CHAPTER 5
FINDINGS AND SUGGESTIONS

This research was focused on the study of the economic impact of Fig Production on Dry Land Farmers in Pune District with special reference to Purandar Taluka from 2005-06 to 2009-10.

This chapter is divided into seven parts.

5.1 Observations
5.2 Findings
5.3 Hypothesis Testing.
5.4 Conclusions
5.5 Recommendations
5.6 Schult’z Theory.
5.7 Scope for further research

5.1 OBSERVATIONS

I. Introduction.

Agriculture is an engine of economic growth and development. Agriculture constitutes the main source of employment of the majority of the world’s poor. Agriculture in India has a long history, dating back to ten thousand years. Today India ranks second the world in respect of Farm output. India is the largest producer of fresh fruits. India holds the first
position in the world in producing papaya, Mango, Sapota and Banana.

The area under fruits production in India increased; therefore the production of fruits is also increased. India has atmosphere, precipitation and variation of land favourable for cultivation of fruits.

Fig is an important fruit, which has been under cultivation since ancient time. Fig contains minerals such as iron, copper and calcium in a large quantity and plenty of various vitamins. Food items like dry fig, sweetmeat, fig milkshake etc. are made from fig. Due to all these reasons, fig has become a significant fruit. In the Ayurved science, fig fruit is used as powerful medicine on blood defect, cancer disease, constipation, anemic disease. Fig fruit is very important in food standard. Considering the demand for the processed fig in the state and the country, it is essential to cultivate fig, which is suitable to be processed, on a large scale. Grants are being made available through various schemes under National Fruit Production Programme for making various types of food items from the processed fig and for the grading, packaging, storage and sale of such food items. Every fig producer should take the maximum advantage of these schemes to enhance the production. It is noticed that one person in one lac population knows fig, one person in three lacs population have tested it,
and one in ten lacs enjoys it regularly. This indicates that there is wide scope for fig plantation. Fig is important to earn foreign exchanges.

Fig belongs to Umbar Family which is known as Moraceae. There are four types of fig, viz. Capri Fig, Smirna Fig, White San Pedro and Adriatic Common Fig. Renowned expert of Fig Mr. Bobane said that there are 52 breeds of fig found in Portuguese.

The breeds of Fig under cultivation in India and Maharashtra are Poona Fig, Marsels, Dienna, Dinkar, Black Khia, Brown Tukrye, Coimbture Fig, Conadriya and Excel.

There are different references of fig in Bible. This fig fruit is spared in Mediterranean Sea to other Areas in the world. Fig is very famous fruit since 3000 years. It is said that the origin of fig is from South Arabstan before 3000 years. Mughal Badshaha Mohemmed Tughlak has shifted his Capital from Delhi to Daulatabad in 1338. At that time peoples shifted from Middle Asia and Kabul and they brought fig plantation to Daulatabad Area. State of Ahmednagar gave Grants to the Christian Missionary to come to Ahmednagar from Aurangabad in 1550. He planted figs in Ahmednagar.

First fig was planted in 1904 at Jadhavwadi near Divegaon in Purandar Taluka. This fig plantation was spread to Khed Shivapur, Shirval and Khandala. The plantation of figs
main was done in villages nearby the boundary of Nira River Valley i.e. Khed Shivapur, Shirval, Khandala was covered. Fig plantation increased at Purandar, Saswad and Jejuri area. Purandar Taluka is leading in fig plantation in Pune District. Specifically Gurholi, Waghpur, Singapur, Rajewadi, Walhe, Dive, Zendewadi, Kalewadi, Sonori, Banpuri, Pimple, Supe, Pisarve, Garade, Hivare, Risepise and Malshiras etc. villages have large share in the production of figs.

Within Maharashtra there was 300 Hectares fig plantation in 1990. Then in 1990-91 under fruit Plantation programme was implemented, on near about 650 hectares with the help of Employment Guarantee Scheme. Thus the plantation under this programme was extended to 800 to 850 hectares Area. Maharashtra government had constituted Maharashtra State Fig Plantation Federation in Pune on 2nd Aug, 2006. Pune District is leading for fig plantation in the Maharashtra State. The Figs planted in Pune district is famous in International Market.

