Germany. The major supplying country to the F.R. Germany was Italy with $US 101 million, followed by Greece, Spain, South Africa and Thailand. Highest growth was experienced by Spain although Indonesia, Australia and Mexico had very high growth albeit from very small bases in 1983.

(e) Fruit and vegetables juices

For fruit and vegetables juices as a whole total world trade in 1987 amounted to $US 3.25 billion compared with $US 1.86 billion in 1983. Developed country contributions in 1987 accounted for 50.1 % of world total supply, a fall of 1.8 percentage points over 1983. Developing countries increased their contributions over the same period, from 45.7 % to 46.4 %.

The major world supplier in 1987 was Brazil with $US 1.18 billion or 36.1 % of the total supply. Although this represents a fall from 1985 levels, Brazil still dominated the market. The next main supplier was F.R. Germany with 8 %, followed by the United States (7.5 %), the Netherlands (7.2 %) and Israel (6.4 %). The fastest growing of the top ten suppliers in 1987 were Belgium-Luxembourg, Austria and the Netherlands. Other fast growing suppliers were Japan, Republic of Korea and the USSR, although the quantities concerned were relatively small. The major markets were, (in order of magnitude),The United States, F.R. Germany, United Kingdom, Netherlands and Canada. Fastest growing markets in the top ten, according to the simple index, were Italy, The United States, Japan, Belgium-Luxembourg, F.R. Germany and the United Kingdom .

Of the various fruit juices, orange juice predominated with $US 1.72 billion or 53 % of total world trade in fruit and vegetable juices in 1987. Of total 1987 imports of orange juice, developing countries supplied 67.3 % in 1987, an increase on 1983, but a reduction on their share of the world market in 1984, 1985 and 1986. Developed countries contributed 32.6 % of total world imports in 1987 which was a reduction on the 1983 figure but an improvement in 1985 and 1986. By far the major supplier was Brazil with $US 1.1 billion or 62.4 % of the total. The 1983-87 period shows Brazil steadily increasing in importance from 1983 to 1985, and losing ground after that to the Netherlands and Israel. Israel contributed 8.3 % and the Netherlands 7.4 % of world imports in 1987. The fastest growing suppliers from the top ten suppliers were Spain and the Netherlands. Other fast growing suppliers, but of small quantities (less than 1 %) were Japan, the Republic of Korea, Switzerland and Turkey.

The major world market in 1987 was the United States, taking $US 654 million or 38 % of total world imports of orange juice. Other major markets were F.R. Germany, the United Kingdom, the Netherlands and Canada. The fastest growing markets were Japan, Korea, Spain and Italy.

In 1987, total imports of grapefruit juice amounted to $US 115 million or 3.5 % of total world imports of fruit and vegetable juice in that year. The market had been steadily growing from $US 56 million in 1983, with a significant increase between 1986 and 1987. The trade is almost entirely dominated by developed countries who contributed an average of around 90 % of total world imports of grapefruit juice between 1983 and 1987. The contribution of developing countries rose from 9.1 % in 1986 to 11.2 % in 1987, although this was only a recovery to the same level of contribution as that of 1983. The two major world suppliers were Israel with 36 % and the United States with 32 % in 1987. Both countries, however, experienced small reductions in their importance since 1983 as a result of an increase in the market share of the Netherlands, Belgium-Luxembourg, South Africa, Cyprus, Argentina and Brazil. The fastest growing suppliers in the top ten were South Africa, Belgium-Luxembourg and Argentina.

The major world market is Japan with $US 22 million in 1987, supplied by only two countries - the United States and Israel.

The other main markets were the United Kingdom, F.R. Germany, Italy and Canada. The fastest growing markets in the top ten were Greece, and Japan, the latter increasing from $US 4.8 million in 1983 to $US 22.5 million in 1987.

Total world imports of pineapple juice amounted to $US 121 million, or 3.7 % of total world imports of fruit and vegetable juice in 1987, the market growing steadily from a 1983 total of $US 72 million. Developing countries were the major world suppliers, contributing 65.8 % in 1987, a reduction on their contributions for the previous two years, 73.2 % and 72.4 %, respectively. Developed countries with 34 % recovered their market position after experiencing falls in market share in 1985 and 1986.

The major world supplier in 1987 was the Philippines with $US 35 million or 29 % of total imports. There was a steady decline in the market share accruing to the Philippines although it was still, easily, the major supplier. The other main suppliers were Thailand (14.9 %), the Netherlands (12.3 %), Brazil (9.2 %) and Kenya (7 %). The fastest growing supplying countries among the top ten suppliers were Belgium-Luxembourg, Israel and F.R. Germany. The European countries were obviously re-exporters.

The major world market was the United States with $US 52 million in 1987, getting over 80 % of its requirements from the Philippines and Thailand. The other main markets, in order of magnitude were the United Kingdom, the Netherlands, Italy, F.R. Germany and Spain. The fastest growing markets in the top importers between 1983 and 1987 were, according to the simple index, Italy and Spain. Other fast growing markets, albeit of small quantities were Greece, Portugal, Korea and Japan.

(f) Developing countries as markets

For almost all the products included in this study of processed fruit and vegetables, developing countries do not appear among the top 15 import markets, in order of import value magnitude. The only countries/areas that do appear with any regularity, apart from developed market economies are, Hong Kong and Singapore (entrepots), Saudi Arabia, Egypt, the Republic of Korea, Venezuela and Trinidad. It seems that, compared with other processed food stuffs developing country markets for processed fruit and vegetables are not expanding as quickly.

There are a number of possible reasons for this:

(a) for citrus and tropical produce there will naturally be a tendency to buy the locally produced fresh product;

(b) where there are locally produced processed fruit and vegetables, e.g., in cans or bottles, government may direct domestic consumption to their purchase, through a range of tariff or non-tariff barriers;

(c) even when there is no locally produced processed substitute, government may wish to discourage imports because:

- processed fruit and vegetables are not priority food items for a population (unlike say vegetable oil for cooking, or canned meat for the armed forces). With problems of scarce foreign exchange prevalent in developing countries, governments may as a consequence use an import licensing system or other tariff and non-tariff measures to discourage import.

- there are plans to develop local production of processed fruit or vegetables. Government may wish to establish a protected market during the infancy stage of such development.

II. CONSTRAINTS TO EXPORT MARKET DEVELOPMENT

The task of finding common constraints to market development for an 'industry' which is made up of a myriad varieties of product and processing techniques is particularly complex. The same products can vary between countries according to climate, seed varieties, technique of husbandry and technical know-how. Processing techniques may vary from the basic cleaning and cutting of fruit and vegetables, all the way through to bulk processing with sophisticated equipment by large companies. Processing can entail bottling, canning, pickling, concentrating, freezing, drying, and dehydrating. The so-called 'industry' is made up of a large number of different end-uses, all of which have their own peculiar idiosyncrasies in terms of market development.

There are, however, many major problems which, to some extent, all activities have in common, and it is of considerable value, especially for a prospective investor or government, to isolate them, analyse them and identify various means for assisting in overcoming them.

The UNIDO Secretariat in a paper on investment in the fruit and vegetable processing sector [4]/, provides considerable detail on common problems faced by the fruit and vegetable processing sector. The paper concentrates mainly on supply problems.

Although it is not necessary to go into the same level of detail, the following section isolates those particular supply problems which have a direct bearing on export market development, i.e. those that affect the quality, quantity and regularity of exportable supply.

The major contribution of this section however is to provide a detailed examination of demand trends, tariff and non-tariff barriers (including 'commercial' constraints) and the ways in which they combine and contrive to pose ever-changing conditions and constraints to effective export market development of processed fruit and vegetables.

For ease of analysis the major constraints are divided into three subdivisions, albeit interlinked in their effect on export developments:

- Supply constraints;
- Export market demand trends;
- Tariff and non-tariff barriers.

A. Supply constraints

The major impact of supply constraints in terms of their effect on export market demand is that they lead to:

(i) irregularity of timing and inability to fulfil orders;
(ii) variability in quality;
(iii) inappropriate packaging;
(iv) inability to meet health and hygiene standards;
(v) non competitive prices.

