

# PRODUCTION AND MARKETING OF POMEGRANATE IN BAGALKOT DISTRICT – A Case Study

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## ABSTRACT:

Horticulture frames the groundwork of the Indian wealth causal 14.60 for every at 2004-05 costs amid 2015-17 to the total national production and giving work support to around two-third of the nation's population. Truth be told it is the single biggest private part profession. The different agro climatic situation in India are favourable for growth of sultry, sub steamy and pleasant crops. moorland crops comprising coarse grains, pulses, basis and corm crops under enemy control the Indian farming in terms of both area and manufacture of new germ stimulant base machinery favour wheat and rice in the mid-60s, the making of moorland crops underwent a incessant refuse as all the investigate and expansion efforts were largely going to to tap the impending of this new technology. Urbanization, growth in economy and accessibility of a better selection of food items has diversified the consumption pattern in favour of milk, fruits and vegetables. In the next one and half decades, demand for milk and fruits would be more than two times the current demand. The continuing financial reform in India, worldwide trade reform and effort to put together the Indian financial system with the global economy are likely to result in structural changes in India's farm economy. Non-cereal food foodstuffs are possible to happen to significant in growing farm profits and in attain unprejudiced local expansion and nutritional stages.

Key words:- Pomegranate, Horticulture, Climatic, Growth,Technology, Agro, food.

## INTRODUCTION:

India with its wide unpredictability of atmosphere and soil, has good potential for rising a wide option of horticultural crop such as (fruits) (vegetables) (potato) (tropical tuber crops) (ornamental crops) (medicinal and aromatic plants) spice and agricultural estate crop etc. Since the mid 60s, the govt recognized horticulture crops as a income of diversification for manufacture farming more money-making through

well-organized ground use, most favorable consumption of usual possessions and create expert service for rustic masses, particularly women folk with the past hard work satisfying.

Globalization of rural exchange, independence in nourishment grain generation and coming of new innovation has offered approach to expansion in Indian agribusiness towards send out situated high unit esteem agricultural yields. Green advancement had not been a need territory, in India until the post-1993 period, when centered consideration was given to agricultural improvement through making of framework for frosty stockpiling, refrigerated transportation, handling, bundling and quality control. Later in 2005-06, the setting up of the National Horticulture Mission (NHM) by Government of India, promoted this sector on a large scale. The overseas trade rule (2004-09) also emphasize on boosting undeveloped exports and recognized that enlargement and support of export of horticultural foodstuffs was important for the country.

Horticulture crops cover only 18.98 million hectares (7.20 m ha under vegetables and 5.51 m ha under fruits) *i.e.*, 13.27% of total cultivable area but make a payment 28% of the farming unpleasant domestic product (Mittal, 2007). India is the worlds second biggest manufacturer of fruits 57.73 million tons and vegetables 129.15 million tons and contributes 13.10 and 20% of vegetables and fruits, correspondingly in the nation. About (65-70%) per cent of fruits and vegetables formed in India are consumed domestically, two per cent of them are being processed and only one per cent being exported while post harvest losses account to 20-30 per cent of the stored fruits (Economic Survey, 2007-08). The national require for fruits and vegetables during 1990 to 2020 is predictable to raise at an regular annual rate of 4.2 and 3.7%, correspondingly. India is slowly emerging as an imperative home customer and export of fruits and vegetables.

Green harvests give crude materials to a few subordinate businesses. The significance of natural products in human eating regimen is all around perceived, in light of the fact that they are the main wellsprings of vitamins, minerals, salts, sugars, protein, fats, acids and so on and numerous organic products have particular restorative properties. Alongside these, plantations help in keeping up natural equalization and generation of organic products adds to the wellbeing, joy and flourishing of the general population. It is normally expressed that way of life of individuals of a nation can be judged by its per capita generation and utilization of natural products. Further, man can't live on oats alone. Nourishment specialists advocate utilization of no less than 120 grams of natural products per head every day notwithstanding grains, beats, milk, vegetable, eggs, and so on. Unexpectedly, the per capita utilization of natural products in India is just 46 grams for each day.

Along these lines, keeping in mind the end goal to overcome any issues amongst interest and supply positions of natural products, there is a need to upgrade the aggregate creation and profitability through the reception of present day generation advances.

Fruits and vegetables are labor concentrated crops and assist in generating supplementary profits and

employment opportunities from side to side production, wrapping, dispensation and promotion of raw as well as value added products. The standard labor obligation for fruit manufacture is 861 man days per hectare per annum as against 144 man days for cereal crops. Crops like grape, banana and pineapple produce to a large extent larger service, approximately from 1501-3499 man days per hectare per annum. There has been, in the current existence, a unexpected growth in the export of unmarked and process fruits and vegetables, the atmosphere which has been made favorable by the modern trade liberalization rule and improved plan investments on horticulture expansion.

Summarizing the importance of fruit farming, it can be stated that it supplies nutritious food, higher income, round the year employment, and aesthetic touch to the life. It promotes the development of natural resources, higher yields, better returns from land, enhances the land value, creates a better purchasing power among the people and consequently adds to the general prosperity of the nation. In excess of the years, horticulture has emerged as an necessary part of agriculture in India. It offers an extensive variety of choice to the farmer for diversify.

