

ANALYZING THE MARKETING COSTS AND MARGINS OF DIFFERENT INTERMEDIARIES OF CHERRY SUPPLY CHAIN IN DISTRICT ZIARAT BALUCHISTAN

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Abstract

This research study was carried out in district Ziarat, Baluchistan, Pakistan. For this purpose, 64 producers, 25 contractors, 10 wholesalers and 10 retailers were interviewed. Primary purpose of the study was to investigate the channels which were used in the marketing of the cherry and to find out the marketing margins of all marketing functionaries. Three marketing channels: (i) producers → pre-harvest contractor → wholesaler → retailer → consumer: (ii) producer → wholesaler → retailer → consumer: (iii) producer → retailer → consumer were identified. Channel (I) was considered as major channel for this research as 95% of growers in the study area sold their produce through it, 3% of the growers used channel (II) and only 2% used channel (III). Contractors were the major source of market information to all growers. The total marketing cost of cherry per carton (includes picking, grading, packing, transportation, loading, unloading and commission charges of the market) acquired by the pre-harvest contractor was Rs.191.7. The Results showed that net profit of the growers in cherry marketing was Rs. 63.06. The net marketing margin of pre-harvest contractor was Rs. 25.17 per carton (800 grams) and was 8% of consumer's price, the wholesaler net margin was Rs. 30.38 per carton which was 9.54 % of consumer's price and the retailer's net margin was calculated Rs. 50 per carton which was 15.70% of consumer's price. The major problems faced by the growers were post-harvest losses due to perishability of the fruit, poor transportation system, lack of cold storage, lack of market infrastructure and diseases. Based on the findings of the study it is suggested that the role of the contractor should be minimized in order to enhance the producer profit.

INTRODUCTION

The significance of agriculture in Pakistan's economy is of paramount importance. It contributes 24% to GDP of the country and employs about 37.4% of the total labor force (GoP, 2024). Agriculture sector is the main driver of the country's economy and it provides job, food and raw material for other

industries. Evidences from the past shows that GDP's growth rate in Pakistan is dependent on the growth rate in agriculture sector, if the rate of growth of agriculture slows down then it impedes the overall economic growth of the country. The progress of agriculture sector provides a fine base for economic

development and is considered one of the prerequisites for the self-sustained growth. Moreover, agriculture is the major source of providing manpower to various sectors of economy (Gop, 2024).

Agriculture is divided into various sub-sectors like crop, livestock and fisheries. Out of these, the main contributor to the GDP is livestock and crop sector. Crop sector is further divided into major and minor crops. The major crops are the crops which employ majority of the arable land and their produce is high. In minor crops, fruits are of paramount importance. Pakistan produces variety of crops due to its unique climate and topography. In 2023, 71.7 thousand hectares of land was allocated for fruits production and the yield it produced was 9.3 million tones (GoP, 2024). Out of these fruits' apple, citrus, mango and banana are the major contributors. Minor fruits such as cherries are also grown in different regions of Pakistan and they employ an area of 935 hectares and its produce is about 2737 tones (GoP, 2024). Cherry is mostly produced in Baluchistan, because of the appropriate climate and is famous throughout the country. Cherry, (*Prunus avium*) belongs to the family Rosaceae and is a produce of temperate region in Pakistan. There are 02 core varieties of cherries, the sour and the sweet. Cool climate such as winter rains and dry cold summers is comparatively ideal weather for the quality cherry production (Tareen and Tareen, 2006). Sandy loam soils with freezing temperature ranging from 500-1300 hours are require for cherry production. Cherries are mostly used for pie filling, freezing pies and for canning, ice cream, bakeries, sauces, preserves and other deserts (Childres, 1983). Worldwide Cherry production was 43.58 thousand metric tons in 2022 shows an increase of 1.9 percent from 42.77 thousand metric tons compared to the previous year. Turkey being the leading producer and consumer of Cherry, accounts for 26.5 percent of world cherry production. The next big producer is the Chile, producing 14.11 percent of the world's cherry. Russia ranks third in Cherry production, produces about 11.34 percent. United States of America, the fourth largest producer, producing 10.21 percent and the fifth largest producer of cherry in rank is Uzbekistan, producing only 9.4 percent of

world's output. Pakistan ranks 48th in terms of Cherry production (FAOSTAT 2023).