All these problems combine to undermine the competitive position of developing country suppliers. Not only do they give rise to 'claims' on existing orders, because of lack of consistency, but they also discourage serious importers from entering into new trade negotiations with emergent developing country suppliers because of the poor track record and image of such suppliers.

The basic supply constraints which most countries and most products have in common and which give rise to the marketing problems mentioned above include:

4/ "Investment considerations in the Fruit and Vegetable processing Sector." Background paper prepared by the UNIDO Secretariat, for the expert group meeting for Africa on the food processing industry held in Tunis 28-30 March 1989.

(a) Existing trade flows

The existence of long-term established flows of trade in the more simple forms of processed products. Developed countries have traditionally preferred to maximise value added within their boundaries. They have developed entrenched lines of trade in which the product receives only a cursory treatment in the supplying country, with the major part of the processing occurring in the importing country. It is very difficult for the developing country to break away from the existing trade structure because this can cause a discontinuity in export revenue, as a result of the diversion of product to more intensive levels of processing and the need to establish new markets. The effect is that there is a resistance to change and an entrenchment of the status quo of low processing levels and value added. This means low levels of expertise and little, if any, marketing per se by the developing country processor.

(b) Dual Market

For products which have a dual market, i.e. for fresh and processed produce, problems of raw materials supply proliferate. In such cases it is usually the C grade produce which finds its way to the processing plants. Normally, all A grade and B grade produce is sold fresh, either to export markets or domestically. In most cases, better prices are received in the fresh markets and the farmer is continually trying to increase the percentage of his crop in the A and B grades, even to the point of blurring quality boundaries. The processing unit is often unsure as to the exact amount of fresh produce it is going to obtain and this, of course, causes considerable difficulty in production planning. The fact that importers like to order their produce in advance of seasons and like to have guaranteed quantities increases the difficulties for the processor.

This problem is further heightened by the increase in demand in recent years for fresh fruit and vegetables, which are increasingly available in developed country markets on an all-year-round basis.

For the processor to guarantee a sufficient quantity of produce for production-runs and to meet orders, it is sometimes necessary to incentivise farmers by offering them higher prices. Given the extreme competitiveness of world markets for processed fruit and vegetables, this process of course greatly increases his risk and may lead to cost cutting in other areas, again, leading to a reduction in competitiveness.

The export processing industry cannot be developed on a supply base of the surplus that is available after meeting the needs of the fresh produce markets. The ensuing variability in quantities of processed goods for export would undermine their acceptance in the market by most serious importers.

(c) Raw material quality

Variability in the quality of the supply of raw materials is also a considerable problem. Although processing units normally take the lower grade products (if fresh markets are available), the product still needs to be of a good enough quality to compete with large suppliers of processed fruit and vegetables from countries such as Brazil, Mexico, Thailand and Poland. The product needs to be of a consistent shape, colour, flavour, firmness and be clinically clean of all blemishes and other debris. In many cases the processing units are reliant on a farming sector over which they have little control, although some processing units have integrated back into a farm and plantation ownership. Those units which merely purchase from the farming sector are susceptible therefore not only to variations in quantities and timing, but also to large differences in quality and size of produce.

Quality control and efficient post-harvest handling remain a major problem in the agricultural sectors of most developing countries. This is especially so in tropical climates which are characterised by fast deterioration of produce and the proliferation of pest and diseases.

(d) Infrastructure

Infrastructural problems remain a serious constraint to the establishment of an efficient processing industry in developing countries. In many such countries, the distances between the source of raw material and the processing plant lead to both physical damage and deterioration in the raw material. Often this is caused by poor quality roads and inadequate means of transportation. According to the UNIDO paper [5]/, the FAO estimates between 40-50 % wastages of food attributed to post-harvest losses, including transportation.

In some cases, the positioning of the processing plant is not consistent with the source of raw material or indeed the points of access, either to domestic or export markets. Location is often directed by government to further socio-economic development and bring employment to certain key areas. It is rare that the location of industry for socio-economic development reasons coincides with optimal location from the point of view of logistical distribution of resources. The dislocation between source of raw material supply, the processing plant and market access often leads to considerable wastage and inefficiency in production and distribution.

All combine to produce irregularity and inconsistency in supply, especially when there is little expertise in produce handling and inventory control.

(e) Production Status Quo

Many developing countries already have some types of processing plants in situ, suffering many of the disadvantages and constraints itemised above. They are often in sub-optimal locations, have inferior second-hand machines, are obliged to buy the total surplus crop regardless of market conditions, are in dire financial straits and have a labour staff without proper motivation and enthusiasm. Most are working at very low levels of capacity.

5/ op. cit.

Equally they are subject to short peaks and long troughs in activity according both to seasonality and the amount of acceptable produce available for processing. Visits to small processing units in many developing countries will invariably find production at a standstill, awaiting raw materials, or packaging material, or orders.

Measures to optimise the industry therefore are not always those of getting things right from the start, but of trying to sort out the existing dislocation in the processing sectors within supplying countries. This can only be done through government incentives, management training, proper procurement practices, relocation and market orientation.

(f) Production-led development

Interviews with many stagnant processing units in developing countries have revealed that they were set up essentially within a production orientated framework, i.e. identify the raw materials, locate the finance, buy the machines and set up the factory. The question of how to sell the produce would 'look after itself'. Unfortunately, such a market vacuum type strategy has failed. As a result, in many developing countries, we now have processing plants producing irregular and inferior products (in market terms). They have financial, managerial, functional and technical rigidities which seriously impair their reactions to changing market trends, resulting in increasing polarisation of the processing unit and its product from market needs. Factories consequently work at low capacity, lack motivation, and are merely responsive in terms of market needs. They do not pursue market information, do not translate market information into procurement practices and incentives to suppliers of raw materials and do not provide a positive link between the market place, the processing unit and the grower. As a result there is a continuous downward spiral with continuing losses until 'liquidation' or, if socio-economic needs are paramount, 'takeover' by government.

This continuous downward spiral is self-propelling and does not occur in a production limbo. It also affects the demand side of the equation which in turn reacts negatively and reinforces the decline in the processing unit. Irregular supply, variations in quality, poor packaging and lack of communication lead in the last resort to cessation of orders. They also create a bad reputation for the country as a supplier and affect future attempts by new suppliers to break into the market.

(g) Other problems

There are many other problems and constraints to the emergence of a sector which can provide continuous supplies of good quality, competitively priced processed fruit and vegetables. These include: high costs of fuel; inefficient (often obsolete) machines and their usage; poor labour skills; poor management skills; high cost of packaging (often imported); inappropriate packaging; import duties on intermediate goods and packaging; a lack of technical know-how; financial constraints; lack of government incentives to export, e.g. pre-shipment credit and; lack of adequate domestic market providing a safety net for the processing plant in its expansion into export markets.

B. Trends in Export Market Demand

In the analysis at the beginning of this paper and in the accompanying, statistics, it is revealed that although there were increases in the value of trade from developing countries between 1983 and 1987, there were, often, reductions in their percentage contributions.

Although the causes of the relative stagnation in market share by developing countries are many, it is possible to identify the major elements causing this situation.

(a) The fresh produce market

In recent years most consumers have allocated an increasing share of their budget to the consumption of fresh fruit and vegetables. [6]/ Quality fresh produce is now available in developed country markets throughout the year. The emphasis on healthy, fresh food, which has been very much in vogue in the media over the last few years, has significantly affected consumers' attitudes towards processed foods. This new health-awareness has been combined with improved international marketing and distribution of fresh produce, especially as a result of the activities of the multiple chainstores and supermarkets with their stringent quality requirements. Development of better communications, production planning, integration from the distributor/retailer back to the farmer, refrigerated sea and air transport, insulated packaging material, etc. have all contributed to the rapid growth of the fresh fruit and vegetable sector between 1982 and 1987. This is particularly true of tropical produce, which, for most of the post-war era, had been regarded as being only rarely available in fresh form and mainly consumed in cans or bottles. Statistics reveal however, that European market demand for fresh avocados, mangoes, papayas and pineapples grew in the range of 75 % (for avocados), to a high of 260 % (for papaya) in the 1982-1986 period. The consumer now firmly believes that if he is able to obtain fresh produce, even at a premium, then this will be more beneficial to his health. Even if he wants something "a little different", e.g. exotic produce, he can now usually get it fresh.

