

Marketing System of Fruits, Margins and Export Potential in Pakistan

Khalid Mahmood Aujla, Mazher Abbas¹, Khalid Mahmood² and Shawana Saadullah³
Social Sciences Division, Pakistan Agricultural Research Council, Islamabad-Pakistan

¹Technology Transfer Institute (PARC), AARI., Faisalabad-Pakistan

² SMEDA, Agriculture Sector, Lahore-Pakistan.

³Govt. College University, Faisalabad-Pakistan

Abstract

There are many constraints hindering the true potential of the country's fruit production and exports. This study was specifically designed to examine the trends in fruit production, consumption and trade; describe existing fruit marketing system; identify constraints in fruit marketing systems and promoting exports; and propose measures for improving and enhancing their international competitiveness. Market information received by producers are always partial and sketchy. Resource poor farmers under-invest in farming inputs like pesticides and fertilizers that leads to lower yields and poor quality products. Advance sales are also a root cause of financial constraints amongst farmers. Scarcity in storage and transportation infrastructure resulted in 25-40 percent post-harvest losses that shrinks supply and put pressure on prices. The prevention of such losses would further improve exportable surplus and their international competitiveness. Farmers just receive one-fourth of consumers' price, whereas lion's share goes to other market traders. In order to lower the shares of middlemen in consumer's rupee, access to credit and market information, control over the output losses, improvements in market infrastructure and cheaper availability of transport and packing material is needed. Fruit markets are not perfectly competitive. There is a need to improve efficiency and effectiveness to promote export of fruits. A product-specific market development strategy needs to be initiated with the active participation from the production and marketing systems.

Keywords: Fruits, Marketing, Channels, System.

Corresponding author: Khalid Mahmood Aujla
Senior Scientific Officer, Social Sciences Division,
Pakistan Agricultural Research Council,
Islamabad-Pakistan

Introduction

Fruits are valued as protective food and are very rich source of minerals and vitamins. Demand for fruits in Pakistan has been increasing due to changes in consumption pattern and population growth. A large variety of tropical, sub-tropical and temperate fruits are cultivated in the country. The low level of growth in fruits during 1990s indicates that incentives for the farmers to increase production remained depressed. The cheap availability of the raw material indicates great scope for promoting the export of fresh and processed fruits. On the export side, the regions like Far East, Middle East and Central Asian States of Former Russia are the major markets of Pakistani fruits while a great scope lies as well in exporting to more developed countries like Japan, Canada and Europe.

Eighty-six percent of our farming community owns less than 5 hectares of land, but has surplus labor force (Govt. of Pak., 2006). Both these characteristics most appropriately fit into those farm enterprises, which are not only labor intensive but also promise higher productivity and income. It is perhaps time now to bring about a major shift in our approach towards agri-business keeping in view the challenges and prospects that would confront Pakistan in future in the community of nations. We essentially have to change the face of our traditional agricultural export by bringing in new high value added products possessing comparative advantage in the international market. Such potential products in the short run are horticultural crops.

Fruits are more risky to produce than other crops. The variability in yield of fruits is 2-3 times more than that in rice yield (Elias and Hussain 2000, Darmawan and Pasandaran 2000, Ranaweera and De Silva 2000). Similarly, Marketing functions are performed in a traditional way and markets for fruit products may not function efficiently. There are generally great differences between prices paid by consumer and those received by producers (Khan, 1980 and Mohy-ud-Din, 1991). It is generally perceived that marketing agents exploit

producers and consumers by charging a fixed and high margin on their investment (Ali, 2000).

In Pakistan, marketing of fruits is dominated by the private sector. Information about marketing systems is necessary to know the current status and re-organizing these markets for increasing their efficiency. Secondly, it is the stated policy of the government to increase and diversify the export of agricultural products to lessen the net trade deficit. In the past, relatively more emphasis is placed on enhancing the production and productivity of major crops by ignoring the production and marketing of horticultural crops. Any lopsided production enhancing strategy could not be fruitful unless the marketing aspects are adequately addressed.