In Pakistan, Ziarat, Gilgit and Hunza are ideal temperate regions for profitable cherry production. In Pakistan, enough cherry is produced to suffice the needs of the domestic population, although there is limited market infrastructure and government subsidies. The major chunk of the cherry is produced by the varieties imported by British army in 19th century. (Ali *et al.*, 2004).

Ziarat district is well known for producing high class Cherries which are sold in the region and are transported to other regions of the country. In Ziarat approximately 330,100 Ha of Geographical land, where total cultivated area is 6978 Ha with a net sown area of 5403 and 1575 of fallow land. Half of the total irrigated land is in use by orchards and that land is a main source of income. Rivers, karezes, springs, wells and tube wells are main sources of irrigation (GoB, 2022).

The growers of Cherries have limited access to market in Ziarat and about 50% of harvest is lost due to lack of storage and transportation. Although, Ziarat is just 130km from Quetta, the capital, but still, it lacks proper infrastructure. Another issue to the farmers is that they have to hire vehicles for transportation, as they are not provided by the traders. These traders then sold out their Products to middle and large traders in Quetta City on very low margins. Cherries are sold both in local markets and are exported to neighboring countries like: Afghanistan, Iran, Sri Lanka, Maldives China and Malaysia as well (GoB, 2022).

Farmers are always looking for high prices for their products to boost their revenues, but due to limited resources and lack of coordination from government, they have to sell their product in local markets at a very tiny margin. In marketing process, interests of consumer and producer must be considered, as they are the major stakeholders in the whole supply chain. Although, the production has increased, it has not played its role in increasing the value addition, due to lack of proper pest control, storage, transportation and the intermediaries associated in the production process. Lack in value addition is contributed mainly to the limited intermediary resources, which can connect the farmers, traders, merchants and corporates for value addition and

proper markets.

Efficient marketing benefits the producers as well as the consumers of the agricultural commodities. Larger share of agricultural products goes to intermediaries working in the markets. Cherry is perishable fruit and requires good marketing practices. Proper time, harvesting method, packaging, storage and processing all are important and need attention of the researchers. The difference that is observed between the producer’s income and charges accounted from the end consumer is termed as Marketing margin. Marketing margin has direct implication on the income of Cherry producer and hence development of cherry orchards in the area. The higher marketing margin reflects less income to cherry producers and more benefits to middlemen involved in cherry marketing. This study in hand is particularly designed to examine the marketing of cherry with the objectives to identify marketing channels of cherry in the study area and to find out the cherry marketing margins and costs of different marketing functionaries.

MATERIALS AND METHODS

Universe of the study:

This research was conducted in District Ziarat of Baluchistan province. Tehsil Cheena is a rich and famous area for cherry production in district Ziarat. Three villages of Cheena tehsil namely Kawasa, Pitava and Zhranda are highly producing areas of Cherry production, were purposively selected. In these selected villages, the list of producers was made available through the help of Social Science Research Institute (SSRI) Baluchistan. Yamane (1967) proposed a formula for calculation of sample size from population which is an alternative to Cochran’s formula having 95% confidence level.

$$n = \frac{N}{1+N*(e)^2} \dots\dots\dots(i)$$

Where, N is population size and e is the level of precision, was applied in the selected villages in order to get the respondents which were 64 respondents in total. After that 25contractors and 10 wholesalers of Quetta market were selected that deals with cherry of District Ziaratand a total of 10 retailers of Hazarganji market (Quetta) were randomly selected and interviewed in order to get primary data for this study.