Furthermore, the trade view is that the market for fresh fruit and vegetables, especially tropical produce is, as yet, far from developed. Expenditure on promotion and advertising is still relatively low, except by some of the larger producers, and consumers generally are still unaware of where to buy and how to use certain types of produce. It seems likely therefore that the increasing trend in demand for fresh fruit and vegetables will continue. The fact that they are seen as a direct substitute for processed fruit and vegetables (excluding juices) will act as a brake on the development of the consumer market for the processed items. This, in turn, will reduce the demand for consumer-ready processed produce from developing countries and thus reduce the degree of value added from processing in those countries.

6/ See ITC market survey "Tropical and off-season fresh fruits and vegetables", Geneva 1987.

(b) Domestic markets

Local demand in developing countries for fresh fruit and vegetables has also been expanding as higher levels of development are reached and purchasing power is increased. Governments have been promoting increasing import substitution for produce which can be grown locally and farmers have in many cases been subsidised to produce more for the local market. Attempts have been made to develop the tourist trade in many countries and to supply their fresh produce requirements from domestic supplies. As a result, there has been a decrease in the amount of fresh fruit and vegetables available for domestic processing in developing countries and this has disrupted production and marketing plans.

The broadening of developing country markets has also resulted in an increase in demand for processed produce and again, government has been encouraging supply from within national boundaries. The smaller companies have been happier with the relatively simpler task of supplying the local market, compared with the export market, and quite a number have dropped out of the business of exporting.

The strengthening of domestic demand for fresh and processed produce within developing countries has been a contributory factor to the relative stagnation in the exports of processed fruit and vegetables.

(c) Developed Country processing

The existence of, and encouragement given to, the processing of fruit and vegetable products within developed countries has also been a contributory factor. Most major industrial countries already have well-established sophisticated processing industries which vary from, units producing final product, such as jams, juices, canned and bottled produce, to those producing intermediate produce for further processing, such as dehydrated, frozen or concentrated produce. Such units have been in existence for many years and have long established supplying relationships with producers of raw materials or simply processed intermediate products. They also have well developed marketing and distribution networks, together with an established brand image for their products.

They are reluctant to accept changes, and may exert a lobby on governments to prevent competition from new sources of supply.

The food industry in developed market countries has been going through a process of takeovers and mergers and the major companies involved are often large transnational conglomerates with enormous purchasing power and considerable political lobbying influence. In most cases they are intent on expanding and developing their processing units and on securing steady supplies of basic raw materials or lightly processed produce. Their major objective in terms of their purchasing is to establish a relationship with a steady supplier of good quality, simply processed produce. They wish to maximise the potential value added in their mother country units and, often, integrate backwards to production levels to ensure that quality supply is forthcoming.

Increasing oligopolistic tendencies in the world processed food industry are a barrier to the development of export markets for highly processed produce by relatively small producers in developing countries. On the other hand, such a structure can provide a steadily increasing demand for a quality supplier and develop a market in which the supplier, if working alone, would have very little influence. These large conglomerates do have uneven bargaining power, but they are also keen to develop the markets and to nurture their suppliers. The conflict arises in the degree of value added created in the developing country, as opposed to the developed market economy.

The emergence of large transnational food companies creates a power base and a control of the market which can have both positive and negative benefits for developing country processed produce suppliers.

On the positive side there will be the large financial resources and top-level management that can go into developing the market as a whole. This would be to the advantage of the developing countries. On the negative side, is that control of the future of the industry lies in the hands of a few large companies, with decision-making based on the economics of international capital rather than those of development.

This could lead to the fossilisation of developing countries as merely suppliers of raw materials or very lightly processed products to be further processed in the developed market economies. Vertical integration and joint ventures of course, are ways of circumventing this, although the control, to a large extent, will still remain with the conglomerate. This is a fact of life however, and in most cases any processing company which finds that it can set up some form of joint venture or marketing and distribution arrangement with a large transnational company will generally be in an advantageous position, compared with other small companies attempting to break into the market.

C. Tariff and non-tariff barriers

1. Tariff barriers and quantitative restrictions

Partly as a consequence of expansion in industrialisation in developing countries, and the existence of a well established, sophisticated processing sector in almost all developed importing countries, tariffs and levies, of one sort or another, have been erected to provide protection for domestic industry. Customs duties do vary considerably from market to market and according to the product and to its source of supply.

In the case of the European Economic Community (EEC) there are customs duties on all processed fruit and vegetables. In addition there are levies on certain products. The common external tariff is high for most of the products in question, e.g. 28 % ad valorem for grapefruit, 19 % for orange and pineapple juices, 21 % for tomato juice, up to 30 % for canned fruit, up to 24 % for canned and frozen vegetables, up to 26 % for frozen fruit, up to 30 % for jams, fruit jellies, marmalades, etc.

Developing countries enjoy a number of preferences. Products from African, Caribbean and Pacific (ACP) countries, signatories to the Lomé Convention, as well as from overseas countries and territories associat' with the EEC, are generally granted duty-free access for processed fruit and vegetables. In addition, preferences are granted to a number of countries on a bilateral basis. The EEC Generalized System of Preferences (GSP) is also applied to some products, and duty-free access is granted to LDCs.

According to EEC regulations, a sugar levy may be imposed on imports of specified fruit products to which sugar has been added in the process of manufacture; the levy corresponds to the duty payable on imported sugar and is applicable to quantities of various sugars in a product, as stipulated in the regulations. When applicable, the levy is also applied to products entering duty-free.

It is mainly on account of the added sugar levy that EEC importers usually insist on importing processed fruit without sugar, except for some canned fruit, where the sugar levy is fixed at a standard rate of 2 % of the customs value of the goods.

It should be added that although the tariff advantage to ACP countries in Europe is significant, it is non-ACP countries that are still the major suppliers of certain types of processed fruit and vegetables. Indeed, only a few countries, e.g. Côte D'Ivoire, Kenya and Jamaica, seem to have exploited their advantage to any reasonable extent. This seems to suggest that it is not protectionism per se that is the major cause of poor market performance by many developing countries. Other constraints, including those affecting supply mentioned above are of greater consequence.

There are quantitative restrictions on imports of some processed fruit and vegetables into the EEC. One noticeable example is imports of canned mushrooms, where a strict quota system is applied.

In the case of Canada the policy of assisting in protecting domestic industry is identifiable for certain products. For example, for frozen strawberries, a duty of, minimum, 10 % is levied if they are for reprocessing in an industrial process, or a duty of, minimum, 15 % if they are for re-sale in a retail outlet. Furthermore, when local Canadian grown strawberries are available, special permission to import is required from Canada's Department of Agriculture. It is only certain recognised importers that are able to obtain such a license which further tightens market access. In contrast to the EEC, there are no extra duties if sugar is added to the frozen strawberries. Canada also offers special tariff conditions for certain products.

The United States has a wide range of tariffs on processed fruit and vegetables, which may be high for certain products, e.g. 30 % ad valorem for dehydrated onion (35 % for "designated non-market countries"). For some products tariffs are considerably lower, and preferences are granted under the GSP and LDDC schemes. There are few quantitative restrictions on imports of processed tropical fruit into the United States, although all processed foods are subject to FDA (Food and Drug Administration) standards and checks.

In Japan, the general tariff for processed fruit and vegetables is also high, e.g. up to 25 % for canned fruit and vegetables, and up to 30 % for fruit juices, etc. However, preferential rates are offered to developing countries for certain products.

Japan, traditionally protective of domestic agriculture, has a strict quota system applying to several processed fruit and vegetable products. They often deter advance processing, restrict imports and trade in general, and also discourage consumption, leading to low per capita consumption compared with other countries.

Other important markets for the product in question, e.g. the EFTA countries, likewise offer special tariff concessions to developing countries.

Some other relatively important markets, e.g. Hong Kong and some Middle East countries, offer duty free access or low duties, regardless of the origin of the product.