Irregular and low productivity of fruits in the country has raised concern about the efficiency of the fruit production and marketing system and the role of markets in stimulating the sector's development and ensuring the sustained growth. The government policy initiatives are concerned to overcome these problems and to enhance fruits production through providing research and extension services, improving varieties and management practices, and more importantly improving marketing efficiency (Khushk and Smith, 1996). It was, therefore, realized necessary to promote such information about fruit production and its marketing related problems and issues involved. In the globalization scenario, Pakistani agriculture is relatively more exposed than before. It is therefore imperative to examine the competitiveness of fruit production and marketing in Pakistan.

A significant amount of information for this study were gathered from secondary sources like Economic Survey of Pakistan, Agricultural Statistics of Pakistan, Department of Agricultural Marketing and Grading, Directorate of Crop Reporting Services, Lahore and Islamabad, etc. Information on fruits was collected as well by reviewing relevant literature and scientific studies.

Materials and Methods

The study is based on secondary data and specifically designed to examine the trends in fruit production, consumption and trade; describe existing fruit marketing system; identify constraints in fruit marketing systems and promoting exports; and propose measures for improving and enhancing their international competitiveness. A significant amount of information was gathered from secondary sources like Economic Survey of Pakistan, Agricultural Statistics of Pakistan, Department of Agricultural Marketing and Grading, Directorate of Crop Reporting Services, Lahore and Islamabad, etc.

Information on fruits was collected as well as reviewing relevant literature and scientific studies

Production and Consumption of Fruits

Pakistan is blessed with diverse environment conducive to the production of nearly thirty types of fruits mainly citrus, mango, apple, guava, banana, dates, and melons. The major horticultural produce of Pakistan encompasses only 1.081 million hectares, which is hardly seven percent of the net area sown of the country (Govt. of Pak., 2006). Fruits are highly digestible and constitute a significant portion of the diet. Data showed that the per capita consumption of fruits has increased from 28 kg/annum to 35 kg/annum during the period 1970-2000 in Pakistan (FAO, 1999-2001). Table 1 shows the dispersion of acreage, production and consumption of fruits for the period 1994-95 to 2005-06. From 1995 to 2006, the area in Pakistan under fruits has expanded to 814.5 thousand hectares from 566.4 thousand hectares and production has increased to 7147.6 from 5153.7 thousand tones over the same period. Table 1 presented that fruits area in Pakistan has increased about 43.8 percent and production by 38.7 percent during 1995-2006. This increase in area and production is due to increasing trend of the farmers towards high value crops. Similarly, consumption of fruits in Pakistan has increased at the rate of 2.6 percent per annum during the same period. There are growing concerns about the low productivity of fruits as compared to developed and developing countries, especially in comparison to our neighbors like India and Iran. This signifies a need to identify the factors responsible for this low productivity. Market development and increased productivity are the keys to the future.

Fruits Marketing System

Sustained agricultural growth calls for an efficient marketing system as it affects both producers' income and consumers' welfare. The efficiency of agricultural markets depends not only on farm production costs and yields, but also on what happens to the farm products from leaving the farm to reaching the consumers. There are several factors that influence the efficiency of fruit marketing including perishability, seasonality, quality, prices and location of the products. In many studies, marketing is defined as the entire set of economic activities ranged from production, assembly and dissemination to final consumption. This includes the exchange activities associated with the flow of goods and services from the producer to the consumer, the physical handling of produce and the institutional arrangements for facilitating these activities. The existing marketing system can be distinguished on the basis of market value and the nature of trade activities.

Assembly Markets are often situated close to farms, generally in small towns, where farmers bring major portion of the marketable surplus. Shopkeepers, traders, and retailers participate as buyers in these markets. The price formation process is simply based on direct negotiation between traders and farmers.

