

IMPROVING VALUE CHAIN THROUGH DECENT WORK APPROACH: A CASE OF MANGO PRODUCTION SYSTEMS IN PAKISTAN

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Abstract

Agriculture remains a key sector of the economy of Pakistan contributing to about 22% of GDP, employing about 43% of the total employed labor force during 2000-2014. Agriculture is the source of most of the exports such as textiles, rice, leather, citrus and mango etc. Mango is the king of fruits, is the second largest export item after citrus among fruits and vegetables in Pakistan. However, only 5% of its total production is exported in the countries such as Middle East, UK, Germany etc. Mango industry in Pakistan has been going through a transformational process for the last one decade under the various development projects using value chain approach. Farm practices vary across farms depending upon the quality of Mango produced by the mango growers. Trained and skilled labor is required to produce premium quality mangoes particularly for end markets both in the domestic and international markets. However, there is little evidence of organizing farm labor on the required skills and adopting decent work agenda at the farm level. Some global GAP certified orchards attempted to improve the working conditions and wage rate for the workers which has enhanced the value flow system along the chain. This study delineates the effects of use of scientific farm practices and trained labor on the quality, productivity and profitability of mango production. To achieve this objective farms using traditional practices and scientifically based practices were identified. Further to study the value flow system and calculate the profitability, commission agents, retailers, high end markets and exporters were also identified for detailed interviews. Based on decent work agenda an evaluation of two production system, traditional versus best practices, has been designed. The data collection is under process under the ICDD project. The preliminary findings revealed that improved pre and post-harvest techniques and working conditions have increased the quality, productivity and profitability of mango production particularly at the farm level.

Introduction

Pakistan is the fourth largest producer of mangoes preceded by India, China and Thailand (FAO, 2014). Pakistan produces many mango varieties, which differ in harvesting time and in their physiological characteristics, especially shape, size, color, sugar level and acidity. While production is dominated by two major varieties: Chaunsa and Sindhri, other varieties such as Langra, Anwar Ratole, Dasherri Banganpalli and Neelam are cultivated to a lesser extent. Only Chaunsa and Sindhri varieties produce a significant volume of fruit to make them important from a commercial point of view. Harvesting of mango is in summer in Pakistan and harvesting time varies across varieties. Punjab and Sindh provinces are the major source of production of Mango. Total production of mango in Pakistan during 2000-2013 remained at about 1527 thousand tons whereas area under this production was about 146 thousands hectares. Punjab contributed about 62 per cent in total area under mango production in Pakistan and shared about 74 per cent of total mango production in Pakistan during 2000-2013. The province of Sindh's contribution in area and production of mango in Pakistan was about 37 per cent and 25 per cent respectively during 2000-2013 (GoP, 2014).

The domestic market is the major market for Pakistan mangoes, absorbing 90-95% production (PHDEC, 2005; Ghafoor, 2010). The domestic retail markets are dominated by small retail shops, street hawkers and roadside stalls. Mango prices in these markets range from USD 0.50 per kg (55 Rupees (Rs.) to USD 2.50 per kg (250 Rupees), depending upon the type of outlet and its location (higher in more affluent metropolitan areas and less in wet markets) (ACIAR, 2007). Growers' share of the consumer dollar in these markets is estimated at approximately 28 per cent (PIAM, 2007; PARC, 2009). Well organized 'superior' retail markets are uncommon except in big cities like Karachi, Lahore, Islamabad and Faisalabad, and these retail outlets are setting trends for quality products among consumers (ACIAR, 2007). They mainly source fruit from wholesale markets and sometimes directly from commission agents (Middle men). Some additional retail markets for mangoes are multinational chains like METRO. These outlets are increasing in the major cities but are still in an introductory phase of procuring premium quality fruit from reliable sources. Therefore there is a very good potential in the domestic markets for premium quality mangoes.

The present study is specifically designed to answer this question and estimate the profitability of producing best quality. Detailed data are collected on the costs of producing traditional and best practices mangoes that adopted decent work at the farm level. Super mangoes were harvested, graded and packed in wooden boxes and directly sent to the wholesale market. Whereas best practices mangoes were harvested properly, de-sapped and washed with fresh water in pack house at the farm level. Best Practices premium quality mangoes that were properly harvested, de-sapped, washed with fresh water, ripened with Ethylene gas, packed in card board boxes and marketed through wholesale market as well as high end retail outlet (Exclusive outlet) directly by growers.

Given the existence of potential for premium quality mangoes in the domestic markets a question arises that whether it is profitable for mango growers to invest to meet the additional costs of executing best practice to produce a good quality mango? To answer this question this study is designed to calculate the cost of producing traditional and best practices mangoes. Profitability of traditional and best practices mangoes is measured through estimating the cost and revenue in

the domestic market. Finally, Policy recommendations are given to promote the production of premium quality mangoes for the domestic market of Pakistan.

