

THE MARKETING AND COST-BENEFIT ANALYSIS OF FLORICULTURE IN THE RURAL AREAS OF PESHAWAR: A CASE STUDY OF BAZID KHEL

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ABSTRACT

This study was carried out in district Peshawar with the objective to explore the production of flowers, its marketing channels, find out cost-benefits, and to give suggestions. A sample of 150 respondents was selected using random sampling technique. The study found that the business is small but profitable and is carried out by the local people on self-help, self-employed basis. If government support is extended to them then this sector to different countries counties having a positive impact on the local economy as well as the standard of living of the locals.

Key Words: Floriculture, Marketing channels, Cost- Benefit, Cultivation, Flowers, Horticulture and Plant Parts.

INTRODUCTION

Pakistan is basically an agrarian economy. Since independence of Pakistan in 1947, it is contributing a major share to the Gross Domestic Product (GDP). Agriculture sector can be divided into many subsectors like livestock, poultry farming, forestry and horticulture etc. Floriculture, viticulture, arboriculture and floriculture are sub-sectors of horticulture. Floriculture is a branch of horticulture dealing with the cultivation of flowers etc. It has been defined by Van Uffelen (2005) as “Floriculture is cultivation/production and marketing of a wide variety of plants and planting material: starting from parental products like plant parts and cuttings to the end product for the market like cut flowers, foliage, potted plants, garden plants, nursery stock, trees, flowering leafy, annuals, perennials, flower bulbs and tubers.”

Wikipedia (2013) defines it as “Floriculture, or flower farming, is a discipline of horticulture concerned with the cultivation of flowering and ornamental plants for gardens and for floristry, comprising the floral industry. The development, via plant breeding, of new varieties is a major occupation of floriculturists.”

This research paper seeks answers to the following questions:

- Does the horticulture have surplus production to market the flowers?
- What are the marketing channels of flowers?
- Analyzing the cost-benefit, is this business beneficial/viable?
- What could be the appropriate recommendations for the improvement of Horticulture?

Flowers are used in medicines, perfumes and in different cultural and artistic activities etc. Besides this, they give pleasure to eyes, have good effects on minds, help in

boosting sagging spirits, help people self-employment. They are considered as symbols of peace, love, beauty, passion and purity in almost all the societies. There is an increase in the production and consumption of flowers throughout the world mainly due to increasing population etc. Looking to it from economic point of view, it is contributing to the development of an economy by providing jobs to many people, increase in income, consumption and standard of living of the people. As the change in the lifestyle of the people is common, all this results in increasing demand for flowers day by day.

Objectives of the Study

The present study aims to analyze the production, marketing and cost-benefit of flowers in the rural areas of district Peshawar. An attempt was made to achieve the following objectives.

- To assess the production of flowers in the study area
- To analyze the marketing channel of flowers in district Peshawar
- To identify the costs and benefits of the production of flowers.
- To propose the recommendations for the enhancement of the production of floriculture and improve its quality in the study area.

Hypotheses to be Tested

This research article focused on the testing/verification of the following hypotheses. It was assumed that

- The production of flower in the rural areas of Peshawar is not sufficient to be marketed
 - The market channels increase the costs and affects the production of flowers adversely
- The business of flowers is not beneficial/viable project

LITERATURE REVIEW

This section deals with the relevant literature to the concerned topic. Mostly the work done on floriculture sector regarding its economic analysis are analyzed in this section. Adenuga et al. (2012). It is observed that the low level of awareness impedes the potential of horticulture's sub-sector. Floriculture resulted in low level of employment and enhanced poverty. On the average, there was an economic return to farmer's labour and management of Nigerian Nira (currency of Nigeria) N174, 974.7/ha. The major constraint was inadequate capital that hindered the production of floriculture while the use of farm size, labour, manure, educational level, experience and age of the farmers were having significant influence on the revenues of the farmers.

