

Opportunities for Export of Fruits and Vegetable Based Products

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A Global Priority:

Increasing fruit and vegetable consumption becomes a global priority According to FAO report. While research shows nine or ten servings of fruits and vegetables a day is optimal, dietary guidelines tend to recommend a minimum of five servings (400 g excluding potato/cassava) a day. Yet studies show that most populations are consistently not reaching even half this goal. The fruits and vegetables are indispensable because they are full of vitamins and minerals, which serve an array of important functions in the body: Vitamin A, for instance, maintains eye health and boosts the body's immunity to infectious diseases; potassium promotes proper nerve and muscle functioning; and B-vitamins are necessary for converting food into energy. (Folate, one of the most common B-vitamins found in produce, can also significantly reduce the risk of neural tube birth defects in newborns and contribute to the prevention of heart disease.)

Other micronutrients in fruits and vegetables, such as vitamin C and vitamin E, serve as powerful antioxidants that can protect cells from cancer-causing agents; vitamin C, in particular, can increase the body's absorption of calcium. (Low iron levels can lead to anaemia, one of the most severe nutrition-related disorders, affecting about 2 billion people worldwide.) Many fruits and vegetables are also very high in dietary fibre, which can help move potentially harmful substances through the intestinal tract and lower blood cholesterol levels. Much of fruits and vegetables' potency is believed to also come from substances known as "phytochemicals".

A challenge — and an opportunity — for agriculture

The FAO's simple message like "Eat more fruits and vegetables" has gotten attention but, the real challenge may lay before the world's food supply and distribution systems. FAO is playing its part to make sure agriculture, particularly in the developing world, can help meet the demand for healthy foods.

The new Food Pyramid from USDA has clearly shown more importance of fruits and vegetables in consumer's diet. The consumption of fresh fruits and vegetables in USA has been increasing but the processed vegetable consumption is on decline. Furthermore, a report from WHO has presented compelling case for consumption of more fruits and vegetables because: (1) approximately, 1.7 million (2.8%) of deaths worldwide are attributable to low fruit and vegetable consumption. (2) Low fruit and vegetable intake is among the top 10 selected risk factors for global mortality. (3) Worldwide, insufficient intake of fruit and vegetables is estimated to cause around 14% of gastrointestinal cancer deaths, about 11% of ischaemic heart disease deaths and about 9% of stroke deaths. Adequate consumption of fruit and vegetables reduces the risk for cardiovascular diseases, stomach cancer and colorectal cancer. Incorporation of fruit and vegetable consumption as part of national noncommunicable disease (NCD) prevention and school health programs is a central aim.

Prevalence of low fruit and vegetable consumption

Total of 77.6% of men and 78.4% of women consumed less than the minimum recommended five daily servings of fruits and vegetables. In five countries, women were significantly less likely to consume fruits and vegetables than men: Comoros, Dominican Republic, Guatemala, Morocco, and Paraguay. Women consumed significantly more fruits and vegetables in ten countries: Czech Republic, Estonia, Hungary, Slovakia, Slovenia, Spain, Swaziland, Ukraine, Uruguay, and Vietnam. The prevalence of low fruit and vegetable consumption ranged from 36.6% (Ghana) to 99.2% (Pakistan) for men and from 38% (Ghana) to 99.3% (Pakistan) for women.

Overview of Patterns of the Global Fruit and Vegetable Trade

Fruits and vegetables have claimed an increasing share of world agricultural trade from a nominal value of \$3.4 billion (10.6%) in 1961 to nearly \$70 billion (16.9%) in 2001. The variety of offerings has increased as well. Bananas, apples, oranges, and tomatoes accounted for over 30% of the total fruit and vegetable trade in the 1960s and 1970s, but by the end of the 1990s they accounted for less than 20%. Fresh grapes, fresh vegetables, frozen potatoes, tree nuts, and other fruit and vegetable products are entering world trade channels in increasing quantities.

The growth rate of fruit and vegetable juices is the highest (7.1%) followed by vegetable derived products (5.2%). In the 30 years the composition of export changed to have increase in fruit juices and vegetable products and decrease in fruit products.

The largest region for export destination by the 30 top exporters has been EU followed by the NAFTA countries. This is evident in the fresh fruit and vegetable categories import and export categories. The processed categories show similar trend except the Southern hemisphere imported more juices.