### OBJECTIVES OF THE STUDY

1. To gauge the development in territory, generation and profitability of pomegranate in Karnataka.
2. To gauge the expenses and returns of pomegranate plantations.
3. To study the money related attainability of interest in pomegranate plantation.
4. To gauge the asset use effectiveness in pomegranate creation.
5. To workout expenses and edges under various channels of pomegranate showcasing.
6. To study the promoting example of pomegranate in the study zone.
7. To distinguish imperatives underway and advertising of pomegranate and to propose the proper arrangement measures.

### SUMMARY AND POLICY IMPLICATIONS

Globally, India is subsequent major manufacturer of fruits after Brazil. The planet manufacture of fruits is 434 million tons and India contributes 46.6 million tons or 10.13 percent of the outgrowth basket. India stands first in the manufacture of acid lime, sapota and banana. Horticultural crops in our country cover an area of 8.5 per cent of the gross cropped area and contribute 30 percent towards agricultural GDP (Anon 2005), and fruits occupy an area of 3.89 million hectares in India. The national demand to be extended for fruits and vegetables during 1995 to 2020 AD is predictable to produce at an standard twelve-monthly rate of 4.1 and 3.6 per cent correspondingly. India is slowly but surely rising as an significant domestic customer and exporter of fruits and vegetables.

Karnataka circumstances is rising as one of the most important state in the countryside of horticulture. The condition has exposed a high-quality possible for cultivation of fruits., citrus, grapes Mango, banana, sapota and pomegranate are main fruit crops of the state. The geographical area of Karnataka state is 190.50 lakh hectares, of which an area of 121.89 lakh hectares are underneath the cultivable area, constitute 63.99 percent of the environmental region during the year 2008-09. The totality horticultural crops neighborhood in the condition was 18 lakh hectares, of which 17.67 per cent was occupied by fruit crops. The total area under pomegranate in Karnataka during 2008-09 is 14,996 hectares. Out of the sum area of the situation, 8026 hectares are found in Bagalkot of the Karnataka (more than 50% of the state total area). additional, major portion of pomegranate is organism exported from Bagalkot district. In observation of this, the nearby learning has been undertake in these two preferred district of Karnataka.

India export pomegranates to the Gulf country, the European Union, ASEAN countries, Pacific- Rom countries, China, USA and Canada. It is manifest that export of pomegranates has surge 500 percent from 6,303 tons in 2003 - 04 to 33,995 tons in 2009 - 11. As far as country judicious sell to other countries of pomegranates for 2009-10 is concerned, UAE is the major buyer followed by Bangladesh, the Netherlands and Saudi Arabia. still despite the information that present appear to be an augment in the quantity of export from India in excess of these time, the nation export merely 4 percent of its manufacture at the same time as Spain export concerning 65 percent of its predictable production. This is in malice of the information that India is the principal producer of pomegranates in the earth.

### Specific objectives

- To estimate the enlargement in region, cultivation production and efficiency of pomegranate in Karnataka.
- To estimate the costs and returns of pomegranate orchards.
- To study the financial feasibility in pomegranate orchard.
- To workout expenses and limitations under unusual channel of pomegranate marketing.
- To assess the present status and strategies of pomegranate export from India.
- To manuscript the constraint associated with production, marketing and export of pomegranates.

### Methodology

The nearby revision was approved out throughout the agricultural year 2008-09 by utilizing both most important and secondary information. The primary data were composed with the assist of pre experienced well thought out schedule. The general information about the pomegranate cultivator, the region under

pomegranate, age of the orchard, figure of plant life, spacing contribution make use of etc was also collected. The appropriate in sequence on other aspect like permanent possessions, ground make use of, cropping example, source of irrigation, yield and income, quantity sold, place of sale and the channel through which the fruits were exported, the marketing costs incurred by him, profit margin earned by each functionaries were collected. The primary data relating to establishment cost, production cost, price obtained by the farmers, channel follow in promotion of their generate, price of promotion of fruits, problems faced during production and marketing were obtained from the producers, similarly, the data on costs incurred by the market functionaries in the promotion of the generate, the value at which the article of trade was purchase and sell *etc.*, were collected in order to work out the margins obtained by each of them.

The secondary data pertaining to the region, invention and efficiency of pomegranate were composed starting the Director of Horticulture, Bangaluru, Deputy Directors of Horticulture, Bagalkot, Senior Assistant Directors of Horticulture Bagalkot, Mudhol, Kushtagi and Yalburga taluks and also from the fruit growers associations in the study area. As the data on export of pomegranate from Karnataka was not available, only the export data related to the country was analysed.

To accomplish the unambiguous purpose of the learning, base on the environment and degree of accessibility of information, investigative technique such as tabular presentation technique, enlargement velocity psychoanalysis, unsteadiness investigation, monetary practicability examination, Markov Chain study, SWOT study were adopted.

## Review of Literature

Ramegowda (1991) presented that, the greater part of the coffee growers were on medium crisis management group followed by low and high crisis management group. Majority of marginal & small coffee growers were in low crisis group while large coffee growers clustered in high crisis management group.

Umapathi *et al.* (1994) studied the quality characteristics of cotton in Karnataka and found that colour, staple length and fineness have significant positive effects on the price of cotton kapas. The cotton with higher staple length had a higher demand and the study concluded that price and quality characteristics are closely related.