II. Research Methodology

1. Statement of the Problem

   The Statement of the Problem is “The economic impact of fig production on dry land farmers in Pune District (with special reference to Purandar Taluka, from 2005-06 to 2009-10)”
A comparative study of the production and the cost of production of fig producing farmers and non fig producing farmers with dry farming is carried out in the present research.

2. **Selection of subject:**

Going through the available literature it is observed that, such type of study is not done in the past. It is unique study as it considers production and expenditure of fig producers and Non fig producers. Maharashtra is leading for Horticulture which is useful for dry land agricultural development. Total area under fig plantation is 1374 hectares in Maharashtra in 2005-06. Pune district has the highest area of 466 hectares (33.92%) followed by Osmanabad district 206 hectares, or (14.99%) Lature District 201 hectares (14.63%) and Ahmednagar District 195 Hectars (14.19%).

3. **Reasons for selection of this subject area as under:**

   a. Maharashtra is on the top in fig production in India and Puradnar taluka is first in Maharashtra in this respect.

   b. The fig Plantation is mainly found in near about 50 (57.42%). Villages in Purandar Taluka. Out of them Sonori, Pimple, Supe, and Walhe produces
maximum fig fruits. Walhe is home town of the researcher. Hence this village is selected.

c. The climate should be dry with Hillslope, Medium Land i.e. slowly tempering and cooling lately is essential for plantation of fig production, this climate is available in Purandar Taluka.

d. Estimated profit is Rs. 2.5 lakh per hectare for fig as against hectares to other crops where it is 1.5 lacs.

e. Highest fig production is in Purandar taluka. Even though there is drought in the last four years the fig crop supported the farmers. Therefore this subject is selected.

4. **Review of related literature:**

   The researcher has traced seventeen references for the review of related previous researches and literature. These researches are divided in six groups. The researches in this groups are related to Fig, Custard apple, Pomogranate, Ber, other fruits and accounts regarding fruit production.

1. Literature related to Fig (4 Books and 3 thesis)
2. Literature related to Custard apple (1 Project and 1 Thesis)
3. Literature related to Pomogranate (2 Articles and 1 Project)
4. Literature related to Ber (1 Article)
5. Literature related to other fruits (2 Articles and 1 Project)
6. Accounts regarding fruit production (1 Book)

A special mention can be made of Schultz’s theory of Transformation of Traditional Agriculture to Modern Agriculture. The researcher has made an attempt to apply this theory to the present research.

During the present research work the researcher has referred the related literature, giving due citation. This review of related literature was very useful for the researcher at every step of research.

5. Importance of the research study.

Horticulture Department is established in 1981 in Pune. Total area under plantation in Maharashtra was 222.8 lacs in 2001-02. 16.4% of this area is under irrigation and 83.6% area is dry area. The Horticulture programme is fruitful in such dry area. In Maharashtra Fig production is mainly in Pune, Aurangabad and Ahmednagar districts. The fig production yields Rs. 2 to 2.5 lacs net profit per hectare. This plantation is very profitable in Waste and Dry Land area in Maharashtra.

For the economic development of Farmers, dry, waste land must be brought under fig plantation which can be exported to earn foreign currency. Fig needs to be processed. At present Indian share is 14% only international fruit market. It needs to be increased.
In this connection, this study is important for the above reasons. It is observed from the available material, that this research is completely separate as it contributes to economic development of fig Farmers of Purandar in Pune. It also compares the production and expenditure of fig producers with non fig produces in Purandar Taluka. This research has its own entity.

6. **Objectives of Research**

   Following are the objectives of research.

1. To study the impact of fig production on economic development of dryland farmers.
2. To compare the financial status of fig producer and non fig producer farmers.
3. To study the impact of fig plantation on agriculture based occupations.
4. To find out the problems of fig producer farmers.
5. To suggest solutions for the problems of dry land fig producers.