Manzoor, et al. (2001). There was a return of 1.47 per rupee to Rs. 2.36 to producers from the production of different types of flowers. While on the other hand there was a return of 1.18 rupees against per rupee spent by the retailer. The floral business was on limited scale and motivation is needed to expand this business by farmers through some

incentives

Donohou (2003). The floriculture industry is increasing every year. It is now-a-days an industry of billions of dollars and employs million of people throughout the world. For a farm of 50 acres an amount of Rs. 3.39 million of capital investment is needed for purchasing of machinery, construction and equipment. Besides this, an amount of Rs. 5.3 million is further needed for the purchase of seeds, pesticides, fertilizers etc. known as working capital. Combining both together, a sum of Rs.8.7 million is needed for the above mentioned farm. While return from this ranges from Rs. 8.8 million to Rs. 16 million from first to tenth year of such a project. Presently, floriculture industry's exports are Euro 5.1 billion and are likely to reach Euro 9.0 billion by the end of 2025. The floriculture exports stood around Rs.63 crore in India in 1996-97 and tripled into Rs. 211 crore in the year 2004-05. The industry is directly contributing to the economic development of the country through creating of employment opportunities and earning of foreign exchange

Hassan (2012). Profitability of using a stratified random sampling of 32 farmers of flower growers for three districts in Bangladesh. There was a gross margin of Taka (currency of Bangladesh) Tk.1,359,824.20. Besides this, the average marketing margin for three intermediaries remained as Tk. 638.39 for Wholesale-cum-retailer, Tk. 187.56 for BRAC and Tk. 689.72 for retailer in Dhaka City. The problems faced by the farmers: were price of fertilizer, insecticides, lack of training and scientific knowledge, pest's attack, plant diseases, poor transportation and communication system, unstructured market, lack of market information and problems of marketing. The lack of adequate market information, unsold flowers, demand fluctuation and lack of storage facilities were also the problems faced by the flower growers.

Ghule & Menon (2013). Around 120 countries are engaged in of floriculture. Almost 90% demand comes from America, Asia and Europe. Exports of floriculture for floriculture products were expected to reach to \$12 in 2012.

Hemert (2005). The floriculture industry of Netherlands is operating on world level. Its total exports increased from Euro 5.7 billion in 2002 to Euro 5.9 billion in 2004.

Martsynovska O. (2005) observes the share of follower production by EU is 44% (i.e. \$ 10.8 billion out of \$ 24.4 billion of the world production) EU remained the major producer of in flower production, followed by China and USA each producing 12%, Japan 11%, Canada 4%, Colombia 3%, Korea 2% and other 10% of the world production

Ocheing M. (2010) analyzed the floriculture industry of Kenya in terms of the contribution of small farmers' production and large farmers' production of flowers and their exports. It was found that the contribution of small farmers production of flowers was decreasing remained minimal relatively to large farmers. It was suggested to establish the exporters-farmers partnership to improve the exports of this industry.

James K. (1999) analyzed the floriculture sector of Canada where production remained of \$2.54bn. The import of different flowers into Canada remained \$ 70.3 million. This

sector employs 0.76% of the total labour force.

Kinderli B. & Cakmak Belgin (2007). Analyzed the problems and potential of floriculture in Turkey. Classifying the floriculturists into two groups' big-modern enterprises and small-family enterprises. Four different green houses were selected to analyze the production of roses and carnation (a type of flower). The result showed that the plastic green house used for flowers production by big-modern enterprises resulted in more profit as compared to geo-thermal heating.

Gudeta D. T. (2012) conducted his research on the floriculture from pre-harvest and post-harvest dimension in order to analyze the production level, in his study he found that lack of human resource development, poor technology, poor infrastructure, and poor cool chain preserving system were the major problems faced by the flower growers. During study it was found that due to lack of facilities, the flower growers had to waste half of their produce due to lack of storage facilities leading to economic loss of the people as well as the society as a whole.

Floriculture is a lucrative business almost in all countries of the world. Flowers are used for different purposes in different countries. In Christian dominated countries, flowers are used in churches, New Year's Day, Memorial Day, Father's Day, Christmas Day, Valentine's Day etc. while in Muslim dominated countries flower are used in funerals, Weddings etc. The purpose of using flower on such occasions is to get joy and make the event charming. But, besides these things, flowers are used for many other different purposes, to make perfumes, medicines etc.