Gunjate (1997) reported issues in cashew manor administration at local outgrowth investigate position, Maharashtra (Vengurla). He watched that a few issues in cashew ranch administration were non accessibility of correct sort of input lacking assets, non accessibility of appropriate homestead types of gear and hardware, non-accessibility of qualified and experienced work force. The prophylactic clean measures prescribed were observed to be very powerful against stem and root exhausts.

Desai 2005 watched that (Japan) was a standout amongst the the majority stable nations, among significant

shippers of Indian crisp mango as presented by its elevated likelihood of maintenance (2.09). On account of mango mash, different nations had the most elevated likelihood of maintenance (12.90%) trailed by Saudi Arabia (84.00%) while Netherlands, UK, Kuwait and UAE were not able hold their offer as reflected by their likelihood of maintenance of zero. The middle probability assessed for mango cuts in saline solution demonstrated that UK was the nearly everyone stable nation in the middle of significant merchants of Indian mango cuts in brackish water as reflect by its high likelihood of maintenance (0.452).

Sujatha et al. (2003) contemplated the precariousness of mangoes from India isolating the study time frame into pre and post-WTO period. The study uncovered that the insecurity was higher in the post-WTO period than the pre-WTO period. The fare income were profoundly insecure in general period contrasted with the pre-WTO period.

Sujatha *et al.* (2003), examined- the constraints in the export of mangoes and found that export marketing required a sound and organized supply mechanism. Irradiation machines are required to provide quality mangoes. Careless packaging and the problems of spongy tissue and infestation by fruit fly and stone weevil lowered the quality.

Brij B (2005) led a learning on advertising frameworks for apple in slopes, issues and forecast contextual analysis of Kullu locale, Himachal Pradesh. He reviewed 212 apple cultivators and reported numerous limitations confronted by the producers, for example, absence of street office unawareness, insufficient storeroom, deferred installment and absence of business sector knowledge.

The consequences of the examination obtainable in the previous chapter are discussed in element in this chapter. The major focal point here is to heave brightness on a quantity of of the cause accountable for the most important trends observed in the answer. This category of psychoanalysis is hope to identify such of the guiding principle procedures and carry out correction that can be implement to overcome the constraint encounter by pomegranate growers. maintenance objectives of the schoolwork in observation the results are discussed under the following heads:

- 5.1 Universal distinctiveness of the example cultivator
- 5.2 Growth in area, production and efficiency of pomegranate
- 5.3 Investment example and preservation cost in pomegranate orchards
- 5.4 Yield and return organization of pomegranate in the learn region
- 5.5 Monetary viability of speculation in pomegranate orchard
- 5.6 Marketing of pomegranate
- 5.7 Present standing and sell to other countries scenario of pomegranate
- 5.8 Direction of buy and sell and altering prototype of exports during pre and post WTO periods
- 5.9 SWOT analysis of pomegranate export

## 5.10 Problems faced in production, marketing and export of pomegranate

### 5.1 General distinctiveness of example cultivator

The universal distinctiveness of example farmers in the learning region are accessible in previous chapter in the Table 4.1 are discussed in the following paragraphs. The information necessary for the reason of revision were elicited from 100 pomegranate growers. The regular size of investment of model farmer was 4.02 ha. The respondents were not merely big sized cultivators but also they were monetarily better off. The standard size of pomegranate orchard 1.06 ha in quantity to the full amount land property was exceptionally less. This was outstanding to the information that most important portion of their land property was un-irrigated. Kesar and Araktha variety were grown-up in the learn area by preponderance of pomegranate farmer. The Kesar assortment was favorite by growers due to its distinctiveness like red reddish pink seed, equivalent resistance to disease and also high-quality maintenance excellence for advertising in isolated market, less region was experiential beneath Araktha assortment. The characteristic facial appearance of this assortment are elastic seeded, far above the ground per cent of fruit drink and breezy and invigorating sugary fruit drink.

The normal figure of plant life per ha were 744 which was on par with the recommendation by the horticulturists (740 plants/hectare). This was mainly because adoption of proper spacing in planting reduces the diseases and pest load on the crop. The pomegranate manufacture is attractive accepted in the learn district all through current existence. Pomegranate crop has acquired profitable consequence in the neighborhood for the reason that of appropriate type of weather and top soil circumstances. An additional idiosyncrasy of this outgrowth is that, it has the best maintenance superiority which helps in promotion of fruits in remote markets.

### 5.2 Growth in area, production and productivity of Pomegranate

The development rates for region and manufacture were established to be positive and important for the State as well as Bagalkot districts Table 4.2. This significant development in manufacture of pomegranate for the state as well as for Bagalkot district was not due to the increase in yield but mainly due to increase in area under pomegranate. The significant and vibrant increase in growth in area (24.00%) and production (25.35%) for district was mainly due to implementation of schemes for the farmers by National Horticultural Mission and National Horticultural Board wherein, subsidized inputs and technologies were provided to the farmers. Increase in prices of pomegranate during the year 2005 due to export of the produce since Kesar and Araktha varieties were in great demand from European countries due to their excellent quality parameters, led to two-fold increase in area under pomegranate during 2009-10 resulting in considerable increase in production of the fruit in subsequent years. The reason for non-significant increase

in yield for the State as well as for the Bagalkot district may be attributed to incidence of bacterial blight disease which had a devastating effect on the yield of the crop in the recent years. The increase in area under pomegranate in the study area was at the cost of chilli, onion, cotton, jowar *etc.*

However, the area and production in the studied district showed a substantial and vibrant growth except the growth in yield which was insignificant which resulted to disproving of the hypothesis framed in the study.