A noticeable feature of tariffs worldwide is that they do tend to escalate according to the degree of processing. Where there are no preferences given to countries, the tariff on raw produce is usually near zero, whereas that for moderately processed products can be prohibitive. The result of such relatively high levels of protection is the encouragement of processing within the domestic market and a reduction in imports. Processing activities have concentrated in regions that were traditionally large net importers, sometimes transforming them into exporters.

In some cases where this industrial policy has involved some form of subsidisation and heavy protection, the export effort has had to be underwritten by government and often produce is 'dumped' on international markets, thereby once again affecting the demand for produce from developing countries.

This paper is not an appropriate vehicle for providing full details of all tariffs placed on imports of processed fruit and vegetables. There is no doubt that the tariffs that are in existence are protective, do inhibit trade and do restrict the level of processing by new suppliers from developing countries. In most cases however, there are considerable preferences for certain developing countries over others and yet in such instances, the tariff advantages have not always created a switch of supply from non-preference to preference countries. This is indicative of the fact that the countries which benefit from preferential tariffs or free access are not in a position to supply the quantities required by the industrial market economies. This would seem to suggest that the problem is more that of <u>appropriate</u> supply than of market protection.

2. <u>Non-tariff barriers</u>

This section includes not only those barriers established by government, be they deliberate or not, but also those that exist by the very nature and structure of the commercial aspects of international trade in processed fruit and vegetables. In fact, in many cases, it is these commercial features that determine the volume, value and direction of trade.

(a) Government non-tariff barriers

In the case of processed fruit and vegetables, government non-tariff barriers can include:

- special levies on processed products which include products which are grown or produced in the importing country. The EEC and North America have used such levies to regulate both the quantities of processed foods and the degree of intensity of their processing;

- quotas and embargos which are either to protect domestic industry, including agriculture, or to dampen down consumption for balance of payments purposes. Japan has been a user of this type of non-tariff barrier in the case of processed foods.

- health regulations creating stringent quality conditions. In many cases, these are justified both in terms of hygiene conditions and the use of harmful chemical additives, pesticides and fertilisers. They can, however, be so complicated and restrictive that they act as a disincentive for developing country suppliers.

There is a general tendency to tighten phytosanitary regulations, often supported by consumer groups. In the case of the United States, the Food and Drug Administration (FDA) are rigorous in their testing and rejection of imported food products. Such rejection can, in some cases, prove costly to developing country suppliers because often an entire consignment will be incinerated as a result of non-conformity to regulations. Small developing country producers cannot accept such a loss, e.g., a 20-tonne container, and are thus discouraged from entering into such a trading relationship. Japan has a very strict food sanitation act which stipulates that edible foods must not contain certain synthetic additions or agricultural chemical residues. Furthermore, all additives have to be clearly indicated on the outside label. There are a myriad conditions and restrictions on the import of processed foods into Japan and the market has historically been restricted, although it is believed that the situation is now changing.

Sometimes, when a pest has been identified as existing in the supplying country, a complete embargo on exports from that country can ensue. The recent injection of poison into a few grapes from Chile provides a clear illustration of how uncertain markets can be.

On the other hand, positive effects can and have emanated from such regulations because, in the last resort, the imposition of strict hygiene control is of benefit to everyone in the trade. It is a fact of life that consumers must be protected against impurities (however defined in food products) and there is no alternative for developing countries but to meet these requirements.

It is not really the existence of strict import controls that limits the demand for the produce of developing countries, but essentially their ability to meet the extra costs involved in adhering to those controls and yet be competitive with countries and companies which are able to do so. Economies of scale, vertical integration and joint venture arrangements are often the key to being able to meet these requirements and still remain profitable.

In other cases however, it is essentially merely a matter of education as to exactly what these requirements are. Many new suppliers either do not seek out this information or are unable to find it, although there are official government publications issued by most major importing countries, providing full details on a product-by-product basis.

- Another form of non-tariff barrier imposed deliberately by government to restrict trade is that of the import licence. In some cases, of course, this is used to reduce the import of a product which is perhaps regarded as possibly detrimental to the welfare of domestic consumers. In its extreme form, this becomes an embargo. In most cases however, import licences are imposed as a way of controlling import expenditure and directing trade flows. The process is, simply, that any importer wishing to import quantities of produce has to apply to the relevant ministry for a licence. The granting of these licences often depends on the country's balance of payments position and is usually a function of the importer's past import performance.

Although in theory they are not a barrier to trade in that they are created to regulate and control trade, they can in effect, slow down trade flows. This can be done quite simply by the process of bureaucratic delay. A classic example is that of the trade in canned pineapples between Malawi and Zimbabwe. As a result of the Federation Agreement of 1956/57, trade between the member countries of the Federation (today called Malawi, Zambia, Zimbabwe, and Botswana) was to be conducted on an open general import licence basis. There were some exclusions to the list of products for security reasons, but essentially they created an environment of free trade.

When both countries joined the new preferential trade area (PTA), it was obligatory to remove the open general import licence system and to replace it with the common external tariff system existing for PTA member countries. The result of putting trade on an import licence basis was that exports of canned pineapples, the major pre-'A export item from Malawi fell from a figure of over K 300,000 in 1981/82 to just over K 40,000 in 1985.

Although import licensing does not of itself restrict trade, the practice of granting such licences can be controlled in a way which can, in the last resort, kill off such trade.

Another example of import-control through licensing is the export of frozen strawberries to Canada. In some months this is open, but as soon as domestic supplies become available, special permission has to be sought to import competing strawberries from outside. Again, theoretically, this is not a barrier to trade, but, a "de facto" delay in the provision of such permission or indeed its refusal, can restrict trade.

- Another non-tariff barrier which is linked to the hygiene and health controls is that of packaging and labelling. Many countries have very precise requirements concerning the types of packs that are acceptable and the details that labels must contain. New hygiene requirements often stipulate specific types of packaging and often the labelling must contain precise details of all ingredients, their percentage inclusion in the product, and their source.

  Some countries also require labels to be printed in their own language and where this involves a different alphabet and phonetics, it can pose problems to developing country producers. This is particularly so for Middle Eastern import markets.

  Failure to adhere to these rules can cause a refusal to allow the importation of a consignment, and even an embargo on produce from the supplying country until packaging and labelling is acceptable. The solution is one of providing the appropriate information to the supplying country producer but once again, the problems of profitability arise in terms of the extra cost involved in printing new labels and providing new, more sophisticated packaging.

(b) Commercial non-tariff barriers

The constraints to export development from the structure, and patterns of behaviour, within the trade itself can, in effect, be very strong non-tariff barriers.

(i) Competition

New developing country suppliers soon discover that the export market for processed fruit and vegetables is an extremely competitive one. For most major markets the main source of supply of processed fruit and vegetables comes either from nearby/neighbouring low-cost countries, from within the economic grouping, or from the country itself. Nearby, low cost producers include; the centrally planned economies of Europe, supplying the EEC; Mexico, supplying the United States; India, Turkey, Jordan, Pakistan, Egypt and Iran, supplying Middle Eastern countries; and Australia, Korea and Taiwan (Province of China), supplying Japan. Equally, individual countries or country economic groupings are increasingly seeking to meet supply needs from their own domestic all-year-round production. New techniques of production and cultivation are allowing not only much longer harvest periods, but also a wider range of fruit and vegetables, including

tropical varieties. The inclusion of Greece, Spain and Portugal into the EEC, for example, has broadened the range of "domestic EEC" produce available to the market. Such produce can take advantage not only of lower transportation costs, but also of the range of external trade barriers existing for the Community.

An example of the kind of problems that such a supply pattern can create is that of EEC demand for frozen strawberries. This is met mainly by supplies from Poland. The crop is sold, in advance, at certain times during the year at low prices. Partly, this reflects low wage levels and low transport costs, since the crop is trucked in refrigerated containers overland into the EEC at appropriate times. It is known that importers in the EEC get discounts and that the suppliers are often prepared to offer long credit periods. Importers are prepared to place orders for large bulk quantities, but do receive extremely low price offers in return. This is also the case for canned, bottled and dehydrated fruit and vegetables from Eastern European countries, which are trucked overland into the EEC at low prices.

