



Full Length Article

Studying of the tree apple distributing network function in Iran (Case study meshkinshahr city)

Behnam Safari^a, Mohammad Khaledi^b, Gholamreza Yavari^c, Mohsen Shokat Fadaei^a.

A-Department of Agricultural Economy, Payame Noor University, Tehran, Iran

b- Agricultural Planning Economic and Rural Development Research Institute, Tehran, Iran

c- Department of Agricultural Economy, Payame Noor University, Karaj, Iran

ABSTRACT

Apple production is the main occupation in the Meshgin Shahr (Iran). The main purpose of this research is the study of tree apple distributing network function in meshkinshahr city using descriptive and measuring method of research. In this case statistical sample in the number of 125 persons among producer and market factors has been selected simply and accidentally and research data have been achieved by distributing question sheets. For getting the aims of research, using achieved information, 10 marketing direction of distributing tree apple have known and for each of these direction, market margins, factors, port from final price, index of marketing cost and marketing efficiency have been separately accounted. The results of the study showed that pedlarymargin at different direction is more than the margin of other marketing factors, also technical efficiency between 0/493 and 0/765, economical efficiency between 0/467 and 0/595 and total efficiency between 0/058 and 0/360 change. Among reviewed direction, those channels that leading the export of products to other cities by wholesalers have the highest efficiency and have been distinguished the best directions of supply and distribution.

Key words: marketing, distribution, network, margin.

Received 19.03.2014

Revised 28.05.2014

Accepted 23.06. 2014

INTRODUCTION

Iran is one of the main producers of apple in the world because of special topographic and climatic condition. A view to the statistic of apple production in the world shows that Iran had been one of the five major apple producer countries of the world as it was the third apple producer of the world in 2007 and was upper than the countries such as, Turkey and about one million and 700 tones of tree apple were packed from Iran gardens in 2012 which settled Iran at the seventh position of world apple producing . Tree apple export of Iran has owned considerable part of neighbor countries market, the greatest fruitful area of the country belongs to west Azerbaijan province and after that belongs to East Azerbaijan, Fars, Isfahan, khorasan Razavi, Ardabil and Zanjan provinces with 17/5, 10/5, 9/2,9, 4/5, 3/5, respectively, percent of apple fruitful level of the country, have owned second to seventh positions. Seven mentioned provinces have totally formed the 79/2 percent of the fruitful level of the country apple, but in spite of having these possibilities, Iran face with more difficulties in the field of apple production that one of them is high market border of this production.

Products market of developing countries torments marketing process and agricultural products traditional market in Iran has not a scientific and logical frame and this causes entering great number of mean to market. Being these mean and existed splits because of their unjust profits in marketing chain causes a farmers loose[1]. In this case the producer can be encouraged to produce by the right mechanism of sale and or because of the lack of right marketing loses the income of several months and motivation of production[7], [6]. so the duty of marketing systems of distribution of agricultural products and as marketing systems of producer's and from the other hand the costumer's relax level goes up. As a importance of apple production in Ardabil and Meshkinshahr cities economy, the aim of this research is reviewing the function of tree apple distributing network in Meshkinshahr city.

Moradi and mojaverian's[8] study the factors that effects on Marketing border of peach in Mazandaran province and showed that there is a direct relation between price and border of marketing in case that by increasing the price, the border of marketing meaning fully increases. Bakhshoude and Vaseghi's[3] study