7. **Hypotheses**

   The following hypotheses are tested in this research.

1. Fig plantation helps the producer farmers to improve their financial status.
2. Comparatively fig producer farmers are earning more than the non fig producer farmers.
3. Fig production has good effects on agriculture based occupation.

4. Farmers are not processing the figs.

5. Fig producer farmers have various problems during the fig production.

8. **Collection of Data**

   The present research is based on Primary data and secondary data collected through the survey.

   i) **Primary Data:**

   a. **Selection of Maharashtra:** The Maharashtra is on the top in respect of fig production in India (49.85%). Hence the Maharashtra is selected for research.

   b. **Selection of District:** Pune District is on the top of fig production in Maharashtra with 63.18 % share in fig production. Hence Pune District is selected.

   c. **Selection of Taluka:** Purandar Talukas is on the top (45.92%) of fig production in Pune District. Hence Purandar Taluka is selected for study.

   d. **Selection of Villages:** Walhe, Sonori, Pimple, supe are the villages having maximum fig production in Purandar Taluka. Their share is 50%. Hence these villages are selected.

   e. **Selection of Farmers:** The researcher has selected 25 fig producers and 25 Non fig producers from each
village. Total sample size is 200 farmers. The selection of farmers is made through lottery system.

**ii) Secondary Data**

Secondary data are collected from following institutions

1. Mahatma Phule Agricultural University, Rahuri, Dist. Ahmednagar.
2. Maratha Chamber of Commerce and Industries, Pune.
4. The commissioner, Pune.
5. Sub Divisional Officer, Baramati.
7. Agricultural College, Pune.
8. University of Pune, Pune.

**9. Statistical Tools**

The statistical tools used in analyzing primary and secondary data are Tabulation and percentages. Similarly different types of graphs are also used for the presentation of the data.

**10. Limitations of Research:**

1. This research is limited to economic impact only.
2. The research is limited to dry land farmers only.
3. It is also limited to the dry land farmers of Maharashtra state.

4. The present research is limited to the farmers from Pune districts only.

5. The sample is selected only from four villages in Purandar Taluka.

6. The sample includes only 100 fig producer farmers and 100 non-fig producer farmers.

7. This research is also limited to the economic development of fig producer farmers.

8. The data collected for this research is within the period from 2005-06 to 2009-10.

9. The questionnaire is developed by the researcher.

10. The conclusions of this research are depends on the responses of the farmers to the questionnaire.

III. GEO-PHYSICAL AND SOCIO-ECONOMIC REVIEW: PUNE DISTRICT:

- **Section I : Geo Physical And Socio Economic Features of Pune District:**

  Pune District lies between $17^0-54'$ and $19^0-24'$ North latitude and $73^0-19'$ and $75^0-19'$ East longitude. Total geographical area of Pune District is 15642 sq. km. The rural area is 15021 sq. km. (96.02%) and the urban area is 621 sq. km. (3.98%).
Pune District is divided thirteen talukas and five sub divisions into Baramati, Haveli, Khed, Bhor and Maval. There talukas in Baramati Sub Division, 3 Talukas in Khed Sub Division and 1 Talukas and other area in Haveli Sub Division, 3 talukas in Bhor Sub Division and 3 talukas in Maval Sub Division. Purandar taluka selected for study comes under Bhor Sub Division.

1. **Population:** Pune district is second highest in population in Maharashtra State. Rural population is 30.31 lacs (41.92%) and Urban Population is 42.01 lacs (56.08%).

   Male Population is 37.68 lacs, (52.10%) and Female population was 34.63 lacs. (47.90%) The sex ratio in Pune District is 919 as per 2001 census 922 at the state level.

2. **Literacy:** As per census 2001 the literacy rate in Pune District was 80.45%. The literacy rate among male is 88.34% in Pune District. The literacy rate of females was 71.89%.

3. **Employment:** Out of total 71.52 lacs population 29.52 lacs population (41.11%) is employed and rest is dependent population. The ratio of employed to dependent is 41:59.
4. **Land:** The soil of Maharashtra is made by depreciation of Besalt and Granite rocks.