Basic Determinants of Global Trade in Fruits and Vegetables

1. **Climate, Location, and Growing Season:** The fruits and vegetables grown in a particular region are closely tied to the climate. Also, the fresh produce is shipped to accessible markets without being spoiled. The price fluctuates from season to non-season.
2. **Technology Aids Trade in Fresh Produce:** Advances in transportation, in combination with other technological developments that have complemented the progress in transportation, have helped reduce delivery time, maintain product quality, and cut shipping costs. Controlled atmosphere (CA) technologies have extended the shelf life of perishable products and continue to improve shelf-life.
3. **Changing Demand Stimulates Fruit and Vegetable Trade:** Food Guide Pyramid—the diagram of nutritional recommendations developed by the USDA and Health and Human Services, which advises Americans to eat five to nine servings of fruit and vegetables per day.
4. **Drive to Globalize Markets in Fruits and Vegetables:** Year-round consumer demand for high-quality fresh fruits and vegetables is a critical influence in global changes in the fruit and vegetable trade.
5. **Implications of Globalization for the Produce Industry:** A U.S. firm might also have a joint venture with a firm in a foreign country to produce a crop to be sold in the United States. In some cases, U.S. firms may merge with a foreign supplier. Many U.S. shippers and grower/shippers also market for foreign growers and charge a sales commission. Some U.S. grower cooperatives have foreign members who must also meet the organizations' domestic production standards.
6. **Impact of Retail Consolidation on the Produce Industry:** Consolidation in the retail sector, both in the United States and in many countries around the world, also has an impact on the supplier/buyer relationship. Large retailers desire large volumes of consistent products to provide uniformity across all their stores, which may be more easily supplied by larger shippers. Recent research has shown that retailers buying a select group of produce items acquired 91% of the volume from their top four suppliers.

NAFTA Trade in Fruits and Vegetables

The United States, Mexico, and Canada accounted for 19% of the value of world fruit and vegetable exports during 1999-2001, with the three countries ranking 1st, 7th, and 10th, respectively, as exporters. In all three countries, there has been an expansion in all facets of fruit and vegetable exports in fresh and processed fruits and vegetables, fruit and vegetable juices, tree nuts, and pulses. In addition, intra-NAFTA exports have exceeded the growth in external or extra-NAFTA trade in the 1990s.

NAFTA Exports of Processed Fruits and Vegetables and Fruit and Vegetable Juice

The United States, Canada, and Mexico expanded exports of processed fruit and vegetables from less than \$2.0 billion in 1991 to more than \$3.4 billion in 2001 as all three countries recorded impressive gains. Nearly half of the processed fruit and vegetable trade was intra-NAFTA in 1999-2001, with more than 26% of the exports going to East Asia, nearly 11% to the EU, and 14 percent to other destinations.

Fresh Fruit Imports in NAFTA: During 1999-2001, the United States (at \$3.6 billion per year) and Canada (at \$1.1 billion per year) ranked first and eighth, respectively, in world fresh fruit imports. Mexico's fruit imports were \$389 million per year. About 34% of fresh fruit imports by the NAFTA countries represent intra-NAFTA trade, while 22% come from Central American countries and 38% from other Southern Hemisphere sources. During 1999-2001, major fruits imported by the NAFTA countries included bananas (29%), grapes (18%), melons (8%), oranges, mandarins, apples, and citrus hybrids.

Opportunities for Export from India

Known as fruit and vegetable basket of the world, India produces a wide variety. It ranks second in fruits and vegetables production in the world, after China. As per National Horticulture Database 2010 published by National Horticulture Board, during 2009-10 India produced 71.516 million metric tonnes of fruits and 133.738 million metric tonnes of vegetables. India is the largest producer of ginger and okra amongst vegetables and ranks second in production of potatoes (10%), onions, cauliflowers, brinjal, cabbages, etc. Amongst fruits, the country ranks first in

production of bananas (28%) papayas, mangoes (39%) lemons and limes.

Mangoes, walnuts, grapes, bananas, pomegranates account for larger portion of fruits exported from the country while onions, okra, bitter gourd, green chilies, mushrooms and potatoes contribute largely to the vegetable export basket. The major destinations for Indian fruits and vegetables are Bangladesh, UAE, Malaysia, Sri Lanka, UK, Nepal, Saudi Arabia, Pakistan and Indonesia.