about marketing of rose flower in Isfahan showed that the producer's share from sale price is low to customer and marketing randman. Exactly in this order, because of high wastes, technical efficiency is low about price of field is high and total efficiency is finally high. Hashemian[9] paid attention to marketing of peach in his research. He showed that total border of various peaches by average during study years with 59/5 percent increase from 4075 to 6500 Rials. Also growth price of total margin of various nectarine have been more than peaches as growth price of total margin of kinds of nectarine have been about 14 percent and kinds of peaches had been 12/4 percent. Panahi[5] has researched production, technical efficiency and market finding of apple in Kohgiloye and Boyer Ahmad province. Study results showed the market margin vending and wholesale orderly 5650, 2455, 3195rials and also showed the marketing efficiency is 120 percent. Ashrafi and et al [2] have achieved these results in reviewing marketing margin of grape and raisins in Iran: during study period the mean of vending margin of two products were more than their whole sale border and average of grape and raisins marketing co efficiency cost are orderly 49/7 and 25/59. The results indicated increasing of vending share and reduction of producer's and whole saler's share from final price of grope and raisins during study period. Traub and Jayne[13] reviewed the Africa during 1976 – 2004 and conclude that the real margins of vending of maize flour price deregulations in 1991. Also deregulations of maze flour price have caused transfer of 179million dollar from costumers to mean. John and et al [10] studied the margin manner of wholesale – vending market in the meat industries of cow and hog. The results showed that these margins have increased orderly 27 and 149percent rate. Whereas producer – wholesale margins have decreased. Seyed Amer Hosseinet al (2003) studies the mean of market and their marketing margins for native fish in lahourarea of Pakistan. The result of this study showed that share of market mean is basically more than the final price of product. And in this field increase of government middling at sale stage is needed for reducing market margin and in other word this is a help to increase producers, income. According to the studies, it is seen that the market margin of agricultural products were commonly high and in the opposite the producer's share from this margin is low and marketing factors earn a lot of benefits and this subject has more intensity about garden products.

Considering the above discussion, this study has been undertaken with the sole objective of assessing the potential of Apple marketing channels, its impact on the standard of living of the local people.

METHODS AND MATERIALS

Marketing margin is the result of supply and demand factors, marketing costs and competition degree of marketing channels [10]. The marketing margin completely is divided to complete margin, vending margin, wholesale margin and other factors of market margin,

Wollen and Turner proposed a method in order to account marketing margined and market efficiency. Many researchers have used this method to measure the function of different products marketing system. In this method total marketing margined of received price differences by producer and paid price by consumers will be final.

That is: $MM = p_c - p_p$ in which MM is the total marketing margine, p_c is the consumer's paid price and p_p is the producer's received price. But for better analyzing we account marketing margine at every stage of system for and buying price with P_b , then we will have:

$$MM_A = P_d - P_b$$

Here MM_A is the related margineto A marketing factors.

Shirvastava and Randhir have given a method to calculate marketing efficiency .For their idea, price include two articles: pure margine and marketing costs. If we show the pure margine with NM and marketing costs with MC (including work power costs, transportation, storage, packing a so on unless the costs of wastes) then these relations will be done:

$$MM = p_c - p_p = NM - MC$$

$$MM = NM - MC$$

Then these two researchers by dividing total inefficiency of a marketing system for two articles have described the inefficiency as following:

$$\text{Total Inefficiency: } OI = (MC + CW) / MM$$

$$\text{Total efficiency: } OE = 1 - OI$$

$$\text{Price Inefficiency: } PI = MC / MM$$

$$\text{Price efficiency: } PE = 1 - PI$$

$$\text{Technical In efficiency: } TI = CW / MM$$

$$\text{Technical efficiency: } TE = 1 - TI$$

In this case marketing and cost of wastes equals zero, inefficiency will be zero and this is the complete efficiency competition market. on the contrary, if the amount of these costs equal with market margine, inefficiency of marketing system and as the amount of marketing inefficiency of system is low, direction and system of marketing is better and should pay attention of price of products at the levels of on field market, wholesale and vending have been used from average of weight price in each of mentioned levels

$$P_{rw} = \frac{\sum \sum Q_{it} p_{it}}{\sum \sum Q_{it}}$$

At above relation Q_{it} and p_{it} orderly show amount and price of the bought ord sold products by M_i person at M_t time and p_{rw} is the average price or the average of weight price at different levels. To calculate the index of marketing cost that shows marketing margine as a percent from retail selling price derives from this relation [12].

$$r = \frac{P_r - P_f}{p_r} \times 100$$

Thakur believes that, efficiency has the greatest importance in marketing analysis. Benefit in marketing is directly related to its efficiency, High efficiency of marketing causes that producers' income be ready with increase of their productions price or consumers satisfaction of price between final buy and sell in market. The method of this study is descriptive and measure mental. Information and data that are used in this research were sectional and are related to 2010. These data are collected by three question sheets (producer's, vending and wholesale question sheets) and also are collected by the method of simple accidental sampling. From 125 question sheet, 50 are related to producer, 30 are related to retail seller and 45 are related to the other factors of market such as wholesaler by the method of simple accidental sampling.