METHODOLOGY

The analysis is executed on data collected from the mango farms adopted best practices as well as preparing traditional mangoes for the local market. Five Farms are selected in this regard from the Punjab Province. A wholesaler /commission agent was involved and evaluated from a leading wholesale fruits and vegetable market in the mango region. About 20 retailers were randomly selected from the local market to collect customer feedback on the quality of mangoes they received from the identified wholesalers. Similarly, a high end supermarket was selected where the grower marketed best practices mangoes directly. Profitability analysis was done for both the chain supply chains serving retailers and high end markets. This study is also designed to do a profitability analysis of production and sales of premium quality mango and traditional mango. Specifically, we are looking for whether the adoption of best practices and resulting additional investment is profitable for the producers, in particular, and for the whole value chain, in general. Theories of cost and revenue suggest the following formula to calculate the profit (Mankiw, 2014; McConnell and Brue, 2005). $\pi = TR - TC$ Where π denotes the profit while TR and TC are the total revenue and total cost.

RESULTS AND DISCUSSION

Higher profits are found in the best practices premium quality mangoes compared with traditional mangoes. Additional benefits of premium quality mangoes are also higher compared with the additional costs. However, return is higher if the product is sold through high end retail stores compared with the sales through commission agent in the market. This may be due to lack of interest of commission agent in selling premium quality as he was paid a fixed amount of commission. In case of sales through high end retail stores each extra rupee invested to produce premium quality mango by adopting best practice such as proper picking at the maturity level, collecting fruit in the plastic bins, desaping, grading and cardboard packaging generated a return of 1.9 rupees indicating that about 90 per cent profit margin is increased.

As present study is specifically seeking the profitability of production and sales of premium quality mangoes for the domestic markets of Pakistan, detailed data on pre- and post-harvest costs was collected and profit margins were calculated for all premium quality and traditional quality produced mangoes. Results indicated that premium quality mango is more profitable compared with traditional mangoes. The sales of premium quality through high end retail outlets (METRO Stores) earned highest profit of about 45 Rs per Kg which is 22 Rs per Kg higher than the profit of selling traditional quality mango sold out through commission agent in the wholesale market.

Similarly, detailed calculation of various costs of the premium and traditional mango were also calculated. Cost of premium quality mango is bit higher at the farm level while lower at the wholesaler level. This nature of the profitability can be explained in two ways. Firstly, commission agents in the wholesale markets get a fixed commission on premium quality

mangoes because the quality is standardized and beard zero wastage. Secondly, high end retail outlets possess potential customers for premium quality mangoes who are quality conscious and can pay good price for the premium quality. Profits of the growers are calculated using equation 1 ($\pi = TR - TC$) by deducting total farm costs which are the sum of pre- and post-harvest costs, logistics costs and opportunity cost (working capital) of the work of the growers from the revenue. The costs and revenues are measured in rupees per kilogram hence the price per Kg is the revenue per kg and resulting profit is also presented in Rs per Kg. Total preharvest cost remained the same for all categories of the mango under study which is equal to 4.38 Rs/Kg, while total post-harvest varied across the premium quality and traditional categories as the post/harvest practices were different.

Total post-harvest costs of the traditional after adding logistics and opportunity costs of the growers were 32 Rs/Kg while these costs for premium quality mangoes sold through wholesale market and high end retail 44 Rs/Kg. The highest farm gate prices were obtained for the premium quality mangoes sold through high end retail outlet which is about 90Rs/Kg while lowest prices were obtained for the traditional mangoes which were about 45 Rs/Kg. Similarly, premium quality mangoes sold through high end retail markets earned maximum profit of about 45 Rs/Kg for the growers while lowest profit was obtained by the growers from traditional mangoes which is about 23.5 Rs/Kg. However, premium quality mangoes did not get higher profits in the wholesale market as they got in the high end retail outlets.

The common reaction among the growers regarding premium quality mango market is continuing to be successful to produce the desired mangoes for the market (Mehdi et al., 2014). However, the mango growers have not been able to find a positive response from the wholesalers and retailers over the time. This is not surprising as the middle men being closer to retailers understand the benefits of improved quality but their attitude is more towards volume focused than quality. A contributing factor to the attitude of middlemen were the leading players in the existing wholesale markets and had developed skills and practices that were very effective in dealing with large quantities of variable quality fruit in a very short time frame. Hence their financial incentive was tied to volume not quality. Their reluctance to pay growers a premium for fruit prepared under the 'best practice' guidelines was influenced by the lack of incentive for them to find customers/retailers who could absorb volume and were willing to pay for quality. As a result, the mango industry appeared weak to establish a reputation as being a source of reliable, good quality, value for money fresh mangoes at superior quality fruit outlets or supermarket chains in metropolitan areas. There appears a significant scope to improve the performance and value of the Pakistani Mango in the local markets because modern food retailing is diffusing rapidly. Keeping this in view, the present study is designed to investigate the potentials and dynamics of mango industry that can guide to establish a premium quality value chain in the domestic market.

However, finding potential buyers is the key to success for the growers and a continuous support from the relevant Government sector is highly desirable. Government is often the principal actor on agribusiness reforms via its regulatory powers and R& D institutions. There is need to encourage business support services both at the institutional level as well as the commercial level. Public-private partnership in processing technologies particularly in the mango production

areas can act as catalyst in the transformation of mango industry from traditional to market oriented mango production.

CONCLUSION

Value chain is characterized with the best practices that involve various costs. However, a fair reward or incentive overcome the additional costs and motivate the chain players to adopt value adding activities which can be defined as decent work along the value chain. Motivation to change also resides into the vested interest of the chain player which inhibits to follow decent work particularly when the players have dominant role in the existing supply chain system such as wholesalers or commission agent in the mango value chain system in Pakistan.

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