Wholesale Markets are usually located in a district or a major sub-division town. These markets are the main assembly centers for the fruit surplus of surrounding areas. Wholesale markets have better storage, transport, communication and working conditions than the assembly markets.

Terminal Markets are generally situated in large urban centers. The Lahore and Karachi markets are the best examples of this kind of markets in Pakistan. Most of the marketable surplus of agricultural commodities is ultimately routed to these markets. Foreign trade is another reason for the adequate flow of marketable surplus to this market. This market is well equipped with traders who are well established and are mostly dependent on supplies from growers and other wholesale markets.

Table 1. Area and Production of Fruits in Pakistan During 1995 to 2006

Years	Area (000 Hectares)					Production "000" tons	Consumption "000" tons
	Punjab	Sindh	NWFP	Baloc.	Pakistan	Pakistan	Pakistan
1994-95	326.1	91.2	30.6	118.5	566.4	5153.7	3981
1995-96	345.4	95.9	42.9	138.1	622.3	6091.4	4123
1996-97	346.5	97.8	43.6	141.2	629.1	6187.3	4109
1997-98	349.8	101.1	44.7	144.4	640	6280.2	4186
1998-99	352.1	102.5	46.3	145.2	646.1	6162.1	4065
1999-00	352.9	108.3	47	149.3	657.5	5846.3	3829
2000-01	358.1	114.3	40.6	159.4	672.4	5891.7	3909
2001-02	356.5	117.5	40.8	149	663.8	5901.6	3836
2002-03	340.1	118.4	45	148.2	651.7	5741.7	3670
2003-04	324.6	125.6	45.1	239.3	734.6	5691.7	3807
2004-05	377	126.7	46.1	245.6	795.4	6633.2	4667
2005-06	386.7	135.4	46.8	245.6	814.5	7147.6	5286
% Growth Rate 1995 to 2006	1.56	3.66	3.94	6.85	3.36	3.02	2.61
% Change 1995 to 2006	18.58	48.46	52.94	107.26	43.80	38.69	32.78

Source: *Agricultural Statistics of Pakistan – 2005-2006*.

Marketing Channels

During marketing process, the commodity not only changes hands but also some addition in the price takes place, which is both due to providing services as well as value addition. In Pakistan, private organizations and individuals carry out fruit marketing. Fruits are grown by a large number of producers who are geographically dispersed throughout the country. Majority of the fruit-producers (70 to 90 percent depending upon the type of fruit), sell the harvesting rights of their orchard at the flowering stage to contractors. Each contractor usually maintains close contact with the commission agent in the wholesale or terminal markets. Analysis show that more than 97% of contractors obtained loans from a commission agent to pay the initial installment to producers and an advance for labor and packing material as well. Once a loan has been extended the contractor is obliged to supply produce to that commission agent. A contractor in debt and without alternate sources of credit will also accept a

higher commission rate. Commission charges range between 10 to 12% of the sale revenue. The commission agents have the power to control the supply through contractors. Wholesalers usually perform their business in wholesale and terminal markets and also supply produce to processing industries, exporters and retailers according to their demand. Retailers buy and sell small quantities according to the demand of consumers in the area.

The major problems in marketing of horticultural crops are inter- and intra-seasonal fluctuations in prices (Aujla and Jagirani, 2002). The main cause is the dis-equilibrium in demand and supply at peak production. Early and late season market prices of fruits remain high. Among market traders, contractors and retailers were obtaining highest absolute cash margins, net profit margin and share in consumers' price. The main victim in this crisis is the producer, the farmer who has no voice to call for the remedy. The situation may be rectified if food-processing industry is well established.