RESULTS AND DISCUSSION

Meshkinshahr city having 363823hectare width is located at southern part of Ardabil province and has 13400 hectare gardens. Apple is the most major garden product of Meshkinshahr city and having 10250/1 hectare fruitful gardens in farming year of 2010-2011. And this shows the high potential of area to growth and increase the rate of producing and export of apple from this area. Increasing the cultivation level of apple in Meshkinshahr city from 6000 hectare in 2011 to 101250/1 hectare in 2010 shows the important placement of apple in peoples' life and economy in this area (Meshkinshahr agricultural jihad,2009). Therefore this research follows the study of the function of distributing network of tree apple in Meshkinshahr city that it can introduce the best distributing direction of this products of city scientifically and removes the marketing difficulties.

In figure 1 the marketing channels of apple product of Meshkinshahr city are shown.

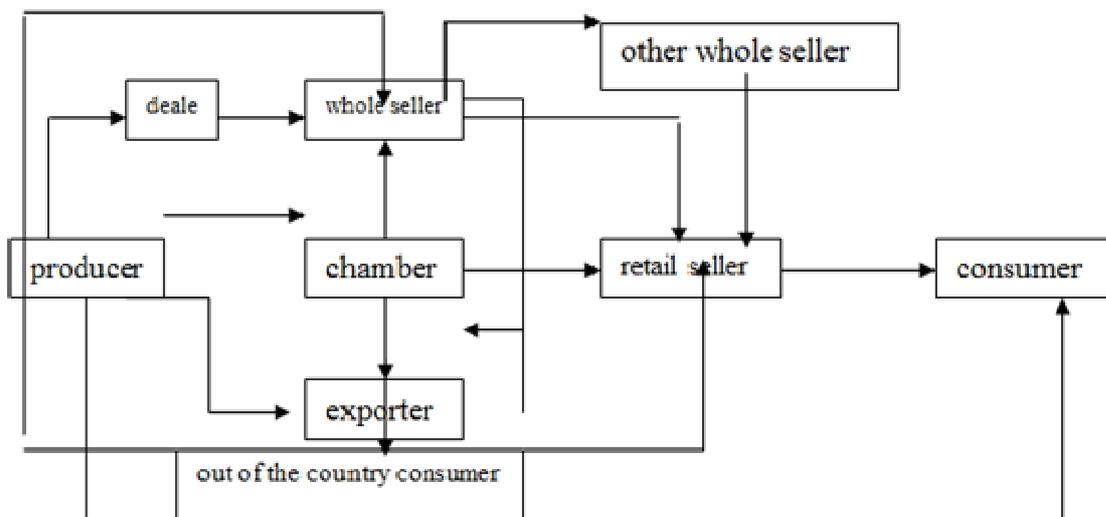


Figure 1. Marketing network of apple in Meshkinshahr city.

According to figure 1, 10 different directions for marketing the apple product in Meshkinshahr city are observed.

Direction 1: producer → consumer

Direction 2: producer → retail seller → consumer

Direction 3: producer → whole seller → retail seller → consumer

Direction 4: producer → whole seller → other whole seller → retail seller → consumer

Direction 5: producer → dealer → whole seller → other whole seller → retail seller → consumer

Direction 6: producer → chamberman → retail seller → consumer

Direction 7: producer → chamberman → whole seller → retail seller → consumer

Direction 8: producer → chamberman → exporter → out of the country consumer

Direction 9: producer → whole seller → exporter → out of the country consumer

Direction 10: producer → exporter → out of the country consumer

This research has reviewed the aims of research at first seven directions that relate to the condition and prices in the country.

Marketing costs calculated separately for each of marketing direction. The captured result are shown in table (1). The cost of wastes is also calculated according to the rate of wasted product at different marketing stages and also the rate of the loss of product is calculate at different stages from producer to consumer.

Table (1) Marketing cost of one kg in 2010. * The used unit at all calculations is Rial.