Processed Foods and Vegetables

India can become one of the largest fruit and vegetable exporters in the world and can equally be a large importer given its demographic diversity. This strong footing in agriculture provides a large and varied raw material base for food processing. Many non-traditional vegetables mainly processed & gherkins and others like asparagus, celery, bell pepper, sweet corn, green and lime beans and organically grown vegetables are also being increasingly exported. India's exports of Processed Fruit and Vegetable has increased from Rs. 2454.61 Crores (USD Million 554.46) in 2005-06 to Rs. 2502.28 Crores (USD Million 555.07) in 2006-07. Which including the share of products like Mango Pulp (Rs. 505.83 Crores) (USD Million 112.21), Dried and Preserved Vegetable (Rs. 424.06 Crores) (USD Million 94.07), Pickles and Chutneys (Rs. 293.59 Crores) (USD Million 65.03), Other Processed Fruit and Vegetable (Rs. 508.15 Crores) (USD Million 112.72), and Pulses (Rs. 770.65 Crores) (USD Million 170.95)

DRIED AND PRESERVED VEGETABLES :

India is the major producer of dried & preserved vegetable like preserved onions, cucumber & gherkins, mushrooms of the genus agaricus, other mushrooms and truffles, green pepper in brine, dried truffles, asparagus dried, dehydrated garlic powder, dehydrated garlic flakes, garlic dried, potatoes dried, grams, grams dal, etc. India's Export of Dried & Preserved Vegetables has Increased from Rs. 364.11 Crores (USD Million 82.25) in 2005-06 to Rs.424.06 Crores (USD Million 94.07) in 2006-07. The major Importers of Indian Dried & Preserved Vegetables are Russia, France, U.S.A, Germany and Spain.

MANGO PULP: India is the largest mango producer in the world, and has the range of varieties in Mango and Processing Mangoes of this fruit. Export of mango pulp is significant. Two main clusters of Mango Pulp are there in the country which has around 65 processing units with a good backward linkage of Alphonso and Totapuri variety of mangoes. These clusters are Chittoor in the state of Andhra Pradesh and Krishnagiri in the state of Tamilnadu. Most of these processing units are HACCP certified and conforms to required standard. India's Export of Mango Pulp has increased from Rs. 364.24 Crores (USD Million 82.28) to Rs. 505.82 Crores (USD Million 112.21) in 2006-07. Saudi Arabia, Netherlands, UAE, Yemen and Kuwait are the major market of Mango Pulp.

PICKLE & CHUTNEY: Pickles & chutney are the traditional specialties product of India and has gained an important position in the Indian cuisine. They are eaten along with main course and provide tempting tastes. Pickles are prepared from Fruits and Vegetables and they supplement the food with vitamins and minerals. There are many types of pickles available in India like Chilly Pickles, Green Pickles, Lemon Chutney, Mango chutney, Gherkins, Mango Pickles, Onion and Tomato chutney etc. India's Export of Pickles & chutney has increased from Rs. 260.98 Crores (USD Million 58.95) in 2005-06 to Rs. 293.59 Crores (USD Million 65.13) in 2006-07. The major market for Indian Pickles & chutney are Russia, U.S.A, Belgium, Netherlands and France.

OTHER PROCESSED FRUITS AND VEGETABLES: Important products in processed fruits and vegetables are: Apple Juice, Asparagus, Beans Shelled, Cashew nuts/Roasted and Salted, Cherries, Chips Fried, Dried Apples, Dried Apricots, Fruit & Nuts, Uncooked or Cooked, Grape Juice, Grapefruit Juice, Jam Jellies of Apple, Jam Jellies of Other Fruits, Mango Juice, Lemon Juice, Olives, Pineapple Juice, Sweet corn, Tomato Juice, tomato Prepared or Preserved etc. India's Export of other processed Fruits & Vegetables has increased from Rs. 370.21 Crores (USD Million 83.63) in 2005-06 to Rs. 508.14 Crores (USD Million 112.72) in 2006-07. Major destination of export for Indian processed fruit and vegetable products are U.S.A, Netherlands, U.K, U.A.E and Saudi Arabia.