### 5.3 Investment outline and preservation cost in pomegranate orchards

The investment outline in pomegranate is comparable to the one establish in any plantation or orchards. serious speculation is wanted for establish a pomegranate orchard. The price of establish a pomegranate orchard up to behavior can be generally confidential into institution charge and preservation cost. So, the organization cost incorporated not only the costs incur in the nothing existence that is at the point in time of plant but also the expenses incur in maintain the undergrowth till the time of comportment that is up to three existence of plant.

For establishment of pomegranate orchard, investment has to be prepared on ground, bore well, sprayer, deposit objects, digging of pits, staking, grille and putting in place of drip set for irrigation and these costs mutually constitute the objects costs of institution. These expenses have to be invest throughout the year of institution of the orchard and are measured as the costs incurred throughout nil year in the learning. During the preliminary episode of three existence cultivator has to preserve the orchard by apply pesticides, manures, chemical, irrigation, *etc.* The expenses incurred by the cultivator on all these substance for the three years were group mutually as price on continuation of the orchard.

The full amount expenses of organization per ha was Rs. 2,9 lakhs. The matter price constitute a most important allocate in the whole institution cost of pomegranate orchard. Out of the entirety institution price, the preliminary price constitute 53.32 per cent Rs. 2, 42,478.52. correspondingly, the preservation cost upto the behavior time 3 years accounted for 46.68 per cent Rs. 2, 87,896.24) comparable consequences were obtain by Mallappa.

The preservation costs up to the bearing period for Bagalkot district for the I, II and III year were Rs. 42,553.28, Rs. 45,930.84 and Rs. 45,032.12 accounting for 14.88 per cent, 16.06 percent and 15.75 percent of the totality establishment cost respectively..

#### 5.3.1 Preservation cost of pomegranate orchard during gestation and bearing periods

The preservation price of pomegranate during gestation period for Bagalkot district (Table 4.4) as indicate in the consequences incorporated the salary of labor as well as the price of resources utilize and the permanent expenditure. It was experiential that out of entirety preservation cost the foremost constituent

was the changeable price follow by the permanent price.

Under the variable price, the labour price created an significant component bookkeeping almost 63.05 percent of whole preservation price, in view of the fact that the crop requires superior quantity of labor participation to perform the important activities like loosening the soil around the trunk and configuration of bed for drip irrigation, FYM application, land preparation, weeding, watch and ward, pruning and teaching and nourishment application *etc.*

In the middle of objects price, the most important price constituent was place fortification chemical follow by manure and pesticides. Since Bagalkot district was severely affected with bacterial blight disease and to some extent by anthracnose, the farmers were using more of plant protection chemicals to save the crop which contain fashioned lot of difficulty hence, to manage these disease the farmers have been demanding with dissimilar chemical thus the operating cost on these substance were on the higher side.

So far as permanent expenses were disturbed, the payment assessment of land shaped the most important cost constituent and it is experimental that because of the advanced efficiency of the ground and the crop which are high profit oriented prompted the cultivator to go for rent of land for the making of pomegranate crops. Even for the cultivator who were cultivating the harvest on their have possession of land, the impute hire price was in use into deliberation.

In general, it was experiential that out of the full quantity maintenance price, the most important cost constituent was changeable cost follow by fixed price. In the variable price, the major cost component was for wages of the labour used to perform various operations followed by the material costs. Similar results were obtained by Mallappa (2011) and Ravindra (2012).

The maintenance costs of pomegranate orchard during the bearing period (Table 4.6) were the returning expenses incur after the organization of the orchard *i.e.*, from 4<sup>th</sup> time over and done for maintenance of the plant life so that high-quality surrender can be obtain over the financial natural life of the plants. The preservation cost incorporated the disbursement towards the use of labor and other material input per year the length of with permanent price for dissimilar age collection of orchards.

During the bearing period of pomegranate orchard, the variable costs accounted for 77.81 the fixed costs accounted for 22.19 percent for Bagalkot district. less than changeable expenses, the material price shaped an important cost accounting for 39.01 per cent and the labour cost accounted for 53.711 percent of the full amount of price for Bagalkot district. Among the fixed costs, the major cost component was rental value of land with 19.31 per cent percent follow by depreciation with 1.06 per cent per cent and land revenue with 0.07 per cent for Bagalkot. It was noticed on or after the consequences that, throughout the gestation period for Bagalkot district, the labour cost were higher as compared to the material cost in maintenance of the orchard but on the contrary, for the duration of the comportment episode material price was advanced as compare to the labor cost. This may be accredited to fact that the manufacture obligatory superior quantity

of nutrients for manufacture of fruits the length of with its expansion and enlargement throughout the compartment interlude. additional, for the duration of the outgrowth attitude period, demanding care in opposition to vermin and disease was necessary.