For the developing country, producing at a distance with inefficient communications, lack of appropriate packaging material, and mainly small-scale capacity levels, it is very difficult to compete effectively in such markets. Although in some cases their wage levels are low, they are not often as low as some of those in Eastern European countries. Furthermore, any advantages of low wage costs are usually overcompensated for by high packaging costs, high fuel costs, low productivity (capital/output and labour/output rations), relatively high transport costs, and tariffs.

(ii) Distribution and purchasing

The situation is often made more difficult for the developing country supplier by the actual structure of distribution of produce and the normal patterns of purchasing. Because, on the whole, supplies coming from developing country suppliers are not large scale, not regular and are variable in quality, the major buyer, be they multiple chainstores for final goods or large juicing, blending, baking or jam manufacturers for intermediate products, tend to use importers/agents. Because of variations in quality, major buyers also prefer to have an agent/importer as a buffer between them and the developing country suppliers. Although they would normally prefer to buy direct from suppliers, their large size and bulk requirements tend to make them prefer to only have direct contracts with large well established suppliers.

They thus tend to concentrate on long-term contracts with nearby suppliers for the lion's share of their needs.

When they do require small quantities of different types of produce, or if there is some shortage in supply from regular suppliers, they tend to buy on the spot. The fact that most of them hold large inventories means that they can run down inventory for a period of time while searching the market for good prices. During this process they contact their established network of agents and select according to the best offer. The purchasing patterns of large buyers are thus mainly a combination of long-term contracts, vertical integration-ownership of supply sources, and use of importers and agents.

For the small developing country supplier it is very difficult to agree terms with a large buyer in a developed market economy. Normally the large buyer's requirements are so stringent in terms of quality, packaging, quantity, regularity and price that the small supplier is forced to sell to an importer or agent who will seek the best available market.

The majority of small developing country suppliers sell their products via agents/importers. Such a system can operate efficiently, especially if the clients are well chosen, efficient and reliable. Selling in this way does, however, introduce a certain amount of insecurity into the export effort of the supplier, especially where the arrangement is on a commission basis. The dichotomy for the supplier is whether or not to trade with an importer at a fixed price without really being able to test the fairness of that price in terms of market conditions, or to rely on an agent and pay him a commission, again, without having any reliable means of assessing his honesty and the various deductions made from the achieved wholesale price.

On the other hand, agents and importers, be they of an appropriate size, are possibly the best means available to small suppliers for developing the market. They tend to work specifically for the client, in that increasing sales of the product means increasing revenue to them. Good agents do undoubtedly exist, but the very nature of the trade tends to force the small developing country supplier into the uncertain situation of having to identify and use small-scale traders from a distance.

The developing country supplier, working from a distance and not having funds to finance a market visit for agency selection is, to some extent, shooting in the dark. In the past this has led to many instances of bad debts and dishonest accounting, causing serious problems for the small supplier and his eventual disappearance from the market. There are also problems in delay of payment and false claims on consignment. The developing country supplier becomes a price taker with no market control whatsoever. Furthermore, those agents that are efficient are sought out by all suppliers, have a very large portfolio, and are able to some extent to dictate terms. Also, they may not have sufficient time and resources to devote to the particular market development needs of the product of one supplier, especially if that supplier is relatively small.

Generally speaking therefore, the market for processed fruit and vegetables is characterised by large-scale suppliers working either from nearby countries or within the country economic grouping itself, selling to large industrial users or multiple chainstores on long-term bulk contracts. Such trade is characterised by large discounts, long credit terms, immediate telecommunication link-ups for ordering and supply, and fast delivery times. Many developing country suppliers work on the margins of such a trade.

There are a number of suppliers who have created their own presence in developed market economies. This is particularly the case for Brazil which is a market leader, notably in fruit juices. Countries such as Brazil, South Africa, Israel, and some other Latin American countries have the financial resources enabling them to supply bulk quantity at competitive prices. They also have large promotional budgets and often have their own offices in the developed markets.

Brand images are created and consumer loyalty engineered through an expensive programme of advertising and merchandising promotion. In some cases, these country suppliers have become price leaders in particular products. Again, the small developing country supplier is not able to compete effectively against such large supplying organisations with their low prices resulting from economies of scale.

III. TECHNICAL CO-OPERATION

A. Integrated approach

There are a range of possible methods of assistance that could be directed at developing country suppliers to help them come to terms with the constantly changing market. Such forms of assistance, some of which might be provided by international aid organisations, should reflect the integrated multifaceted nature of the constraints to export market development.

Constraints exist at all levels in the production and marketing chain, i.e., from the farm, to the final consumer. All the problems interrelate and magnify each other in increasing the difficulty of developing countries becoming successful in a highly competitive market.

It is necessary, therefore, to adopt an integrated approach if they are to be alleviated in any way. On the supply side this means assistance at farm level, at post-harvest level, and at factory level, with areas such as husbandry techniques, plant selection, fertilisation and irrigation, handling and storage, transportation to factory, factory production techniques, purchase of machinery, packaging, financial management, and international transportation. On the demand side, at market level, assistance is required with selection of target markets and appropriate channels of distribution, targeting of buyers, assessment of competition, pricing, packaging, hygiene requirements, labelling, payment and delivery terms, image creation, promotion and advertising.

Some of the above areas require direct assistance from government, both in terms of creating an appropriate financial, fiscal and entrepreneurial environment within the producing country and in terms of lobbying importing countries to reduce or remove any protective barriers to trade development.

Assistance of a more functional nature is also required however, in terms of getting the systems of production, both of the raw material and of the processed product in tune with market requirements.

This requires assistance both at sectoral and at enterprise level.

B. Market-led development

Production cannot proceed solely on the basis of the availability of the raw material. The crucial variable is the availability of potentially profitable market opportunities. The first step in any methodology to deal with the constraints identified above is to identify and assess market opportunities. The availability of domestic

raw materials will of course facilitate matters but there are many examples of countries successfully exploiting market opportunities where they have comparative advantage in resources other than raw material supply.

Any production strategy, including modification of existing production structures must be "market-led". This involves compilation of market information on processed fruit and vegetables, to allow for an assessment of market potential. This should lead to the development of a marketing strategy tailored to the precise circumstances of the country and product concerned. The marketing strategy will provide the guide lines, the targets and the limitations for the development of the production units be they at sectoral or enterprise level. Details on market size, prices, services offered by competitors, packaging requirements, labelling and hygiene requirements, tariffs, quotas, etc., commercial distribution characteristics, minimum size of orders, quality and size, will allow decisions to be made as to whether or not a processing unit could be financially viable. This market-led approach not only provides information on attainable returns, but also provides the "bottom line" to any investment decisions.

C. Types of technical co-operation activities

A methodology for international organisations to provide assistance in alleviating the problems facing the development of fruit and vegetables processing, should therefore be a function of the basic marketing parameters of the product concerned. Such a methodology would manifest itself in the following way:

1. Market surveys and assessments - reports
2. Marketing intelligence/market news services
3. Seminars/workshops on marketing
4. Trade missions and market familiarisation visits
5. Participation at trade fairs
6. Advisory activities on:

   (a) growing produce for processing
   (b) post harvest handling
   (c) processing techniques
   (d) management systems
   (e) cost control
   (f) costing and pricing
   (g) inventory control
   (h) training of labour
   (i) production planning and link with purchasing
   (j) sourcing of raw materials and imported - intermediate products
   (k) hygiene, pest and bacteria control
   (l) financing and investment promotion
   (m) domestic and international government regulations
   (n) sectoral representation and lobbying
   (o) packaging
   (p) international transportation
   (q) selection of target markets and distribution channels
   (r) promotion techniques

The ITC has, for many years, concerned itself with an integrated approach to export development for processed fruit and vegetables. This has mainly taken the form of supply or export potential studies, market surveys, various marketing missions, services on product adaptation, and the whole range of assistance mentioned under "methodology" above. Such assistance has in the past, been directed at national institutions, parastatal organisations, business associations, cooperatives and farmers groups. The aim has been to strengthen the sectors as a whole.