The soil of Pune District is created due to effect of the above things. Black soil, Purple Soil, Rock soil is the types of soils found in Pune District. Calcium soil is found in the Purandar Taluka. The Potacium soil ratio is more and this soil is more productive such slippery land is important for fig horticulture. The net plantation area is 60.23%. Dusota Crops cover the total area upto 73.68%. Waste and other uncultivated land area ratio is 15.93% and under the Forest area is 10.39.

5. **Climate:** Maharashtra had very special climate. At the westside Sahyadri Hills are effective for climate. Same climate is there in Pune District. Due to these hills, south west mansoon gives rainfall to the District. In the summer season, climate is hot in Pune District.

6. **Temperature:** The temperature in Pune District is changing. In March, April, May and June there is summer season in the District. The annual minimum temperature is 10.50°C and maximum temperature is 37.70°C. In the summer season May is very hot with maximum temperature gone upto 42°C.

7. **Rainfall:** Generally Monsoon starts in June. Monsoon comes from Southwest. In the western part of Pune
district the annual average ratio of rainfall is up to 400 cm. In Maval area rainfall is 200 to 400 cm. The average rainfall is 50-100 cm in Western side of Pune District which covers Bhor, Velha, Maval, Mulashi, Khed, Ambegaon and Junnar Talukas. The average rainfall is 1171 mm is in Junnar. From West to East rainfall ratio is less. For the East Talukas minimum average i.e. rainfall is Less rainfall is in the Purandar Taluka which is prominent area for the fig production.

8. **Rivers:** Bhima River is the prime river in Pune District. Velu and Ghod rivers are on left side of Bhima and Bhama. Indrayani, Mula and Mutha rivers are on its right side. These are Sub Rivers. On the south border of Pune District, there are Nira River, Karha, Kukadi, Pavana, Meena, Gunjavani, Pushpavati, Shivaganga. These rivers overflow in rainy days and become dry in summer. Each Taluka in Pune District has a river.

9. **Irrigation:** The geophysical area of Pune District is suitable for irrigation. Hence the number of small and major irrigation projects is significant. It covers Pimpalgaon Joga, Yedgaon, Dimbe, Manik Doh, Vadaj, Chaskaman, Varasgaon, Panshet, Khadakwasla, Mulshi, Pawana, Ghod, Nazare, Ujani, Bhatghar, Nira and Deodhar.
The total irrigated area Pune District is 263208 hectares and out of this, highest percentage is of wells (63.98%) irrigation followed by Canal irrigation (36.02%).

10. **Cropping pattern:** Total cropped area in Pune District is 1150900 hectares and maximum area of 65.26% is covered by food grains. It is followed by Edible oils (8.01%) Legumes (7.29%) Sugarcane (04.67%) and other crops such as Edible and Non Edible oil (5.60%) Area under fig plantation is 0.04%.

11. **Fruits and Vegetable:** Fruits and Vegetable area is increasing in Pune District. Banana in Junnar, Grapes in Baramati, Junnar and Haveli and Pomgranate, Fig and Custerdapple are taken in Purandar. In Purandar Taluka Chilly production is taken. Tomato production is taken in Junnar, Ambegao and Haveli taluka. Lemon fruits production is taken in Daund, Baramati and Shirur taluka.

12. **Horticulture area:** Different fruits are produced in different talukas of Pune district. These fruits are Fig, Pomgranate, Grapes, Custarapple, guva, leman, Mango etc.

    Total plantation area in Pune District is 1150900 Hectors. Out of total area maximum plantation of 156418 (13.59%) is in Shirur Taluka followed by
Junnar (11.87) Khed (9.96%), Indapur (9.82%) Bhor (2.82%).

Total area under Fig plantation is 466.41 hectares in Pune District. Purandar taluka (45.92%) is on the top, followed by Bhor (19.30%) Haveli (13.94%). Baramati (6.13%), Daund (4.43%) and Khed Taluka (0.43%) Maval, Mulashi and Velhe Talukas and Indapur Taluka have no fig plantation.