The distribution of land used for flower production in Asia/Pacific is 244,263 hectares, Europe 54,815 hectare, South/Central America 54980 hectare, Africa 5,697 hectares, North America 26,135 hectares and Middle East 3,845 hectares while according to 2001 United Nations estimate 200,000 hectares was used and the flowers produced had a value of US \$ 27 billion. Asia and Pacific covered over 60% area for the production of flowers. Japan, Western Europe and North America remained the largest market in terms of purchase of flowers. While, by countries, Switzerland, France, UK, USA and Germany remained the largest importers; accounting for nearly 80% of the global imports.

Hamrick (2004). Netherlands is the main center for the distribution of world flowers with its computerized system. The production in Netherlands worth US \$ 3.6 billion. Besides this, Israel, Ecuador, Colombia and South American countries remained the major producers of flowers while Africa and especially witnessed an increasing investment for the production of flowers. Developing countries contributes almost 20% to the total trade, while there is an increasing competition of the developing countries including Namibia, Zambia, Malawi, Ethiopia, Tanzania and Uganda.

Belwal and Chala (2008). Some of the countries of Africa, South and Central America and Israel itself are the consumers of its own produce of flowers, while in the beginning, in Asia, flowers were produced with a purpose of exports, later on, the domestic consumption also rose mainly because of the increased population, change in the

perception of consumers for their life style. While, in case of Ethiopia, the gift of flowers has just emerged and the market is yet not totally matured and attracted an increasing investment in flowers production.

RESEARCH METHODOLOGY

A list of those villages in district Peshawar, which were producing flowers in bulk was prepared and village was randomly selected from this list applying the lottery method. Again a list of all flower producers in the area of Bazid Khel, Peshawar was prepared. This list serve as universe/sampling frame of the study. A sample size of 150 flower producers was selected purely on random basis. A comprehensive interview schedule was devised and designed to meet the objectives of the study. The data was then analyzed through percentages, histogram, historigram and pie-charts etc.

RESULTS AND DISCUSSIONS

This section deals with the results and discussion obtained from the study area meeting with the objective of this study. For each table the relevant information has also been briefly discussed with each table. Mainly this chapter covers the revenue analysis from the production of flowers grow in the study area, cost of production on the flowers and lastly the net benefits from the production of flowers. The following important aspect of the investigation are as follows:

Educational Status

The purpose of getting information about the educational status is, to know about the adoption of the occupation for their livelihood. It helps in gauging the flexibility of flower producers to the adoption of modern technology and their decision making regarding the problems faced by producers. Therefore, it is considered necessary by the researcher to collect educational information about the status of respondents. Mainly the categorization of the respondents is literate, primary, middle, matriculation and above the matriculation. The following table shows the educational profile of the respondents in the study area.

Table 1: Educational status of the respondents

Categories of Education	NUMBER OF RESPONDENTS	PERCENTAGE S
Illiterate	78	52.0
Primary	38	25.33
Middle	18	12.
Metric	14	9.33
Above Metric	2	1.33
Total	150	100

Source: Field Survey

Educational Status of Respondents



Out of 150 respondents 52% of the floriculturists were illiterate, 25.33% were literate; having a primary level education, 12% middle-level education, 9.33% metric-level and above metric-level respondents were 1.33%. The above data of the table has also been displayed with the help of the above pie-chart.

Tenure Status of Study Area

As tenurial status gives a clear picture of land cultivation therefore, it was considered important to know about the tenure status of the respondents in the study area because tenancy-status plays an important role in production; from the agriculture point of view. As the standard of living of the locality is not very good, people in the study area are mostly hand-to-mouth. Therefore, it was important to know whether the flower producers had their own land or own-cum-tenant or tenants etc. The results are as follows.

Table 2: Tenure status of study area

TENURIAL STATUS	NUMBER OF RESPONDENTS	PERCENTAGE (%)
Owner	30	20%
Owner Cum Tenant	40	26.66%
Tenant	80	53.33%
Total	150	100%

Source: Field survey

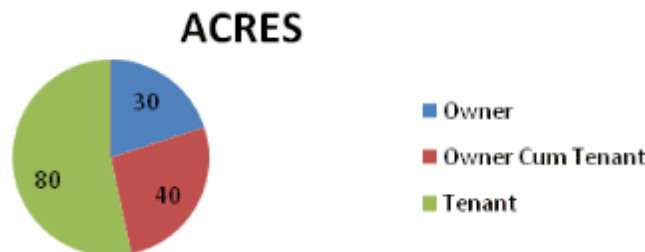


Table .2 analyzes the tenure status of the respondents. Of the total respondents, 20% of the respondents were the owner of their own-land, 26.66% were owner-cum-tenant, and 53.33% were tenant. The same data has also been displayed with the help of the above pie-chart.