ITC's product and market development activities generally evolve over five-year periods through three stages. The first is an overall assessment of the current world supply-and-demand situation and its prospects for the future. This is followed by the dissemination of research findings in developing countries, the formulation of national export development plans, and, thirdly, implementation in selected countries of export development and market penetration programmes at the enterprise level. In planning for such activities, the following matters are given careful consideration: the selection of participating enterprises; their need for assistance; the extent to which they are likely to commit themselves to, and participate financially in such activities; the availability of funds from other sources; the nature and availability of the specialised consultants required; and the need to ensure confidentiality of information while allowing non-participating national institutions and enterprises to benefit from information obtained under the project.

In recent years the ITC has given strong emphasis to the "enterprise - oriented approach", which is distinct from the type of enterprise <u>related</u> sectoral programmes mentioned above. The "enterprise - oriented approach" per se, is defined as a group of projects in which the technical co-operation is provided direct to enterprises. This co-operation, which is aimed both at supply, and market forces, is meant to be an integrated and tailored programme of assistance for individually selected enterprises. It is conducted within the framework of an export expansion plan, and it attempts to have specific and quantifiable export targets. Such enterprises can be parastatal organisations, joint venture enterprises between public and private sectors, and private businesses. Consideration is also given to the spread of the benefits of the enterprise approach to the entire sector, where this is possible.

Possible assistance to enterprises can encompass a wide range of services, on general management, production planning, cost reduction, quality improvements, product adaptation and packaging, capacity utilisation, training, market research, physical distribution, information, promotion, advertising, etc.

Such technical co-operation normally takes two basic forms: as a component of an integrated project for a sector/country, or as an entirely separate project in its own right. An illustration of the main elements in such a programme is provided in annex II. The illustrative case is one of technical co-operation in the export development of canned pineapples into the United States.

One example of an "enterprise - oriented" programme carried out by the ITC in recent years, is for fresh and frozen strawberries from Costa Rica to Canada and Europe. This was part of a regional project

providing concentrated export development assistance to a selected number of enterprises, in Central America, producing/exporting high quality foodstuffs. The enterprise selected for Costa Rica was an agricultural cooperative made up of nearly 50 small scale producers. The cooperative had already started exporting fresh strawberries to the United States, but required assistance in diversifying and broadening its markets, especially for surplus strawberries at certain times of the year. The cooperative had access to a nearby freezing facility. The ITC provided assistance in:

(a) strawberry horticulture, an adviser visited farms in Costa Rica and gave advise on techniques for improving the quantity and quality of the crop.

(b) strawberry processing, advice on the physical feasibility of freezing of strawberries by the cooperative - equipment, type of process, size of plant and raw material requirements.

(c) export marketing of fresh and processed strawberries. A market survey/trade mission was carried out in Canada, the United Kingdom, the Netherlands, and F.R. Germany. Recommendations were made concerning specification, timing, prices, transportation, distribution mechanisms and potential demand for frozen strawberries. The report provided a "bottom line" CIF price, which allowed the cooperative to assess the feasibility of processing frozen strawberries for export.

The processing adviser revisited the cooperative for one month to assist with a pilot run to produce one container of frozen strawberries.

The above range of enterprise-oriented assistance was provided in a rational and integrated sequence, which finally led to a trial shipment to identified importers. It also led to a significant increase in the export of fresh strawberries to new customers in Europe.

IV. General comment

The array of constraints identified above, in terms of supply problems, demand trends, tariff barriers, and non-tariff barriers, both of statutory and commercial origin, all combine to make the exporting of processed fruit and vegetables an extremely complex and uncertain process. Yet in many interviews and market research activities carried out by the ITC over the past ten years or so, one basic argument has been put forward by the import trade, i.e., that they would always be pleased to receive offers of quality produce, in regular quantities, at appropriate prices, from new suppliers. Many agents/importers representing small suppliers from developing countries are continually arguing that the major constraint to their expansion of the market is the impossibility of getting regular supplies of good quality produce.

Even with existing constraints to market development, it thus appears that there is some unexploited market potential for certain product groups. As previously identified, it is often the case that countries with significant disadvantages in terms of tariff protection are the major suppliers of product to a market. The size of their trade is an indication of the unexploited potential available to countries being offered preferential market access. There are examples of individual companies achieving success in spite of market constraints; for example, hot pepper sauce from Jamaica and Dominica, frozen strawberries from Mexico and Chile, canned grapefruit from Cyprus, bottled mangoes from the Caribbean, canned and frozen exotic fruit juices and pulps from several developing countries, such as India, Brazil, Colombia, Kenya and Peru.

These success stories are unfortunately, to some extent, the exceptions which prove the rule, and given the nature of the market, such success is not guaranteed. The constant flux of the market can mean that a product which is selling successfully today will not be able to reap adequate returns in the near future. A constant watch needs to be kept on the market to assist in prediction of changes in basic parameters, including systems of trading, rules and regulations, and demand fashions.

ANNEX I

Table 1

World imports of processed vegetables and fruit, by product groups, 1983-1987

(in $US million)

Product and origin	1983		1984	1985	1986	1987	
	Value	% of total				Value	% of total
Total imports of vegetables and fruit	7,289.2	100.0	8,671.6	8,246.3	9,625.6	11,698.0	100.0
From: developed countries	4,439.2	60.9	4,961.1	4,864.1	5,945.4	7,221.3	61.7
developing countries	2,611.1	35.8	3,478.1	3,139.2	3,358.5	4,118.2	35.2
centrally planned economies (Europe, incl. USSR)	227.7	3.1	220.0	231.4	304.7	336.1	2.9
miscellaneous	11.2	0.2	12.3	11.2	16.8	22.3	0.2
OF WHICH:							
Vegetables	3,502.8	100.0	3,856.2	3,762.2	4,525.6	5,539.8	100.0
From: developed countries	2,319.1	66.2	2,550.3	2,496.9	3,069.7	3,758.7	67.8
developing countries	1,078.9	30.8	1,204.4	1,167.6	1,341.6	1,660.7	30.0
centrally planned economies (Europe, incl. USSR)	95.1	2.7	90.1	87.5	101.0	103.7	1.9
miscellaneous	9.7	0.3	11.4	10.0	13.3	16.7	0.3
Fruit (other than juices)	1,926.9	100.0	2,040.5	2,003.6	2,450.0	2,903.8	100.0
From: developed countries	1,155.0	59.9	1,204.6	1,197.3	1,520.3	1,831.4	63.1
developing countries	681.4	35.4	746.5	720.9	813.6	942.5	32.4
centrally planned economies (Europe, incl. USSR)	89.7	4.7	88.8	84.6	114.0	127.6	4.4
miscellaneous	0.8	-	0.6	0.7	1.9	2.3	0.1
Fruit and vegetable juices	1,859.5	100.0	2,774.9	2,480.5	2,650.0	3,254.3	100.0
From: developed countries	965.1	51.9	1,206.3	1,169.9	1,355.5	1,631.2	50.1
developing countries	850.8	45.8	1,527.2	1,250.8	1,203.3	1,515.0	46.6
centrally planned economies (Europe, incl. USSR)	42.9	2.3	41.1	59.3	89.6	104.8	3.2
miscellaneous	0.7	-	0.3	0.5	1.6	3.3	0.1

Source: COMTRADE Data Base of the United Nations Statistical Office.

Note: This table covers the following headings in the Standard International Trade Classification (SITC Rev. 2):

054.6 Vegetables, frozen or in temporary preservative.

056.1 Vegetables, dried, dehydrated or evaporated (excluding leguminous vegetables), whole, cut, sliced, broken or in powder, but not further prepared.

056.5 Vegetables, prepared or preserved, n.e.s.

058.2 Fruit, fruit-peel and parts of plants, preserved by sugar (drained, glacé or crystallized).

058.3 Jams, fruit jellies, marmalades, fruit purée and fruit pastes, being cooked preparations, whether or not containing added sugar.

058.5 Fruit juices (including grape must) and vegetable juices, whether or not containing added sugar, but unfermented and not containing spirit.

058.6 Fruit, temporarily preserved.

058.99 Fruit and nuts, prepared or preserved, n.e.s.

Table 2 gives a more detailed breakdown of the products covered.