Deconstruction of market margins revealed that contractor level marketing and transport costs are the major elements. At commission agent level, the expenses on business management while material/marketing cost at wholesaler level were the major components of the costs incurred by these agencies. Finally at retailer level, opportunity value of labor and transport cost are the main elements in the distribution of gross margins earned. The producer share in consumer rupee is about one-fourth; rest of the three-fourth share goes to other market traders [(contractors 39%); (commission agents 7%); (wholesalers 9%); and (retailers 19%)] [Mahmood, et al 1989; Khushk and Smith, 1996]. The producer is at lower end of recipient of the gross margins. The attention of the policy maker is required for survival of the producer. In order to lower the shares of contractors in consumer rupee, the improvements in transport infrastructure and cheap availability of packing material is needed. On the retailer end, control over the output loss and cheaper transport availability is needed to increase producer's share in consumer rupee.

Overall, fruits markets present a gloomy picture. Physical market infrastructure is in its bad condition. Auction platforms, roads, storage and shops are of poor quality. Sanitation and unhealthy environment is around the market. Rainy weather and days worsen the situation. Illegal encroachments, business without license, and traffic problems are affecting the marketing efficiency. All these do not require a big investment, but needs a better management to improve the quality of marketing system. The implications are that market intermediaries are working in a high risk and high transaction costs environment, which is worsened by poor security, a dis-functional legal system for the enforcement of agreements and widespread corruption.

Export Marketing System

The market value of the total fruits produced in Pakistan is estimated at about 69.2 billion rupees, which is roughly about 8 percent of agricultural value added in the year. Pakistan earned 5.4 billion rupees from fruit exports during 2005-06, representing nearly 11 percent of total amount earned from the export of all raw agricultural commodities. During the year 2005-06, Pakistan exported 262 thousand metric tones of fruit valued at Rs. 5.394 billion. The citrus, mangoes, dates, and grapes accounted for 30, 23, 22 and 1 percent respectively in terms of foreign exchange earnings. The export data of fruit and overtime changes and growth rates for the period 1995-2006 are presented in Table 2.

On the export side, the growth in fruit export increased by 6 percent by volume and 14 percent by value over the period between 1994-95 and 2005-06. Pakistan sells out a very small proportion of its total harvest abroad (Hassan, 2003). The share of horticultural produce in the total exports from Pakistan is hardly 1.5 percent.

Export quality fruits are sold through secret auction and the remainder by open auction for domestic consumption. In secret auction contractors and producers do not know the actual price of their produce but must accept the price reported by the commission agents. It was also found that most commission agents are engaged in fruit export and buy quality product under another name for export. Contractors do not openly object to this system because of their dependence on commission agents for credit. Non-participation of producers in the marketing process means they also are not in a position to raise objection to this system (Khushk *et. al.*, 2006). The implications are that secret auction in fruit marketing limit the incentives for producers and contractors to produce quality product for export.

The profitability analysis of fruits export revealed that net returns vary with the changes in their season from early to late and the destination of export. Net returns per kilogram were higher for Russian States and Middle East countries as compared to Europe and Far Eastern countries mainly due to relatively higher sea transport costs to these destinations. The major share in these returns came from fruit export to Middle East and Far East countries due to relatively high quantities exported to these regions. As the sale prices received by the exporters from Far Eastern and European countries are relatively higher, increasing exports to these regions through economies of scale transport could reduce the sea transport costs.

Trade and pricing policies revealed that the fruit growers of Pakistan were marginally dis-protected. Hence, there are good possibilities of substantial gains from free trade provided the infrastructure related to WTO requirements is developed in the country on priority basis. Fruit producers are economically efficient from society point of view. This means that with the freeing up of trade and removing distortions in the domestic markets, effective incentives for orchard production would substantially increase. Therefore, it can be concluded that producers in Pakistan has comparative advantage of producing world class fruits for export purposes as in the past they were dis-protected from trade and pricing policies of the government. The only concern is the provision of necessary infrastructure needed for international trade in WTO perspectives.