Data collection:

A well-organized questionnaire was developed for collecting primary information from the selected respondents. Each selected respondent for this study was personally and directly interviewed and information was garnered through the designed questionnaire. Tireless efforts were made for the achievement of exact and appropriate data to acquire precise outcomes.

Analytical Techniques:

Cost of Marketing

The cost of marketing is associated with delivering goods or services to customers. The marketing cost may include expenses associated with transporting goods to a customer, storing goods in warehouses pending delivery, promoting the goods or services being sold, or the distribution of the product to points of sale.

$$C = C_G + C_{m_1}+C_{m_2} + \dots\dots\dots C_{m_n} \dots\dots\dots(ii)$$

Where; C is the total cost of marketing, C_G shows the marketing cost incurred by grower and C_{mi} represents the marketing cost incurred by ith intermediary.

Producer Price

It includes price of cherry or condition determined by the sum of the cost of production including (land, labor, capital), marketing and taxation.

$$P_G = P_W - C_G \dots\dots\dots(iii)$$

Where; P_G is the Producer’s price, P_W is the Wholesale price in the primary market and C_G represents marketing cost incurred by grower

Producer Share in Consumer Rupee

The share of producer and different market functionaries in price paid by the consumer is known as producer share in consumes rupee.

$$P_S = P_R - C /P_R * 100 \dots\dots\dots(iv)$$

Where; P_S shows the Producer’s share in consumer rupees, P_R is the price Paid by consumer (retail price) and C is the total marketing cost.

Marketing Margin

The Marketing margin is the difference between the price paid by the consumer and the price received by the producer. The numbers of middlemen engaged

in the marketing channel have strong effects on the marketing margin.

$$A_{mi} = P_{si} - (P_{pi} - C_{mi}) \dots\dots\dots (v)$$

Where; C_{mi} shows the Cost incurred on marketing by the i th middleman, A_{mi} is the Absolute margin of i th middleman, P_{si} shows Total value of cherry (sale price) and P_{pi} represents the purchase price of cherry.

RESULTS AND DISCUSSIONS

Marketing Channels of Cherry

Marketing channels can be explained as a series of co-dependent association that help the consumers by making the final products available to them for consumption (Kotler, 2010). This marketing channel is comprised of series of intermediaries with the help of which farm-based products and horticultural products are made available to the consumer. Marketing channels are indispensable for existence and maintenance of agricultural farms because of their role in transition of goods from producers to their final consumers. Following are some of the marketing channels that are used in marketing of cherry in the study area.

The following marketing channels were identified for Cherry in the study area.

Channel I:

Producer → Pre-harvest contractor → Wholesaler → Retailer → Consumer

Channel II:

Producer → Wholesaler → Retailer → Consumer

Channel III:

Producer → Retailer → Consumer

While collecting data in the study area, it was observed that majority (95 percent) cherry’s growers were selling their products to pre-harvest contractor by utilizing channel I and as it is mentioned in channel I that pre-harvest contractor took the produce from producers and then after proper picking they brought it to market where they sold it to retailers with the help of wholesalers while the final consumers bought this produce from retailers at the end. In this channel, all the marketing cost was bore by the pre harvest contractor. On the other hand, a small number of producers (3 percent) were utilizing channel II for selling of their produce. Such

producers didn’t sell their produce to pre-harvest contractor and all the marketing cost was bore by themselves, as they were financially strong as compared to the producers of channel I and brought their produce to the market by themselves to sell it to retailer with the help of wholesalers by earning sufficient profit. Similarly, some producers (2 percent) were utilizing channel III for selling their produce and didn’t contact with pre harvest contractor and wholesalers. Such producers are very less in number and mostly they have their own shops or rented shops during the fruits season in the main market of Ziarat.

In the study area, majority of the cherry’s growers were utilizing channel I for the entire process of cherry i.e. from producer to consumer. So, for this study channel I was selected. Furthermore, in this study the growers are from the selected villages of District Ziarat while the final consumers are from all over Baluchistan.