Direction \ Description	1	2	3	4	5	6	7
Collecting	433	433	320	320	320	433	433
Packing	520	520	460	460	460	520	520
Transportation	100	70	300	350	300	70	470
Storekeeping	70	—	500	540	500	800	600
Loading and un loading	—	30	80	80	80	80	170
Dealer ship costs	—	—	—	—	200	—	—
Whole selling current costs	—	—	950	1350	950	—	950
Chamber man current cost	—	—	—	—	—	560	560
Retail selling current cost	—	450	720	720	720	720	720
Marketing total cost	1123	1503	3330	3820	3530	3183	4423
Cost of wastes	300	1750	2210	2210	2210	2340	2600

It is completely observed that by increasing marketing factors and last longing of marketing direction, marketing cost has increased us the first and the search directions have orderly minimum and maximum marketing cost.

In the table (2) the price of one kg. Apple forever one of marketing factors in different directions is calculated. Following research method because of the fluctuation at product price the weight average of price is used.

The result showed that the final price of product because of two groups of wholesaler factors and also for existing dealers group has the highest.

Table (2) Average price of one kg. Apple different levels for reviewing marketing directions.

Direction price	1	2	3	4	5	6	7
producer's price	600	7250	4580	4580	4250	5350	5350
dealer's price	—	—	—	—	5100	—	—
Chamber man's price	—	—	—	—	—	8450	6420
Whole seller's price	—	7680	7680	7680	7930	—	9100
Whole seller's price of the other city	—	—	—	9550	—	—	—
Retail seller's price (final)	6000	10700	12150	19000	12500	13100	13550

Using the data's of table (1) and (2) and using given relations at research method, marketing different margins, marketing factors, share from final price of product, marketing cost coefficient and price, technical and total efficient are calculate.

Table (3) marketing different margins, marketing factors share from final price of product and marketing cost coefficient.

Direction \ Descriptions	1	2	3	4	5	6	7
Dealer's margine (Rial)	—	—	—	—	850	—	—
Whole seller's margine (Rial)	—	—	3100	3100	2830	—	2680
Other whole seller's margine (Rial)	—	—	—	1870	—	—	—
Chambermens margine (Rial)	—	—	—	—	—	3100	1070
Retail seller's margine (Rial)	—	3450	4470	4450	4570	4650	4450
Marketing total margine (Rial)	0	3450	7570	9420	8250	7750	8200
producer's share from final price of product (percent)	100	67/7	37/69	32/71	34	40/83	39/48
Dealer's share from final price of product (percent)	—	—	—	—	6/8	—	—

Whole seller's share from final price of product (percent)	—	—	25/51	22/14	22/64	—	19/77
Other Whole seller's share from final price of product (percent)	—	—	—	13/35	—	—	—
chambermens , share from final price of product (percent)	—	—	—	—	—	23/66	7/80
Retail sellers, share from final price of product (percent)	—	32/24	36/19	31/78	36/56	35/49	32/84
Coefficient of marketing cost (percent)	0	32/24	62/30	66	66	59/16	60/51

At the first direction, a margine for marketing factors and total marketing margins is zero and the producer's share from final price of product is %100. Prices are low in this direction. At the fourth direction marketing margine and coefficient of marketing cost has increased and are located at the highest rate between reviewed directions and this factor causes that the producer's share is located at the lowest limit with 32/71 percent of final price and similar to this position is observed at the fifth canal that the producer's share is in worthless level because of direction long taking and presence of great number of market factors.

At table (4) the pure margine of every marketing direction is reviewed and through this table calculation of actions is done. According to achieved results the purest margine relates to the fourth direction.

Table (4) sole margin for every marketing direction of apple in Meshkinshahr city in 2010.

Direction	1	2	3	4	5	6	7
sole margin (Rial)	—	1947	4240	5600	4720	4567	3777

At table (5) calculation of price efficiency, technical and total efficiency is done so by this method the first distributing canal of tree apple is determined.

Table (5) price, technical and total efficiency in marketing directions.