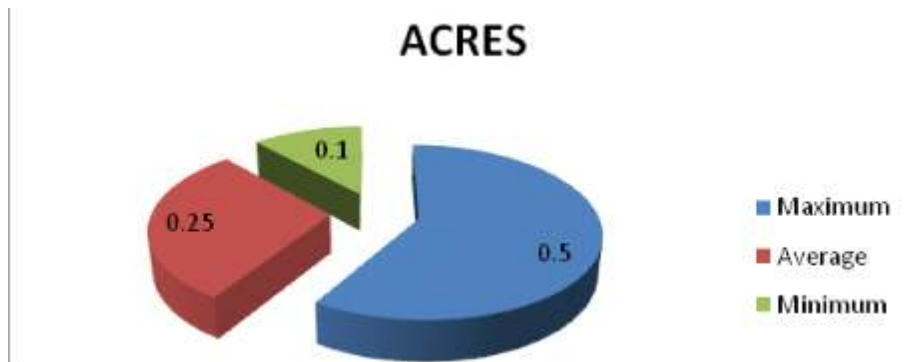
Average size of Farms

For more production of flowers there is a need of more land for cultivation especially in developing countries and under-developed countries like Pakistan, Bangladesh, and India etc. More land means high production, more employment, and more consumption and may lead to exports if there was any surplus production. These entire variables are positively correlated. The situation of land under-cultivation for flowers in the study area was as follows.

Table 3: Average size of sample farms

FARM SIZE	ACRES
Maximum	0.5
Average	0.25
Minimum	0.1

Source: Field Survey



The above table and pie-chart shows the area of the land cultivated on average is 0.25 acres, with a maximum 0.5 acres and minimum 0.10 acres. The land under cultivation for the production of flowers is very small resulting in low production.

Family Structure

Joint family refers to the family which is composed of parents, husband, wife, children and other family members while nuclear family refers to that family which is composed of couple and their

It was considered necessary to analyze the structure of family, because the number of the members of families has to depend on the flower production. Thus, nuclear family has to

feed a small number of family members while the people of joint family related to the flower production has to feed a large number of family members.

Table 5: Family structure of sample farmers

Categories	Numbers of respondents	percentages
Nuclear Family	90	60%
Extended/Joint Family	60	40%
Total	150	100%

Source: Field Survey



Of the total respondents, 60% were of nuclear family while 40% were of extended/jointly family; the same data has been shown in the above pie-chart.

Types of Flowers

The various types of flowers grown in the study area have been presented in the following table

Table 6: Types of Flowers Grown in the Study Area

Types of Flowers Grown	Number of Respondents	Percentages
Marigold+Roses+Jamsim	55	36.67%
Marigold+Roses	35	23.33%
Marigold+ Jasmin	25	16.67%
Roses+Jasmin	25	16.67%
Roses+Others	10	6.67%
	150	100%

The flowers grown in the study area were 36.67% were producing Marigold+roses and Jasmin. 23.33% were growing marigold and roses. 16.67% were growing marigold and jasmin, 16.67% were growing roses and jasmin while 6.67% were growing roses and other types of flowers in the study area. The same data has been shown with the following pie-chart.