#### **5.4 Yield and return arrangement of pomegranate**

It was experiential beginning the Table 4.7 that the standard amount of outgrowth formed per hectare in the case of Bagalkot district was 4.81 tons, The surrender rate in pomegranate orchard vary with the number of trees in the orchard as well as the era of the ranking. The average yield per hectare it was rising at increasing time from the fourth time upto the eight time after planting and then the acquiesce started growing at diminishing rate and in conclusion maximum yield was attain throughout the 12<sup>th</sup> year and sooner or later it in progress decreasing from 13<sup>th</sup> year onwards. The reduce in the capitulate may be largely accredited to the age factor. The average age of the orchard in the study district was around 15 years, after which the crops would be uprooted by the farmers due to decreasing marginal productivity. deprived administration, inefficient and indiscriminate use of input is also accredited to the low give way. comparable consequences were record from the study made by Mallappa (2011) and team (2000).

##### **5.4.1 Money flows in pomegranate orchard**

In this segment price and income during the dissimilar ages of pomegranate orchards are discuss. The price incurred and income obtain in pomegranate orchards are obtainable in Tables 4.8 and 4.9.

The per hectare expenditure (cash outflow) remain the similar from 4<sup>th</sup> to 15<sup>th</sup> year throughout bearing time of orchards, from the time when, they were apply the same amount of input and in addition the labor service remain same for dissimilar operation throughout this time. The income diverse according to age of vegetation. The returns increased from 4<sup>th</sup> year upto 12<sup>th</sup> year and later on, started decreasing from 13<sup>th</sup> year onwards.

The net returns in district increased from fourth time over and done upto the 12<sup>th</sup> year then over and done it showed a declining trend. To estimate the net income, the discount issue was work not in at the price of 9.00 percent to be on familiar terms with the economic possibility of investment in the pomegranate enterprise.

#### **5.5 Economic feasibilities of investments in pomegranate orchard**

Pomegranate is a recurrent outgrowth crop, once recognized continue to put up with up to 15 existence. standard income are predictable simply subsequent to three time of plant. Till then, important asset is compulsory. Resources once dedicated, repossession is not possible. additional, this requirements vast possessions and the profits is increase over a numeral of existence. consequently, expenditure and profits have to be analyze cautiously to test the praiseworthiness of asset in pomegranate project. This brand of psychoanalysis help the cultivator in conclusion manufacture. Hence, the practice of project assessment such as reimbursement time, net in attendance value, benefit-cost ratio, and interior rate of come back were

in employment in pomegranate produce.

In analyzing the speculation viability, the organization expenses, preservation expenses and unpleasant proceeds three time were well thought-out at 9.00 percent reduction rate on behalf of the prospect cost of resources. The per hectare preliminary speculation of pomegranate orchard was Rs. 1, 52,482.52. The maintenance cost during gestation period (upto 3 years) per ha of pomegranate was Rs. 42,553.28 in the first year Rs. 45,930.84 and 44,421.19 in the second year and Rs. 45,032.12 during the third year in Bagalkot.

The twelve-monthly preservation price of compartment orchard was Rs 55,009.38 in Bagalkot which were unspecified to be invariable from fourth to 15<sup>th</sup> time. The stream of expenses and reimbursement throughout establish episode initial three time and preservation behavior period fourth to fifteenth year have been annualized at 9.00 percent reduction time.

Net present value (NPV) decisive factor help to calculate the reimbursement accrued and expenses incur for the duration of the development existence. One improvement of NPV is that it give an suggestion about the remaining currency that would be generate by a development at a prearranged reduction rate. It is an unconditional calculate and varies with height of speculation and reduction rates. In this study NPV was designed by discounting the net currency inflows. The NPV of pomegranate on per hectare of orchard at 8.00 percent concession rate were Rs. 3, 02,602.65 per ha.

The official assortment standard of NPV is to recognize all the project with optimistic standards. Applying this standard, net current price of pomegranate obviously indicate its monetary unassailability and financial viability.

Benefit price ratio is an additional tool for appraise the praiseworthiness of speculation and it help to determine the productivity of an endeavor. In pomegranate farming, preliminary speculation was to be complete to institute the orchard and preservation costs were to be incur during the following years. throughout these time of continuation, the hard cash inflows or reimbursement go beyond the money outflows or expenses and consequently the expenses in the approaching years would be meet out of income acquire.

The pronouncement in the B:C relative amount surround employment is to choose the project where the relative amount is more than one. The BC proportion was 2.98 in Bagalkot at 9.00 percent reduction rate which satisfy the rule representative the value of asset on pomegranate orchard. The advantage: cost ratio indicate anticipated proceeds for every one rupee of investment in pomegranate venture. Thus, it possibly will be accomplished that asset in pomegranate orchard was cost-effectively sufficient and monetarily practicable in Bagalkot.

Internal rate of return is not compulsory to be tremendously appropriate determine for evaluate the

productivity of asset on dissimilar project. The IRR is the rate at which the nearby value of assignment is nothing or the bargain basement price expenditure are equivalent to the inexpensive income. It is better-quality over the additional procedures in view of the fact that it takes into thoughtfulness the reinvestment opportunity of enterprise throughout its existence span.

The recognized assortment decisive factor of IRR is to believe the project with IRR additional than the chance cost of assets. The interior rate of come again was 19.76 percent in Bagalkot. The IRR represent the utmost rate of attention at which the growers can have a loan of from lending agency and invest on pomegranate orchard. In supplementary expressions, it is the earning influence of currency invested on pomegranate for the duration of its existence distance. in view of the piece of in order that IRR was supplementary than the prospect cost of resources, it without a reservation indicate that asset on pomegranate orchard is a economically character and cost-effectively practicable proposition in both the region.