Producer:

The role of a producer in growing and marketing cherries encompasses overseeing the entire process from cultivation to market delivery. The producer selects suitable sites and cherry varieties, prepares the soil, and manages orchard establishment, including planting, irrigation, and support systems. They ensure optimal tree health through pruning, pest and disease control, fertilization, and pollination management, along with thinning fruit to enhance quality. At harvest, the producer determines the right timing and oversees careful picking to maintain fruit integrity. Post-harvest, they handle cooling, sorting, grading, and packing to meet market standards. Additionally, the producer markets the cherries to wholesalers, retailers, or directly to consumers, ensuring timely delivery and compliance with food safety and sustainability regulations. By staying informed about industry advancements and adapting to market demands, the producer plays a pivotal role in delivering high-quality cherries while maintaining sustainable and efficient practices.

Pre- Harvest Contractor:

Pre-harvest contractor facilitates the process of agreement between the market administration and growers. Impact of Pre-harvest contractor in trading

of cash crops cannot be neglected. The facilitator is generally the member of the same community but has adequate knowledge of trading and conditions of market. To agree on a proper agreement, the service provider assesses the field condition, calculates the expenditure on post-harvest management and offers a reasonable price.

As per our area of study, the process was slightly changed and facilitators were not from the local community, they were mostly from urban areas and lack proper knowledge of field activities. These contractors pay a visit in the mid of the year when cherry is ripe and ready for picking. The price was fixed on per carton (800 gram) and then the contractor started harvesting of the fruits. In comparison to the growers the contractor had more knowledge of market feasibility and manpower to cater, grade and trade the product picked.

Wholesaler:

In marketing, the middle man or wholesaler is a member of prime importance. To reach an agreement of mutual benefit between producer and consumers, one cannot neglect the role of wholesaler, in some cases the wholesaler performs the role of sale agent on behalf of growers. After harvesting wholesaler transports the commodity to Hazarganji Mandi (Quetta) for business. In our

study the wholesaler was well established at the ground level and established shops near farms in Ziarat. These stores were used to store the product and also made business with large buyers. After reaching an agreement the wholesaler would get a fair cut of profit: either from the growers or large buyers.

Retailer:

Chain of transportation by means of which the product reaches the general public ends at retailer. They receive product in bulk and then divide it to small units so it can be provided to final consumer. Retailers don't have a permanent store to do business they generally trade their product by frequently visiting housing societies and prominent markets. Retailers are also not financially stable and do business by taking the commodity on loan and after selling it refunds the consumer.

Net profit of Cherry Producer

Table 1 shows the net profit and marketing margin of producer. Data present in the table is relatable for production cost and net profit per carton. Majority of the cherry growers sold their product to contractor on farm gate. Net profit of producer is Rs. 63.06 per carton which constitutes up to 50 percent in our area of survey.

Table1: Net profit of the Cherry production on per carton basis (800 grams)

S.No	Particulars	Charges (Rs/Carton)	%age of the Total Cost of Production
A	Land rent	39.68	62.51
B	Fertilizer cost	17	26.18
C	Pesticides cost	5.55	8.74
D	Labor cost	0.39	0.16
E	Irrigation cost	1.4	2.20
F	Total cost	63.47	-
G	Total income (price received /carton)	126.53	-
H	Net Profit	63.06	-
I	%age of net profit of producer	49.83	-

Source Field Survey

Cost of Marketing

From the farm location till the final consumer, all the expenses are referenced to marketing cost. These charges were related to picking, grading, packaging,

transportation, service taxes and advertisement of the product (Smith, 1992). Expenses are flourished from the day of sowing the product and enhances as the day availability of the product to end consumer. Expenditure is basically increased due to the higher

taxes, added manual charges for picking, evaluating and transferring the product to accessible and feasible business centers. Table 2 shows the various

marketing charges of the cherry per carton in the study area.