Table 2. Production of Major Fruits and Exports by Pakistan during 1995-2006

Year	Production of Important Fruit "000" Tons							Export	
	Citrus	Mango	Apple	Guava	Apricot	Others*	Total	"000" Tons	Value (Min. Rs)
1994-95	1,933	884	533	420	178	172	4,120	139	1,256
1995-96	1,960	908	554	442	191	203	4,258	135	1,487
1996-97	2,003	915	568	448	188	206	4,328	219	2,776
1997-98	2,037	917	573	455	189	217	4,388	202	2,793
1998-99	1,861	916	589	468	191	221	4,246	181	2,773
1999-00	1,943	938	377	494	120	197	4,069	240	4,130
2000-01	1,865	990	439	526	126	223	4,169	260	4,586
2001-02	1,830	1,037	367	538	125	229	4,126	290	5,097
2002-03	1,702	1,035	315	532	130	219	3,933	263	4,861
2003-04	1,760	1,056	334	550	211	250	4,161	354	5,912
2004-05	1,843	1,671	352	572	205	230	4,873	206	4,202
2005-06	2,458	1,754	351	552	197	236	5,548	262	5,394
%Growth rate 1995-06	2.21	6.43	-3.73	2.52	0.93	2.92	2.74	5.93	14.2
%Change 1995-06	27.16	98.42	34.15	31.43	10.67	37.2	34.7	88.5	329.5

Others include grapes, almond and bananas, etc.

Source: Ministry of Food, Agriculture and Livestock/Federal Bureau of Statistics, Govt. of Pak.,2006.

Constraints and Export Potential

The inability of our fruits to compete in the expensive markets of the world is because of non-availability of infrastructures like hi-tech labs for issuing various certificates for health and environmental safety, non-coinciding of our fruits with the tastes and preferences of with high-price markets, expensive refrigerated transport facility, costly good quality packing material and other inputs needed in processing, and non-availability of credit on easy terms and conditions. All these factors not only affect quality but also result in confining our exports to cheaper markets of the world.

The upcoming challenges of WTO can become an opportunity for the fruit exporters provided they prepare themselves to comply with the specifications needs. The policy support from the government is also equally important in this respect. As the studies in Bangladesh and Sri Lanka show that the initial costs of compliance with SPS measures are quite high, but once the infrastructure is established, then the returns will be much higher than the costs incurred. Pakistan has to make necessary investment to comply with the export requirements under WTO otherwise it is quite likely that we may lose our existing markets as well. Therefore, well-coordinated efforts among research, extension, export promotion bureau and exporters are needed to achieve the potential by exporting quality fruits at high prices by providing marketing infrastructure and all necessary certifications.

Conclusions and Recommendations

There is great scope in enhancing the productivity and reaping the export potential of fruits in Pakistan to eradicate poverty in rural areas. Optimal use of various critical inputs like FYM, fertilizer, plant protection measures is utmost important to achieve higher productivity. The research on orchard management and demonstration should be strengthened in collaboration with the farmers to increase productivity.

Varietal development process should be intensified in the WTO scenario to market as fresh fruits acceptable in the international markets as well as juice purposes. The research on post-harvest losses and improvements in the packing methods and material should be more emphasized in order to minimize the pre- and post-harvest losses. Incentive should be provided to orchard growers to switch from surface irrigation to a high efficiency system called drip irrigation system. The malpractices in inputs marketing should be zero-tolerated by regularizing inputs marketing system. Strict laws should be implemented to discourage the marketing of adulterated inputs.

Disseminate the market related information to all stakeholders in more effective manner by establishing an MIS. Due to non-practices of grading and standardization, market traders are getting more than their due margins. Defining grades and standard keeping in view the national and international requirements should be used to regularize the

domestic fruit marketing. The improvements in the marketing infrastructure will make the marketing of fruits more competitive by ensuring due shares of intermediaries for the services rendered.

Lack of access to institutional credit for market participants may reduce the efficiency of the marketing system by constraining investment in improved practices. The financial institutions are desired to reformulate the laws and regulations to ease out the loaning process in order to alleviate the financial constraints of producers, contractors, exporters and other market traders. Exporters are also suggested to launch development schemes for their contract farmers by providing credit and technical guidelines to produce high quality fruits for export.