The Pay Back Period for pomegranate orchards in Bagalkot were 6.11, percent this evidently indicat that a shorter phase of a smaller amount than seven existence would necessitate in receipt of back the establishment cost. This possibly will be accredited to the piece of information that the establishment cost is higher above and beyond better-quality speed of proceeds consequential in the recompense Back Period to pull through establishment cost is shorter. Thus, all the four criteria of asset viability exposed that the asset in pomegranate orchard is a commercial and monetarily an attractive proposition. So, the hypothesis framed for the objective stands to be proved. Similar result was recorded from the study conducted by Ramachandra (2006).

## 5.6 Promotion of pomegranate

### Promotion channels

As indicate in the consequences, three channels of advertising of pomegranate were recognized in the schoolwork region. Channel-I consisted of transaction of manufacture by the producer to the commission agent-cum-wholesaler. Then, payment representative cum merchant sold the produce to the retailers in the distant wholesale markets.

In the second channel, producer himself sell the make to the remote merchant who inwards in the learning area during the harvesting season from outside the state, from Maharashtra, Andhra Pradesh, Tamil Nadu *etc.* In this channel, marketing costs were traced only upto the distant wholesaler since the cost incurred by him could not be traced out. This channel was the the majority accepted channel in the learning neighborhood given that the distant wholesaler himself came to the door steps of the farmer to purchase the produce saving considerable amount to the farmers in the form of transportation cost.

In the third channel, the manufacturer sell the make to the exporter by transport the manufacture to the collected works summit as indicate by the exporter. In this channel some of the large farmers sold the produce to the exporters in anticipation of higher price for their produce.

As given away in Table 4.11, in the container of Bagalkot district, 60 percent of the farmer sell their manufacture from beginning to end channel-II followed by 24 percent of the farmer sell their manufacture during third channel and around 16 percent of the farmer sell the create in channel-I. The preference of channel-II (Producer to distant wholesaler) may be attributed to saving of transportation cost and time on the part of the farmer in sale deeds. The findings were on par with results obtained by Sundaravaradarajan and Jaganmohan (2012).

### **Promotion expenditure incurred by the producer**

Promotion cost incurred by the creator as prearranged in the Table 4.12 exposed that the full amount cost when sold to commission agent-cum-wholesaler was higher as compared to when sold to exporter and the distant wholesaler. The total promotion price incur by the manufacturer when he sold the turn out to payment agent cum merchant was Rs. 1726.71 per ton followed by when he sell to the exporter Rs. 876.93 per ton and distant wholesaler (Rs. 33.86/ton) in Bagalkot region.

From the higher than consequences it might be completed that the cultivator when selling to the commission agent incur high advertising cost since of far above the arrangement payment charge, cost on covering substance and carrying cost as the expenses agent was positioned far present from the manufacture area. The planter incurred smallest amount promotion cost when he sell to the remote merchant because the remote merchant at home to the doorsteps of cultivator throughout the harvest period wherein the planter incur a extremely least amount cost. a quantity of of the great farmers in the learning area sold their manufacture to the exporters with significant price on transport in expectation of advanced income.

### **Promotion cost incurred by the mediators**

#### **Commission agent-cum-wholesaler**

The cost incurred by the commission agent-cum-wholesaler in Bagalkot on various items in marketing of pomegranate is presented in Table 4.13. It could be observed from the table that the major cost incurred by the commission agent cum wholesaler in Bagalkot district was on luggage compartment loss with Rs. 983.88 .75.54% follow by labor price 9.71%, price of storage space 5.79%, various charge 4.12% supermarket payment (3.23%) and certify fees (1.62%). The full amount price incurred by the payment agent cum wholesaler was Rs. 878.86 perton of the create handle.

From the on top of conversation it may well be accomplished that the payment agent cum merchant incur a most important defeat of the manufacture throughout the luggage compartment with 85.54 per cent and 54.74 percent of the promotion cost incurred by him for Bagalkot. He furthermore incurred the price on

labor, price on storage space, supermarket rent, miscellaneous charge and official document fees. The consequences were in traditional values with the learning conducted by Ravikumar 2006.

### **Retailer**

The price incurred by the merchant on various items in marketing of pomegranate in the learning region is presented in Table 4.14. It might be revealed from the table that in Bagalkot district, the retailer incurred most important cost on storeroom pasting with Rs. 1034.47 (84.67%) follow by carrying cost (6.62%), load and receiving charge (4.77%), miscellaneous charge (3.28%) and metropolis charges (0.66%). The whole cost incurred by the seller was Rs. 1257.00 perton of the generate handle.

From the higher than conversation it possibly will be accomplished that the merchant incur a heavy loss of the manufacture throughout the advertising of the manufacture in the form of luggage screened-off area loss with 76.37 per cent and 98.32 percent of the total promotion cost incur by him in Bagalkot. He sold the create to the customers in narrow market incur substantial amount on carrying cost, load and acceptance, miscellaneous operating cost and town charges. The consequences were in traditional values with the learning conduct by Ravikumar 2006.

### **Price extend and promotion boundary in marketing of pomegranate**

Cost extend is one of the significant events of advertising good organization which indicate the contribute to of manufacturer in the customer rupee. in addition this, it also indicate the contribute to of a variety of promote mediators in the customer rupee in come again to their armed forces as the article of trade move from the manufacturer to purchaser.