Table 2: Total Cost of Cherry Marketing per carton

Cost items	Pre-harvest contractor		Wholesaler		Retailer		Overall	
	Rs.	%age	Rs.	%age	Rs.	%age	Rs.	%age
Carton	10.17	11.33	-	-	-	-	10.17	5.30
Packing material	3.100	3.454	-	-	-	-	3.100	1.61
Picking	7.128	7.94	-	-	-	-	7.128	3.71
Grading	10.22	11.3	-	-	-	-	10.22	5.33
Packing	9.22	10.27	-	-	-	-	9.22	4.80
Transportation	7	7.80	-	-	8	13.33	15	7.82
Loading & unloading	2.9	3.23	2	4.76	2	3.33	6.9	3.59
Commission	15	16.71	10	23.8	-	-	25	13.0
Net Margins	25	27.86	30	71.42	50	83.3	105	54.77
Total	89.731	100	42	100	60	100	191.7	100

Source: Survey results

Carton

Carton is prepared from a light card board and fixed by means of glue at corners. It varies with every variety but generally a carton can sustain product of more than 700 grams. Initial buyers use raw material of light boards to prepare cartons for transporting the product into the marketing community and sum charges per carton was estimated to be more than Rs. 10, hence shares 11.33 percent of the cost and 5.3 percent of the total marketing cost.

Packing Material:

To safely transport the product to market, it is essential to pack the product carefully in-order to avoid any damage. For packing purposes, the general packing material is raw newspaper which is wrapped around the product. After closing the carton, it is sealed with the help of adhesive tape. Newspaper and adhesive tapes charges around Rs. 3 and it shares more than 3 percent of the cost and 1.61 percent of the lump sum cost of marketing.

Picking:

Cherry is generally picked from the tree by the help of trained labors; the services of trained labors are acquired by the pre-harvest contractor on fix daily wages. Cherry pickers wages are generally more

than Rs. 7 and shares up to 8 percent of total cost and less than 4 percent of full cost on marketing.

Grading:

After the cherry is picked it is categorized by size, shape and color by professional labor for marketing purposes. Grading consumes Rs. 10 per carton which is 11.3 percent of the total cost and adds to 5.33 percent to overall marketing cost.

Packing:

After the detailed categorization, the commodity is packed with utmost care. Packing is an expensive step of the marketing process and labor charges Rs. 9.22 per carton that adds more than 10% of total cost and near to 5 percent of total cost of marketing.

Transportation:

Importance of transportation cannot be neglected in transporting the commodity to the main trading center. Charges of transportation increases day by day due to poor infrastructure and resources from the locality to the main urbanized business centers of Quetta take more time and consume more oil. The communication roads are poorly constructed which consumes a lot of time in transferring the product and per carton charges are Rs. 7 constituting 7.80 percent of total cost and 13.33 of retailer’s cost.

Loading and Unloading:

Trained labors were acquired by the contractor to load the commodity at production area and unload it at the marketing location. Cost of loading and unloading is mostly the same Rs. 2.9 which is 3.23 percent of retailer’s cost. Whereas the total cost for the contractor is Rs. 2 adding 4.76 percent to wholesaler cost. The reason behind the less labor cost for contractor is that contractor buys in bulk in comparison to the retailer due to which the loading and unloading cost declines for the contractor.

Commission:

During the marketing season of cherry, the commission agent is paid Rs. 15 per carton by the contractor in terms of market charges which was 16.71 percent of total cost by contractor and commission charges in case of wholesaler was R.s.10 per carton and it was 23.8 percent of wholesaler’s

cost and 13.0 percent of overall cost of marketing.

Marketing Margin of Intermediaries

The alteration in the rates at two different business centers is attributed to marketing margin. Marketing margin basically refers to the variation between producer’s price and consumer’s price for the same commodity. A classified firm gains profit from the systematic transfer of the product from the farm gate to the marketing center which includes buying, sorting, categorizing, packing and transportation. In the perfect market competition two factors i.e. various service charges and minimum profit and services cost have an impact on the marketing margins (Scarborough and Kydd,1992). Shares in consumer’s price for various marketing intermediaries in different marketing margins are given in table 4.5.