People like different kinds of flowers, depending upon their preference. In the study area in particular and in general, rose is the most popular flower liked by the people in the said area, followed by Marigold, Jasmine and other types of flowers. The various types of flowers demanded by different consumers in the different areas are presented in the following table No. 7:

Table 7: Types of flowers demanded in different areas

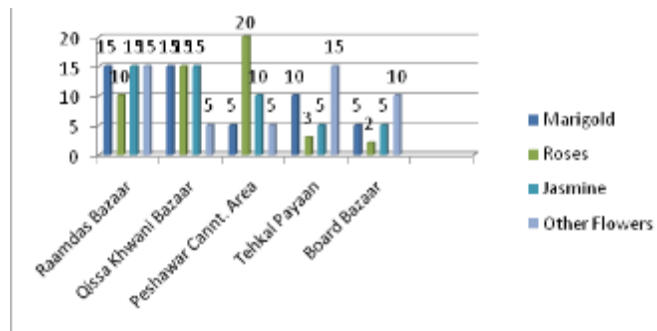
Demanded of Flowers in Different Areas of Peshawar	Marigold		Roses		Jasmine		Other Flowers	
	Count	Percentage	Count	Percentage	Count	Percentage	Count	Percentage
Raamdass Bazaar	15	30%	10	20%	15	30%	15	30%
Qissa Khwani Bazaar	15	30%	15	30%	15	30%	5	10%
Peshawar Cannt. Area	5	10%	20	40%	10	20%	5	10%
Tehkal Payaan	10	20%	3	6%	5	10%	15	30%
Board Bazaar	5	10%	2	4%	5	10%	10	20%
Total	50	100%	50	100%	50	100%	50	100%

Source: Field Survey

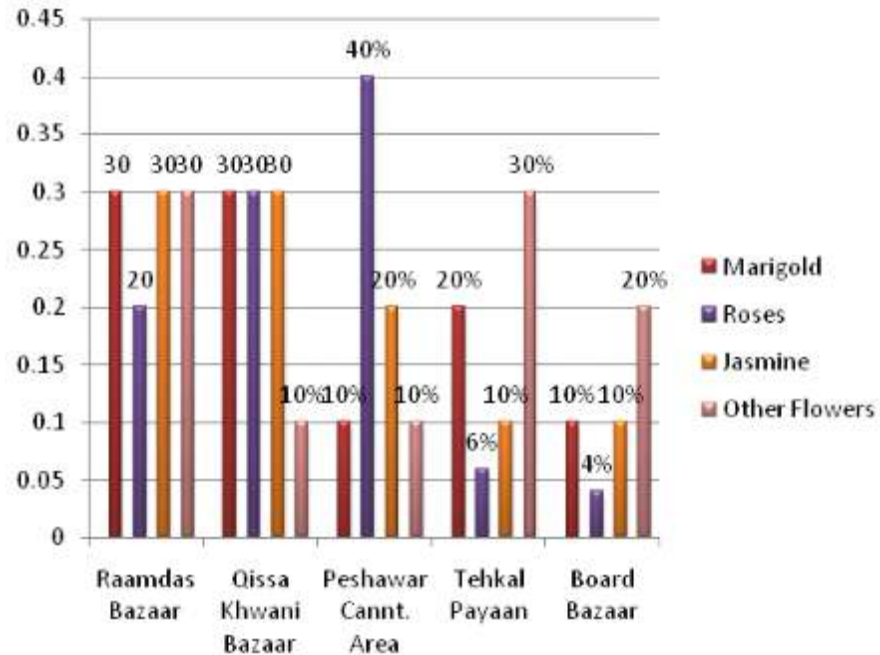
The above table shows the flowers demanded in the different bazaars of the Peshawar area. The demand by shopkeepers of Marigold in Ramdass bazaar was 30%, 30% in Qissa Khwani Bazaar, 10% in Peshawar Cantt. Area, 20% in Tehkal Payaan and 10% in Board Bazaar making the total percentage as 100% of the 50 respondents.

Besides this, the demand by shopkeepers for roses in Raamdass bazar was 20%, 30% in Qissa Khawani bazaar, 40% in the Peshawar cantt. Area, 6% in Tehkal Payaan and 4% in Board bazaar; making the total percentages as 100% of the 50 respondents. While demand for Jasmine by the shopkeepers in Raamdass bazaar was 30%, Qissa Khwani bazaar 30%, Peshawar cantt. Area 20%, 10% in Tehkal payaan and 10% in Board bazaar making the total percentages of all bazaars as 100% of the 50 respondents. Last but not the least, other types of flowers demanded in different bazaars was 30% in Raamdass bazaar, 10% in Qissa Khwani Bazaar, 10% in Peshawar Cantt. Area, 30% in Tehkal Payaan, 20% in Board bazar making the total as 100% of the 50 respondents.