Among the dissimilar channel of advertising of pomegranate in the learning region channel-II was the the majority accepted and triumphant channel of advertising by the creator seller (Table 4.15). This was the the majority well-liked channel of promotion in the learning area, because in this waterway the net cost conventional by the manufacturer was greatest surrounded by all the channels of advertising and the outlying merchant who arrived to manufacture summit for the duration of the harvest season of the crop helped the cultivator in economy the point in time and carrying price of the manufacturer vendor in both the region.

Furthermore, in this channel, the manufacturer wholesaler customary instantaneous expenditure after the sale by incurring lowest amount cost on promotion of the create as compare to the other channels of promotion in the learning region.

## **5.7 Present status and export scenario of pomegranate**

### **Present status**

From the table 4.16 it was clear that Maharashtra is on its own of the most important producers of pomegranate in the nation with a manufacture of 555.50 thousand tons followed by Karnataka (144.90 thousand tons), Andhra Pradesh (56.40 thousand tons) and Gujarat (45.58 thousand tons). From the above discussion it could be concluded that the farmers in Maharashtra are well aware of production technology in pomegranate cultivation and their marketing network is well established as compared to other state farmers.

### **Pomegranate export**

The results from the Table 4.17 exposed that the manufacture of pomegranate in India for the duration of 1987-88 was about 81,150 tons and quantity exported was about 318.49 tons accounting for 0.4 per cent of production. During the year 2003-04 the production was about 6,64,900 tons and the quantity exported was 10,315.97 tons accounting for 1.6 per cent of production which increased during the year 2009-10 with production of 8,20,970 tons and correspondingly the export was 33,415.08 tons (4.1%). It could be experiential beginning the bench that in the recent years in tune with the increase in production there is increase in the quantity exported. The percentage of export to the production has also increased from 0.4 to 4.1 per cent from the year 1987-88 to 2009-10 though sales channels of the pomegranate are at present title for all in excess of the planet, outstanding to their derivation, they are more often than not enthusiastic in the focus and Far East as healthy as in Mediterranean country and the United Kingdom. expenditure is detached and deliberate to take off, as western customers think about it from abroad and easier said than done to eat.

This indicate that at hand is a necessitate to tie together supplementary budding market too, making an allowance for the superiority supplies and change in go from beginning to end ideal by the customers. In order to see the export performance of pomegranate over the period, growth in the export was assessed in the following paragraphs.

### **Growth in the export of pomegranate from India**

The consequences commencing the Table 4.18 exposed that the total quantity of Pomegranate exported from India show a important and encouraging multifaceted development speed for all the three period. The highest growth was observed during Pre-WTO period (42.33 per cent) followed by overall period (20.61%) and post-WTO period (20.52%). As far as the value of export was worried, highest development was experimental during the Pre-WTO time with 50.84 per cent followed by Post-WTO period (28.09%) and Overall period (27.86%).

The high and significant growth during pre-WTO period may be because of lower base compared to post-WTO period. However, the high and significant growth rate in quantity exported in all the periods was for the most part because of greater than before command in center and Far East as well as in Mediterranean countries and also in the recent years there is high exact for Indian pomegranate in the European country. In tune with the increase in quantity exported the growth in the export value was also higher for the duration of

the pre-WTO time.

### **Instability in export**

The instability in the export of pomegranate together in stipulations of quantity and value was assessed through the coefficient of difference (CV) and the consequences are obtainable in the Table 4.19. It can be observed commencing the counter that the CV (82.84%) was higher in terms of quantity throughout post WTO episode compare to pre WTO time (73.51%). Similarly, in terms of value, the CV was again higher in post WTO period (100.56%) as compare to pre WTO period (82.30%). The CV for overall period was relatively higher than pre and post WTO periods in cooperation in stipulations of amount and value with 113.43 and 138.60 per cent respectively.

The above results suggest that the fluctuation in quantity exported was higher throughout post WTO time compare to pre WTO time and this had impact on the overall period. It is imperative to note that the CV of export value was relatively more than the CV of quantity exported in all the periods. This may be due to variation in the exchange rates as pomegranate was exported to different countries especially in the recent years, Indian pomegranates have found place in the European countries also. In this regard there is a need to understand the direction of trade during different periods under consideration.

### **5.8 Direction of buy and sell and altering pattern of export during pre and post WTO periods Post WTO period (1996-97 to 2009-10)**

The Table 4.21 revealed that the UAE and Bangladesh continued to dominate in the Indian pomegranate export with a high probability of retention of 0.74560 and 0.52354. Similarly, Bahrain and other countries also joined the list with possibility preservation of 0.42155 and 0.43607 correspondingly throughout the post WTO period.

On the contrary, Saudi Arabia had possibility of preservation of zero indicate the unhinged importer of Indian pomegranate during the post WTO time. It is attention-grabbing to note that unlike in the pre-WTO period, other countries could retain their share to the extent of 43.60 percent in post WTO time. This observable fact may be due to increased export of Indian pomegranate to countries like Netherlands, Belgium and Germany in the recent years. Similarly Bahrain increased its retention share to 42.15 percent.