Table 3: Marketing margin and share of consumer price

S.No	Particulars	Charges (Rs/Container1)	%age of share of consumer’s price
1	At contractor’s level		
(i)	Purchased price	126.53	39.74
(ii)	Transportation cost	7	2.19
(iii)	Cost of container	10.17	3.19
(iv)	Picking cost	7.128	2.23
(v)	Grading cost	10.22	3.20
(vi)	Packing cost	9.22	2.89
(vii)	Packing materials	3.100	0.97
(viii)	Commission	15	4.71
(ix)	Loading & Unloading cost	2.9	0.91
(A)	Total marketing cost	191.20	60.00
(B)	Sale price	216.38	67.96
(C)	Net margin	25.17	8
2	At wholesaler’s level		
(i)	Commission	10	3.14
(ii)	Loading & unloading cost	2	0.62
(A)	Total marketing cost	12	3.76
(B)	Sale price	258.38	81.15
(C)	Net margin	30.38	9.54
3	At Retailer’s level		
(i)	Transportation cost	8	2.51
(ii)	Loading & unloading cost	2	0.62
(A)	Total marketing cost	10	3.14
(B)	Sale price	318.38	100
(C)	Net margin	50	15.70

Source: Survey

At Producer level:

Majority of cherry producers are not included in the trading process of their commodity. They generally opt to sell at pre harvest level. Table 4.4 shows the price paid per carton by pre-harvest contractor were Rs. 126.53 Which is more than 39 percent of the price paid by final consumer.

At Pre-harvest contractor level:

Purchasing the fruit by pre-harvest contractor cost Rs. 126.53, Rs.7 for transporting the commodity to the market where as Rs. 64.56 is amount detailed in terms of systematically picking, categorizing, packaging, loading, unloading, commission charges and transferring the commodity to the main market. After deducting all the payment for the services, the contractor receives an average price of Rs. 216.38 in which the net margin is Rs. 25.17 which is 8 percent of consumer's price per carton.

At Wholesaler level:

At HazarGanji market (Quetta), the wholesaler will pay commission to the concerned authorities. The commission paid by the wholesaler amounts to Rs. 12 which is sum of tax per carton and its loading and unloading. In our study area, the wholesaler received a profit of 9.54 percent which equals to almost Rs. 30 of the total prices, hence the wholesaler sells their product at Rs. 258.38.

At Retailer level:

Retailer receives the final commodity ready to be provided to the end consumer. A total of Rs. 10 per carton which is summed by the transportation charges, loading and unloading of the product to prominent locations to facilitate the consumer. The average price the retailer receives is Rs. 318.38 and extracting net margin of Rs. 50 amounting to 15.65 percent of the price paid by the end consumer.

Conclusions

Agriculture is the main source of income in Ziarat. Produce of cherry in Dumera valley of Ziarat is liked in Baluchistan because of its taste, color and shape. Cherry fruit is wasted mostly during transportation because of poor road facilities and perishability. Majority of pre-harvest contractor buy cherries from growers before harvesting, then they sell it

wholesaler, the retailers buy it from wholesaler and then reaches to the final consumer. The contractor's margin in all that process was 25.17, whereas the wholesaler and retailer's share were collectively 33.19. Cost of marketing and marketing margin express that the contractor's share in consumer's price was at 8 percent is incurred by the producer as the producer starts the marketing by himself. Based on the findings of the study it is found that contractor's takes a huge amount of producer profit, by eliminating contractors from the marketing of cherry growers' share can be increase by 8 percent. Government also needs to establish proper market infrastructure for cherry growers to reduce loses. Private organization should be encouraged to establish cold storage facilities to increase the shelf life of cherry.

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