The same data has been analyzed with the help of the following histograms in figure No. 7/i:



While their percentages are shown in the following figure No. 7/ii: Figure no. 7.ii



Per Acre Cost on Flowers Productions

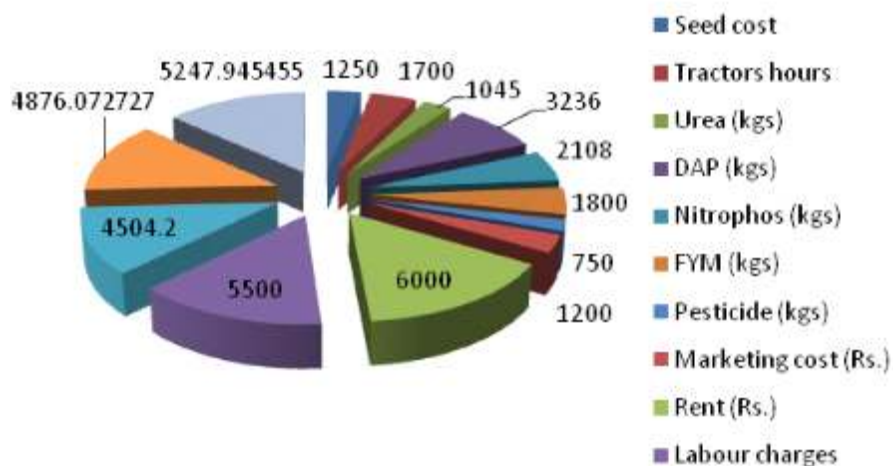
Economies of scale must be considered, as production on large scale results in lower average cost, therefore it is necessary to find out the per acre cost (i.e. average cost of flower production) in order to analyze the per average revenue and net profit from per acre production in the study area.

Table 8: Cost of Productions Per Acre

PARTICULARS	TOTAL COST (in Rs.)
Seed cost	1250
Tractors hours	1700
Urea (kgs)	1045
DAP (kgs)	3236
Nitrophos (kgs)	2108
FYM (kgs)	1800
Pesticide (kgs)	750
Marketing cost (Rs.)	1200
Rent (Rs.)	6000
Labour charges	5500
Total Cost	24589

Source: Field Survey

Cost of Production Per Acre



An acre of land used for production of flowers was having different types of cost as follow, seed used for production cost an amount of Rs. 1250, tractors cost Rs.1700, Urea used cost 1045, DAP (Diammonium-Phosphate) had a cost of 3236, Nitro-phosphate 2108, FYM (Farm Yard Manure) had a cost of 1800, pesticide as 750, marketing cost Rs. 1200, rent cost Rs. 6000 and labour cost as Rs. 5500 making the total of all as Rs. 24589 as the total cost.

The same data has been shown with the help of the above pie-chart.

Per Acre Revenue from Flowers Production

As average cost of flowers production from one acre is important, likewise, per acre revenue is also necessary to find out the net benefits.

PARTICULARS	QUANTITY (In Units)	PRICE PER UNIT (In Rs.)	TOTAL VALUE (Rs.)
Revenues	270	172	46440/-

Source: Field Survey

Note: 20 Amails =Rings =1 Uni and 1 Amail consists of 17-23 flowers.

The price received by the producers of the flowers from one unit (i.e. 20 amail or ring where 1 amail consists of 17-23 flowers) was Rs. 172 multiplying with the 270 units produced on an acre of land had a total revenue of Rs. 46440.