Description	Directions	1	2	3	4	5	6	7
Price efficiency		—	0/565	0/561	0/595	0/573	0/589	0/461
Technical efficiency		—	0/493	0/708	0/765	0/732	0/699	0/683
Total efficiency		—	0/058	0/268	0/360	0/304	0/287	0/144

Because of the low costs of marketing in regard to total margine of marketing, the fourth direction has the highest price efficiency with 0/595 rate. The seventh direction has also the lowest price efficiency rate according to the marketing high costs in regard to pure margine of marketing in this direction. The fourth direction has the highest rate of technical efficiency with 0/765 rate, and the second direction has the lowest rate of technical efficiency.

It is finally considered that total efficiency has rolled rising process as the fourth and fifth directions have orderly the after highest rate of total efficiency with 0/360 and 0/304 rate. The fourth direction the total efficiency has reducing mild process.

The result of this study showed that most of the gardners presell their product for whole sellers and dealers because of the financial weakness and not taking a risk. The marketing margine that relates to retail sellers has been more than the margine that relates to the other marketing factors and has made high margines in different directions and finally a very little part of the final price of product has destined to the producer, as the retail sellers' share from final price of product is very neat to and comparable with the producer's share. Finally by reviewing the actions, we conclude that the marketing directions of tree apple in Meshkinshahr city have not desirable efficiency. The directions that lead to export of the product to the other profit earned in this direction also has destined to the marketing factors.

According to the results of this research, the suggestions are given in order to improve marketing system of apple product:

- 1) It is suggested that competition and mew native markets be noticed by agricultural actives and politicians. Direct supply markets, stock exchange and or upper stock exchange market and the producers, union can be effective to improve market.
- 2) Different marketing learning's and financial supports from gardners should be acted by the government at the time of product withdrawal so that the producer's share from final price goes up and marketing margine goes down.
- 3) Possibilities and storekeeping power and other marketing activities of product prepared for Gardner with government's financial and informational support from products being aware of market prices.
- 4) Giving market information and prices to producers can cause the producer's bargain power.

REFERENCES

1. Asadi, H., (2005), Citrous marketing in Mazandaran province. *Olive magazine*. (in Persian). 163: 43-49.
2. Ashrafi, M., Sadral, A., Karbasi, A., (2005). Reviewing marketing margin of Group and Raisins in Iran, *Trading research*, 35: 213 – 237
3. Bakhshoude, M., Vaseghi, E., (2009). Dutch rose marketing in Isfahan. *Journal of Natural sources and agricultural technics and sciences*, 2: 32-35..
4. Beighzadeh, S., Chizari, A H., (2007), reviewing marketing channels and effective factors on marketing margine of potato. *Journal of Agricultural economy and development*, 57:34-39
5. Panahi, A., (2008) reviewing of producing, technical efficiency and marketing of apple in Kohghilouyeh and Boyer Ahmad province, Marvdasht: Islamic azad university of Marvdasht, posts graduate Thesis.
6. Khaledi, M., Shoukatfadaei, M., Nekoofar, F., (2009). *Economy and Agricultural development publication cover*, 4:65-69
7. Karbasi, A., (2003). Reviewing relative preference and economic factors of producing and exporting of dates in Iran, *summary of collection of the ninth essays of private meeting of dates*, 45:45-51.
8. Moradi Farahabadi, Z., Mojaverian, SM., (2009), is reviewing peach marketing in Mazandaran province and effective factors on marketing margine, collection of the essays of the seventh agricultural economy conference of Iran. Tehran: Institution of planning research and agricultural economy.
9. Hashemian, SA., (2008). Reviewing selling problems of Citrous peach and nectarine of Mazandaran province in years 1382-1386. Publication of trading center research of Mazandaran province.
10. John, M. Brester, w., (2004), marsh and Gary, *Journal of agricultural and resource economics*. 29 (1): 45 – 64
11. Shrivastava, R.S, and Randhir, M., 1995. Efficiency of fish marketing at Bhubaneswar city of Orissa (India): some policy implication. *Journal of agriculture economics*, 18:89-97
12. Thakur, DS. (1992), food grain marketing efficiency: a case study of Gujarat, *Indian journal of agricultural economics*, 29:61-74.
13. Traub, N., Jayne, TS, (2008), the effect of price deregulation on maize marketing margins in south Africa, *food policy*, 33:224-236
14. Woolen, G.H., Turner, G., (1989). The cost of food marketing, *journal of agricultural economics*, 21:63-83