PULSES: Pulses are one of the important food crops globally due to higher protein content. Pulses are 20 to 25% protein by weight which is double the protein content of wheat and three times that of rice. For this reason, pulses are sometimes called "poor man's meat". Major Pulses grown in India are Dry Beans, Dry Peas, Chick pea, Lentil etc. India's Export of Pulses has increased from Rs. 589.85 Crores (USD Million 131.46) in 2004-05 to Rs. 770.64 Crores (USD Million 170.95) in 2006-07. The importing countries in India are Bangladesh, Sri Lanka, Pakistan, U.A.E and Nepal.

Efforts in increasing export opportunities

1. FRUIT AND VEGETABLE PROCESSING: Processing plays an important role in the conservation and effective utilization of available food supply as also in influencing dietary habits. Fruit and vegetable processing is a core activity of the Ministry of Food Processing Industries.

2. INSTALLED CAPACITY AND UTILISATION: The total installed capacity of fruit & vegetable processing industry has been increasing. The major processed items are fruit juices and pulps, ready-to-serve beverages (fruit based drinks), canned fruits and vegetables, jams, jellies, marmalades, pickles and chutneys, preserved and candied fruits and vegetables, sherbets, dehydrated vegetables and tomato products. More recently, products like frozen vegetables frozen pulps, freeze-dried vegetables, fruit juice concentrates, fruit bars and tomato paste etc.

3. EXPORTS: The major items of export were fruit juices, pulps, jams, pickles and chutneys, canned fruits & vegetables, concentrated pulps and juices, dehydrated vegetables, frozen fruits, frozen pulps and freeze-dried green pepper.

4. REGULATION AND CONTROL: The Ministry administers the Fruit Products Order, 1955 (FPO) issued under the Essential Commodities Act, 1955. The Order lays down product specifications and other requirements for quality control on production and marketing of fruit & vegetable products. Labeling and marketing requirements aimed at protecting the consumer interests have also been prescribed under the Order. All factory units coming under the purview of the Order are required to obtain a license, which is granted after inspection of the premises to ensure conformity with the provisions of the Order. Periodic inspections of the factories are carried out by the technical staff of the Ministry in order to ensure adherence to the quality specifications and the maintenance of sanitary and hygienic conditions.

The export of fruit & vegetable products from India is regulated under the Export (Quality Control and Inspection) Act, 1963. The consignments of fruit products intended for export are subjected to pre-shipment inspection where under samples are drawn for analysis to ensure conformity with the FPO/Buyers specifications. In plant inspection is carried out to ensure the quality of products in the case of fruit juices and pulps meant for export. Quality certificates are issued to the exporters in case samples are found to be conforming to the specifications.

Several new development Plan Schemes of the Ministry in the fruit and vegetable processing sector were implemented for the first time. Assistance was provided to Madhya Pradesh State Agro Industries Corporation, the Orissa Agro Industries Corporation, the Haryana Agro Industries Corporation and the Kerala Agro Industries Corporation for setting up and strengthening of fruit and vegetable processing facilities in the respective States. Assistance was in the form of contribution to the equity capital. The Government of Uttar Pradesh was assisted for organizing training and visit programs for growers and processors. Development of Mushroom production and processing was taken up as one of the priority areas of attention. Financial assistance was provided to the States of Orissa and Himachal Pradesh for setting up mushroom production and processing facilities.

Conclusions and Prospects for the Future of Fruit and Vegetable Trade

The composition, volume, and direction of this trade have changed as incomes and insistence on quality have grown on the demand side, while technology and trade agreements have influenced the supply side. Lower prices and greater availability of produce year-round, in tandem with increasing incomes, have enhanced the array of fruits and vegetables in the global consumer's basket of goods. Other factors, such as concern for a healthy diet and improved handling and transportation, have furthered the globalization of fruit and vegetable trade. Globalization of markets is likely to continue as the basic factors of supply combine with innovations in technology and lower trade barriers, enabling suppliers to meet the preferences of a more affluent clientele. Developed countries will continue to dominate global trade in fruits and vegetables, but new varieties will find their way into the diets of the relatively affluent everywhere. High per capita income, seasonal variation in production and an aging population's demand for quality fruits and vegetables will continue to make the EU a leading world importer. However, exports to the EU will not likely increase much from countries not included in the agreements (such as the United States).

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