Total Net Benefits

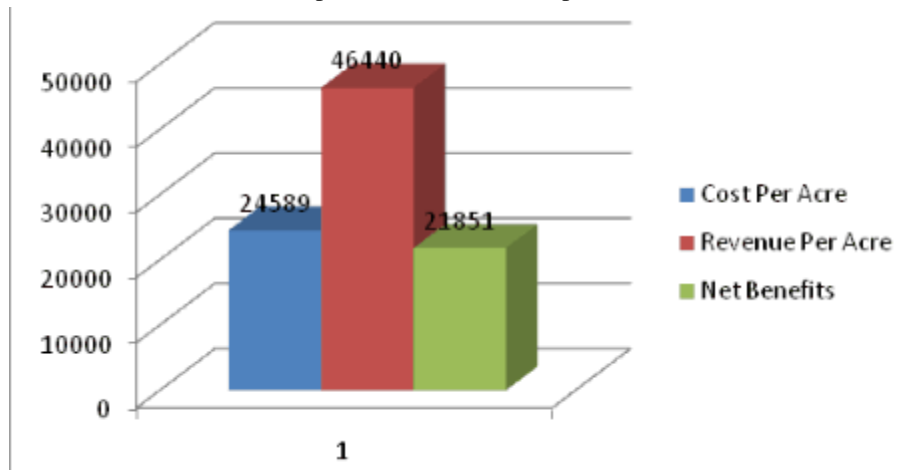
To make analysis simple, we find out the net benefits which are equal to revenue minus cost.

Table 10: Total Net Benefit

Detail	Amount (in Rs.)
Cost per Acre	24589/-
Total Revenue	46440/-
Net Benefit: (R –C)	21851/-

The Total Cost (C) of production of flowers on one acre of land was Rs. 24589/-, while the Total Revenue (R) was Rs.46440/-. Subtracting cost from revenue had a net benefit of Rs. 21851- as shown in the following histogram:

Net Benefits = Total Revenue per cre – Total Cost (C) per acre



CONCLUSION

The people involved in this sector are mainly less educated or illiterate, majority of the people living in the study area are poor having a small piece of land owned by them. The land cultivated on average is also very small; mostly less than an acre. Large number of people living below the age of forty years has to depend on this sector for their livelihood producing three main types of flowers namely Marigold, Jasmine and roses along with other types of flowers in a small amount which are sold in the main bazaars namely Raamdass, Qissa Khwani, Peshawar Cantonment, Tehkal Payaan and Board Bazar of the city Peshawar and giving a net benefits to the flower producers an amount of Rs.21851 per acre. The floriculture business is though small in district Peshawar but is a profitable one which is carried without the supervision of government on self-help and self-employed basis.

RECOMMENDATIONS

The government supervision and support will result in the expansion of this industry leading to employ a greater number of people of district Peshawar, resulting in the improvement of standard of living of the people by increasing their income through employment generation and consumption. Also having positive impacts on environment, health; giving pleasure to minds. Thus, more and more attention is needed to pay to this sector and should be expanded to the surrounding of Peshawar in different villages in order to reap more and more economic and social benefits.

A set of policy recommendations is suggested to enhance the productivity of flowers per acre in district Peshawar as follows:

Flower cultivation in Peshawar is totally in private sector on very limited scale with the number of problems. The federal government, provincial government and specifically the Ministry of Agriculture should pay serious attention to flower cultivation to boost up the production of flowers.

It comes that flower cultivation needs some funds in early stage of cultivation with people involved in this sector of agriculture are mostly poor, so the government should provide credit facilities through loans on easy conditions without interest.

It comes from the study that the market for flowers in district Peshawar is very narrow. New market channels should be explored not only within the district but also on national level should be sorted out and then the target should be set for international market to earn the foreign exchange too.

Most of the production of flowers is on very limited subsistence level, the government should provide the barren lands to flower growers so as to bring more and more land for cultivation leads the production on commercial basis reducing the cost and increasing the output.

Attention should be given to the flower cultivation on commercialized farming, which needs basically two steps, one provision of more land for cultivations of flowers and secondly using modern techniques of production in agriculture sector i.e. introduction of biological, chemical and mechanical technologies which are the base of commercialized farming.

A policy should be adopted to convert the floriculture sector from subsistence one to the industrial sector i.e. introduction of floriculture as an industry. As a industry, the flowers will not only be used in traditional forms but it will be converted into different by-products as a finished goods i.e. perfumes, medicines etc. which is a value added process.

Government should adopt a clear policy to introduce the sector as a government enterprise as well.

Floriculture should be introduced also as private enterprise and different subsidies and tax exemption should be given to manufacturers to boost up the production of flowers.

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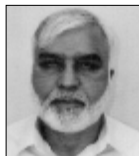
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