The discrepancies appearing between totals in Table 1 and totals in Table 2 are due to the fact that some importing countries only provide trade statistics for product groups, whereas other countries provide statistics for individual products.

Table 2

World imports of processed vegetables and fruit, by product, 1983-1987

(in $US million)

Product and origin	1983		1984	1985	1986	1987	
	Value	% of total				Value	% of total
054.61 Vegetables, frozen	553.9	100.0	676.7	794.6	1,008.2	1,316.4	100.0
From: developed countries	463.9	83.8	551.9	621.4	796.6	1,041.9	79.1
developing countries	70.3	12.7	100.6	149.1	182.6	238.1	18.1
centrally planned economies (Europe, incl. USSR)	13.0	2.3	16.1	15.7	18.9	25.6	1.9
miscellaneous	6.7	1.2	8.1	8.4	10.0	10.7	0.8
054.62 Vegetables, provisionally preserved (unfrozen, untinned)	152.2	100.0	168.5	169.0	194.8	239.8	100.0
From: developed countries	56.3	37.0	57.0	53.1	66.4	78.8	32.9
developing countries	89.5	58.8	104.6	103.0	109.4	146.6	61.1
centrally planned economies (Europe, incl. USSR)	5.5	3.6	6.1	12.7	18.5	14.1	5.9
miscellaneous	0.9	0.6	0.8	0.2	0.5	0.3	0.1
056.1 Vegetables, dried, dehydrated (excl. leguminous)	514.9	100.0	515.4	477.2	556.8	653.8	100.0
From: developed countries	266.1	51.7	284.8	261.5	292.6	320.3	49.0
developing countries	227.9	44.3	211.6	196.0	242.8	309.2	47.3
centrally planned economies (Europe, incl. USSR)	20.3	3.9	17.7	18.9	20.5	22.5	3.4
miscellaneous	0.6	0.1	1.3	0.8	0.9	1.8	0.3
056.51 Vegetables and fruit, prepared or preserved by vinegar or acetic acid	177.5	100.0	210.2	206.3	258.0	315.2	100.0
From: developed countries	99.6	56.1	119.4	111.2	154.8	180.3	57.2
developing countries	65.8	37.1	76.5	81.2	90.2	117.3	37.2
centrally planned economies (Europe, incl. USSR)	12.0	6.8	14.2	13.8	12.6	16.7	5.3
miscellaneous	0.1	-	0.1	0.1	0.4	0.9	0.3
056.59 Vegetables, prepared or preserved, n.e.s. (incl. canned)	2,089.2	100.0	2,268.1	2,092.8	2,479.7	3,010.5	100.0
From: developed countries	1,428.6	68.4	1,531.3	1,441.3	1,750.1	2,135.7	70.9
developing countries	621.6	29.8	706.7	632.4	708.1	848.2	28.2
centrally planned economies (Europe, incl. USSR)	37.7	1.8	29.1	18.5	20.0	23.6	0.8
miscellaneous	1.3	-	1.0	0.5	1.5	3.0	0.1
TOTAL VEGETABLES	3,487.7		3,838.9	3,739.9	4,497.5	5,535.7	

World imports of processed vegetables and fruit (cont'd)

(in $US million)

Product and origin	1983		1984	1985	1986	1987	
	Value	% of total				Value	% of total
058.2 Fruit, preserved by sugar	78.8	100.0	82.1	79.5	94.6	111.2	100.0
From: developed countries	53.5	67.9	52.7	50.1	66.9	81.9	73.7
developing countries	25.0	31.7	29.2	29.2	27.3	29.0	26.1
centrally planned economies (Europe, incl. USSR)	-	-	0.1	-	0.1	0.1	0.1
miscellaneous	0.3	0.4	0.1	0.1	0.2	0.2	0.1
058.3 Fruit jams, jellies, marmalades	167.3	100.0	194.0	171.8	230.8	285.3	100.0
From: developed countries	129.9	77.6	143.2	140.6	189.0	240.3	84.2
developing countries	27.5	16.4	39.8	22.5	30.1	34.4	12.1
centrally planned economies (Europe, incl. USSR)	9.8	5.9	10.9	8.4	10.7	9.5	3.3
miscellaneous	0.1	0.1	0.1	0.3	1.0	1.1	0.4
058.61 Fruit, frozen, without sugar	260.1	100.0	249.5	241.9	358.3	457.0	100.0
From: developed countries	171.2	65.8	162.9	156.5	236.7	300.5	65.8
developing countries	23.6	9.1	21.5	22.6	34.8	44.3	9.7
centrally planned economies (Europe, incl. USSR)	51.3	19.7	51.6	50.4	71.1	85.0	18.6
miscellaneous	14.0	5.4	13.2	12.4	15.6	27.2	5.9
058.62 Fruit, frozen, with sugar	29.3	100.0	30.1	28.7	46.7	58.2	100.0
From: developed countries	4.5	15.4	7.1	8.2	18.0	14.2	24.4
developing countries	20.2	68.9	19.3	15.7	23.1	39.9	68.6
centrally planned economies (Europe, incl. USSR)	4.6	15.7	3.7	4.8	5.6	4.1	7.0
miscellaneous	-	-	-	-	-	-	-
058.63 Fruit, provisionally preserved (unfrozen)	87.0	100.0	99.6	81.8	108.6	137.5	100.0
From: developed countries	36.1	41.5	37.3	34.0	45.7	48.4	35.2
developing countries	44.5	51.1	55.7	43.1	56.2	81.1	59.0
centrally planned economies (Europe, incl. USSR)	5.2	6.0	5.1	3.4	4.5	5.3	3.8
miscellaneous	1.2	1.4	1.5	1.3	2.2	2.7	2.0
058.64 Fruit-peel, fresh, frozen, dried or provisionally preserved	12.7	100.0	11.9	10.3	11.3	14.3	100.0
From: developed countries	10.3	81.1	9.7	8.5	9.0	12.3	86.0
developing countries	2.3	18.1	2.0	1.6	2.1	1.9	13.3
centrally planned economies (Europe, incl. USSR)	-	-	-	-	-	-	-
miscellaneous	0.1	0.8	0.1	0.1	0.2	0.1	0.7
058.99 Fruit and nuts, prepared or preserved, n.e.s. (incl. canned)	1,286.7	100.0	1,369.8	1,387.7	1,596.9	1,839.0	100.0
From: developed countries	737.7	57.3	781.7	791.8	945.8	1,116.6	60.7
developing countries	535.6	41.6	577.0	584.2	636.0	706.5	38.4
centrally planned economies (Europe, incl. USSR)	13.1	1.0	10.9	11.5	14.8	15.4	0.8
miscellaneous	0.2	-	0.2	0.1	0.3	0.5	-
TOTAL FRUIT (other than juices)	1,921.9		2,037.0	2,001.7	2,447.2	2,902.5	

World imports of processed vegetables and fruit (cont'd)

(in $US million)