Strict policies must be designed to allow new entrants in the domestic marketing business. Moreover, the general hygienic and sanitary conditions of domestic fruit markets should be strictly maintained. Appropriate incentives should be extended by the policy makers in establishing export zones where all necessary infrastructures like cold storages, refrigerated transport facilities, financial institutions, SPS certifying laboratories, marketing information analysis department, etc. are available. The agricultural policy-makers are suggested to delineate clear policies for development of the export of fruits. The export promotion bureau is suggested to provide all export marketing related information to the exporters. Pakistan must try to explore and compete in international markets. Detailed studies should be conducted on various issues like cost of compliance with various WTO requirements like SPS, means of reducing costs of exporting horticultural crops to Europe and other high class markets of the world, etc.

References

Ali. "Requirements and conditions for Perishable Products for Domestic and Export Markets: View of a Trader", Universal Traders (Importers and exporters), Quetta, Balochistan, Pakistan, 2000.

Aujla, K.M. and Jagirani, A. W. "Production and Marketing of Potatoes in Pakistan: Opportunities and Constraints" Socioeconomics Research Studies 2001-02, Social Sciences Division, Pakistan Agricultural Research Council, Islamabad, 2002.

Darmawan, D. A. and Pasandaran, E. "Dynamics of vegetable production, distribution and consumption in Asia." Asian Vegetable Research and Development Center (AVRDC), Tainan, Taiwan. 2000, Publication No. 00-498, 139-171.

Elias, S. M. and Hussain, M. S. "Dynamics of vegetable production, distribution and

consumption in Asia." Asian Vegetable Research and Development Center (AVRDC), Tainan, Taiwan. 2000. Publication No. 00-498, 31-67.

FAO "Food and Agriculture Food Balance Sheet", Rome, Italy.1999-2001.

Government of Pakistan. "Agricultural Statistics of Pakistan (various issues). Economic Wing, Ministry of Food, Agriculture and Livestock, Islamabad, 1980-2006.

Government of Pakistan. "Pakistan's Exports of Principal Commodities", Export Promotion Bureau, Islamabad, 1994-1995.

Government of Pakistan. "Pakistan Economic Survey", Finance Division, Economic Adviser's Wing, Islamabad, 2006-2007.

Hassan, Siraj-ul. "Citrus Fruit Crop in Punjab: Production Methods, Prices and Management Practices", www. Pakissan.com., 2003.

Khan, A. M. S. "Marketing Infrastructure, Margins and Seasonal Price Variation of Selected Agricultural Commodities in Sindh Province of Pakistan", Tandojam: Department of Agricultural Economics and Rural Sociology, Sindh Agriculture University, 1980.

Khushk, A.M., Memon, A. and Lashari, M. I. "Marketing System of Selected Fruits in Pakistan". Bangladesh Journal of Agricultural Research, 31(1):39-68, March 2006.

Khushk, A. M. and Smith, L. E.D. "A Preliminary Analysis of the Marketing of Mango in Sindh Province, Pakistan. The Pakistan Development Review: 35:3, 241-255, 1996.

Kohls, R. and Uhl, J. "Marketing of Agricultural Products", 6th Edition, New York: MacMillan, 1985.

Mahmood, K., S. M. Khan and M. Afzal. "Production and Marketing of Potatoes in Upland Balochistan: A Preliminary Survey" MART/AZR Research Report 45, ICARDA – Pak, 1989.

Mohy-ud-Din, Q. "Improving Marketing System of Citrus Fruit in the province of Punjab". Pakistan Agricultural Development Review, Vol. 1, No.2, 1991.

Ranaweera, N. F. C. and De Silva, G. A. C. "Dynamics of vegetable production, distribution and consumption in Asia." Asian Vegetable Research and Development Center (AVRDC), Tainan, Taiwan. 2