### **Overall period (1987-88 to 2009-12)**

It was noticed from the Table 4.22 that the other countries and UAE were the stable importer of Indian pomegranate as reflect in far above the ground likelihood of preservation at 0.84420 and 0.69624 *i.e.*, the probability that the other countries and UAE retained its export share during overall period was about 85 and 70 percent respectively. Saudi Arabia and Bahrain were able to retain their share only to the extent of

11.35 percent and 2.1 percent respectively. On the contrary, UK and Bangladesh were having a possibility of preservation of zero indicating that they were the unbalanced importer of Indian pomegranate. UAE to continue its stability in the import of Indian pomegranate, it gained from Bangladesh, Saudi Arabia UK and other countries. It had a remove possibility of 0.63219 from Bangladesh, 0.16849 from Saudi Arabia, 0.16212 from UK and 0.10253 beginning supplementary country the possibility that UAE would increase in the export contribute to of Indian pomegranate during overall period was at the cost of Bangladesh, Saudi Arabia, UK and other countries.

### **Projection of Indian pomegranate exports to major countries**

The results of the Table 4.23 could be summarized as the production of pomegranate is concentrated in few states and Maharashtra is the leading producer of pomegranate in the country contributing over 70 percent of the manufacture basket of the nation. India's contribution to the export is less than 5 percent in the international market although its position is first in the pomegranate production. There is a potential to increase its export as currently India is exporting less than 5 percent of its production. Though sales channels of the pomegranate are at present heading for all in excess of the humankind, outstanding to their derivation, they are more often than not obsessive in the centre and Far East as healthy as in Mediterranean country and the United Kingdom. expenditure is detached and slow to acquire off, as western customers believe it from abroad and easier said than completed to eat. This indicate in number present is a need to tie together other impending market too attractive into thoughtfulness the eminence necessities and change in flavour favoured by the customers.

## **5.9 SWOT analysis of pomegranate export**

### **The strengths**

From Table 4.24 it could be concluded that, about 100 per cent of exporters agreed that the pomegranate production is largely contributed by Maharashtra and Karnataka followed by Indian cultivars are sweet to taste with low acid content and National Horticulture (NHM) Mission is providing financial support for adoption of good management practices for pomegranate crop. About 90 per cent of the exporters opined that the production areas of Karnataka are convenient for export, fruit can be exported from the state all round the year as the climate is most congenial and favourable for its cultivation.

Drip irrigation subsidy of 75 per cent by National Horticulture Mission (NHM) in the state has led expansion of area under pomegranate and pomegranate growers associations have positive influence on export.

### **The weaknesses**

The weaknesses of pomegranate export as per the opinion of exporters are depicted in Table 4.25. The non

accessibility of illness complimentary material was one of the major concerns articulated by the farmer in the learning region, since the cultivation area was predominantly affected by Bacterial Blight disease. Moreover, majority of the farmers also expressed that the extension and dissemination of technology is weak, exporters have no access to the trends in export and import prices (*i.e.*, international and domestic prices). The non-availability of post harvest infrastructure facilities and the fruit and aril colour fades during April to September due to intense heat, high humidity and rainfall was also one of the major concerns. Lastly, about 80 percent of them opined that, growers have lack of in rank regarding the quality production of pomegranate for export.

### Findings of the study

- The compound development rate of production of pomegranate showed a important enlargement of 5.60 percent per annum at one per cent level of significance followed by enlargement in region with 5.39 percent at 5 percent altitude of significance for Karnataka condition. The development in region, manufacture and efficiency of pomegranate was important in Bagalkot district.
- The total costs of establishment per ha was Rs. 2,85,998.76 in Bagalkot and district. Out of the whole institution cost A+B, the preliminary cost constitute 89.32 percent Rs. 4,67,492.52) in the district.
- The average per ha total cost incurred on maintenance of pomegranate orchard by the cultivators for the duration of the establishment period was Rs. 1,33,516.24 in the study area. Among the total costs, the variable rate accounted for a lion split with 72.48 percent Rs. 96, 768.23 follow by fixed price by means of 89.52 per cent (Rs. 36,748.01). In the variable cost, the expenditure on labour derived a most important contribute to with 43.05 per cent (Rs. 57,477.87) follow by material price with 32,959.73 (24.69%) in the whole price.
- The whole fixed charge accounted for Rs. 12,232.67, Rs. 12,250.67 and Rs. 12,264.67 for the I, II and III year comprising 27.52 per cent (Rs. 36,748.01 for 3 years) of the total cost in the preservation of pomegranate orchard throughout gestation episode in Bagalkot district.

- In the preservation cost of pomegranate orchard throughout the behavior time for Bagalkot district, the variable cost constitute a most significant contribute to of 97.81 per cent Rs. 42,801.71 followed by the permanent cost with 22.19 percent Rs. 12,207.67 in the total cost. in the middle of the total capricious cost, the substance cost accounted for a most important share with 78.01 per cent Rs. 89,460.65 followed by labor charge with 78.71 per cent Rs. 18,541.00 in the entire charge.
- The regular capitulate of pomegranate obtained by the example farmer of Bagalkot district with 4.81 tons per ha amounting to Rs. 2,01,845.00 average gross returns.
- The charge per ha in pomegranate orchard from the fourth time in Bagalkot district was Rs. 55,009.38 and it remained same pending the fifteenth time of orchard establishment.
- The per hectare Net in attendance standards of pomegranate were Rs. 5,89,602.65 in Bagalkot district inexpensive at the rate of 8 % prospect asking price of investment.

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