Product and origin	1983		1984	1985	1986	1987	
	Value	% of total				Value	% of total
058.51 Orange juice	1,017.2	100.0	1,724.8	1,452.9	1,306.3	1,720.3	100.0
From: developed countries	371.1	36.5	481.3	453.3	404.1	561.7	32.7
developing countries	646.0	63.5	1,243.3	999.4	901.9	1,158.0	67.3
centrally planned economies (Europe, incl. USSR)	0.1	-	0.2	0.1	0.1	0.1	-
miscellaneous	-	-	-	0.1	0.2	0.5	-
058.52 Grapefruit juice	56.4	100.0	64.3	76.0	81.1	115.3	100.0
From: developed countries	50.1	88.8	57.1	68.9	73.7	102.2	88.6
developing countries	6.3	11.2	7.2	7.1	7.4	12.9	11.2
centrally planned economies (Europe, incl. USSR)	-	-	-	-	-	0.2	0.2
miscellaneous	-	-	-	-	-	-	-
058.53 Other citrus fruit juice	52.5	100.0	87.5	73.8	107.0	96.6	100.0
From: developed countries	32.0	61.0	42.1	44.7	57.8	56.3	58.3
developing countries	20.4	38.9	45.3	29.0	49.2	40.3	41.7
centrally planned economies (Europe, incl. USSR)	-	-	-	-	-	-	-
miscellaneous	-	-	-	-	-	-	-
058.54 Pineapple juice	71.9	100.0	89.4	106.0	115.1	121.2	100.0
From: developed countries	23.6	32.8	26.7	28.3	31.7	41.3	34.1
developing countries	48.3	67.2	62.7	77.6	83.4	79.8	65.8
centrally planned economies (Europe, incl. USSR)	-	-	-	-	-	-	-
miscellaneous	-	-	-	-	-	-	-
058.55 Tomato juice	20.7	100.0	23.8	21.7	31.0	39.4	100.0
From: developed countries	18.4	88.9	19.7	17.2	25.5	31.9	81.0
developing countries	2.1	10.1	4.0	4.5	5.4	7.4	18.8
centrally planned economies (Europe, incl. USSR)	0.1	0.5	0.1	-	0.1	-	-
miscellaneous	0.1	0.5	-	-	-	-	-
058.57 Juice of other fruit or vegetables	511.8	100.0	625.2	609.9	839.7	953.2	100.0
From: developed countries	392.6	76.7	478.9	474.6	653.2	703.7	73.8
developing countries	89.8	17.5	116.6	92.2	114.6	167.4	17.6
centrally planned economies (Europe, incl. USSR)	28.9	5.6	29.5	42.9	70.8	80.6	8.5
miscellaneous	0.4	0.1	0.1	0.2	1.0	1.5	0.1
058.58 Mixtures of fruit or vegetable juices	36.2	100.0	62.1	30.9	61.6	74.7	100.0
From: developed countries	33.8	93.4	51.1	34.0	56.2	69.5	93.0
developing countries	2.4	6.6	11.0	2.8	5.0	4.1	5.5
centrally planned economies (Europe, incl. USSR)	-	-	-	0.1	-	-	-
miscellaneous	-	-	-	-	0.3	1.1	1.5
TOTAL JUICES	1,766.7		2,677.1	2,377.2	2,541.8	3,120.7	
TOTAL FRUIT AND VEGETABLES	7,176.3		8,553.0	8,118.8	9,486.5	11,558.9	

Source: COMTRADE Data Base of the United Nations Statistical Office.

Annex II

Illustrative project main design elements framework for a hypothetical enterprise

Design elements		Success criteria	Verifiers	External factors
1.	IMMEDIATE OBJECTIVES			
1.1	Production related			
1.1.1	Lowering the sugar content of canned pineapples	Sugar content reduced to "x" per cent on products for the US market	Laboratory tests by the company	Purchase by management of additional equipment at estimated cost of $US 10,000
1.1.2	Reduction of the use of chemical additive "z" in canned pineapples	Chemical additive(s) reduced to ... per cent	Laboratory reports by the US Food and Drug Administration	Change of technology by the company management and availability of natural additives to replace chemical additive "z"
1.1.3	Introduction of new labels for canned pineapples as required by US markets	Newly designed labels showing the contents of the canned pineapples actually used	Company records	Printing decision by the company of 10 million new labels
1.2	Promotional			
1.2.1	Initial penetration into the West Coast markets of the US	Trial orders for 10,000 cans obtained from US importers/supermarkets by mid 1988	Company records on trial orders (correspondence with importing firms)	Increase of the tax rebate rate by the Government from 10 to 20 per cent
		Firm export orders for 1 million cans canned pineapples secured by first half of 1989	Correspondence with the importing firms and supporting documents	Completion of cargo handling facilities at the airport by early 1988 as planned
		$US 200,000 exports realized by December 1988	Accounts of the company, LCs, banks' accounts, etc.	Organization by the Government of participation in the Int. Food Fair in June 1988
2.	OUTPUTS			
2.1	Production related			
2.1.1	The existing technology used by company A adapted, reducing the sugar content in pineapple processing and replacing the chemical additive "z" with natural ingredients	The new technology should be similar to the ones already applied by company A (multinational) selling in the US market in light of consumer preferences and US Drug Administration rules and guidelines	US Drug Administration requirements regarding the contents of canned food products, laboratory tests, and company/project records	Availability of qualified food technologists
2.1.2	Four different new designs developed for canned pineapples labels for two different can sizes	Test marketing results in the US showing a minimum of 70 per cent acceptance	Company records and practices	Not applicable
2.2	Promotional			
2.2.1	A market research report on the West Coast of the US market identifying requirements for canned pineapples and training channels, display, distribution, delivery practices of major supermarket chains and recommending promotional programmes	The market research should contain information on the requirements and preferences of US consumers and importers/supermarkets, should identify at least 3 main supermarket chains which may be potential buyers, and should examine the competitors' positions	Company records and consultant's report	
2.2.2	A set of samples prepared using the new production technology and labels	The sample should consist of at least ... pieces in three different sizes	Company and project records	
2.2.3	A report on business contacts established with main importers/ supermarkets	The company marketing representatives should have business negotiations with a minimum of ten importers and supermarket chain buyers	Consultant's and company records on the marketing tour to the West Coast of the US	Position taken by the identified importers and buyers of the supermarket chains in the US
2.24	Offers for export contracts prepared for the company including prices, delivery and payment conditions	At least half of the importers met in the US maintaining serious contacts with the company. Interviews with the US importers contacted	Company/project records and copies of offers made containing company's pricing policy, and papers prepared on company's negotiating position	

Design elements		Success criteria	Verifiers	External factors
4.	INPUT REQUIREMENTS			
4.1	Production related			
4.1.1	A food technologist for a total of 3 w/m — 2 w/m in 1988 and 1 w/m in 1989	A minimum of ten years' practical experience of the consultant as a food technologist in a well-established fruit canning company should enable him/her to carry out the planned activities within the time period envisaged in this project document	Curriculum vitae of the consultant	Availability of the consultant for the period required
4.1.2	Label design consultant - 2 w/m in 1988	The consultant within the two-month period envisaged in the company should be able to carry out the task specified provided that he/she has at least five years' experience in a reputable design firm	Curriculum vitae of the consultant	Availability of the consultant during the five-year period specified
4.2.	Promotional			
4.2.1	Market research consultancy subcontracting to a US firm (US$ 50,000)	The US firm to be subcontracted should preferably have conducted similar services to ITC satisfactorily	References of the US consulting firm	Not applicable
4.2.2	Short-term consultant on marketing in the US to arrange the marketing mission (2 w/m)	The consultant should have a minimum of ten years' marketing experience in the US	CV of the consultant	Not applicable
4.2.3	A trade fair participation specialist (1 w/m)	The consultant should have extensive experience in organizing trade fair participation in the US	CV of the consultant	Not applicable
4.2.4	Market testing in the US West Coast (subcontracting to a US company - US$ 30,000)	The consulting firm to be engaged should have a large portfolio of experience in testing of consumer reaction	Information on the company	Not applicable

Design elements	Success criteria	Verifiers	External factors
3. ACTIVITIES			
3.1 Production related			
- Assessing the technological processes used by two well-known companies selling sizeable amounts of canned pineapples in the US markets;			
- Formulating recommendations on changes required on the technology presently used in order to reduce the sugar content and to replace the chemical additives with natural additives;			
- Examination of the US Drug Administration requirements for the type of information which should exist on labels for food items;			
- Review of label designs known to be found attractive by US consumers;			
- Preparing new designs for the labels to be used on the canned pineapples to be produced for the US market			
3.2 Promotional			
3.2.1 Carrying out a market survey in the West Coast of the US assessing market requirements (consumer preferences and health regulations) for canned pineapples, identifying potential buyers, established business practices, other trading channels, main competitors and their pricing practices, delivery conditions, etc.			
3.2.2 Making arrangements for appointments between the company marketing staff with at least ten potential buyers including supermarket chains through organizing a marketing tour in the US West Coast			
3.2.3 Preparation of attractive samples of canned pineapples in various sizes			
3.2.4 Arranging for the participation of the company in the 1988 I.A. International Food Fair			
3.2.5 Conducting market testing of the company's newly improved canned pineapples			