13. **Transport and Communication:** As per 2001 statistics, fast express Ways, National High ways, State Highway and village roads are available in the District. The total length of all these roads is 13554 KM. The length of National highways is 302 KM. The National Highways i.e. Mumbai Fast Express ways, Pune Nasik, Pune Solapur, Pune Mumbai, Pune Bangalore, Pune Miraj, Pune Mumbai and Pune Solapur are available Pune is Railway Junction. The Sattelite Channels, Doordarshan, Akashwani and News papers are the important mediums of communications available in Pune District.

- **Section II : Geo-Physical And Socio-Economic Features Of Purandar Taluka.**

  The researcher has selected Purandar taluka as this Taluka is top in Fig production in Pune district. Purandar Taluka tops with 57.42% coverage of villages
under fig plantation. It is followed by Baramati Taluka (18.80%), Haveli (15.62%), Daund (14.43%) and Bhor (4.59%) Hence Purandar Taluka is selected for the purpose of study.

I. Geo-Physical Features of Purandar Taluka:

Purandar Taluka lies between 18°17'-20" and 18°17'-34" North latitude and 73°58'-29" and East Longitude, Purandar Taluka is one of 13 Talukas in Pune District.

A. Land and Climate: The climate of Purandar Taluka is hot and dry. Total cultivable land in Purandar Taluka is 98059 hectares. Out of it 2790 hectares of land is net cultivated area. It comes to 80.61%. The land under horticulture is 6525 hectares. It is 6.65% of total cultivable area.

The highest temperature is 39.05 Celsius and minimum temperature is 10.50 Celsius. The annual average rainfall is about 711.72 mm. The climate of Purandar Taluka is suitable for fruits plantation and special for fig fruits.

B. Population: Total population of Puandar taluka was 223428, out of which 174604 (78.23%) was rural population and 48824 (21.77%) urban Population.
The density of population in Purandar taluka was 265 in 2001 as against 462 in Pune District. The sex ratio of Purandar Taluka was 927 in 2001 as against 919 in Pune District.

Rural population is 78.23% whereas urban population is 21.77% in Purandar taluka. The advanced caste population is 91% whereas S. C. population is 7% and S. T. population is 2% in Purandar Taluka.

C. Education: The literacy in Purandar Talukas indicates that total 150206 (77.34%) is literate. Out of them the rural literate population is 114380 (73.32%) and urban literate population is 35826 (84.60%). The literacy rate for men in Purandar Taluka is 87.51% as against female literate 66.90%.

D. Land Use: Total cultivable area in Purandar Taluka is 98059 hectors. Plantation area is 80852 hectors (73.26%) follow land is 1448 (10.37%) which can suitably be brought under plantation.

E. Rainfall: West side of Purandar Taluka gets ample rain which is useful to Kharip crops, i.e. Rice Jawar, Bajra, East Side of Purandar Taluka is getting less rainfall. Purandar Taluka gets 848 mm rainfall on an average.
**F. Irrigation:** Total irrigation area minus Dusota area will be net irrigated area. In Purandar Taluka out of total 83501 hectares land under cropped area, 18061 hectares land is irrigated. Out of 18061 hectares irrigated land, 16664 hectares land is under well irrigation and 825 hectares land by canal irrigation.

Five talukas in Pune District are declared by the Government of Maharashtra as drought Prone Areas. These are Purandar, Daund, Baramati, Indapur, and Shirur. Purandar taluka has 100% villages total villages 101) covered under drought prone area.

**G. Cropping Pattern:** The production of wheat (1650 kg.) Maize (1450 kg.) Rice (1398 kg.), Ground Nut (1180 kg.) Green pease (1100 kg.) Soyabin (1100 kg.) and Tur (1073 kg.) per hectare in Purandar taluka.

**H. Horticulture:** Total geographical area of Purandar taluka is 110355 hectares and out of It area under plantation is 80852 (73.26 %) The total irrigated area in Purandar Taluka is 18995 hectares. Maximum 4731.98 hectare land is under custard apple, followed by fig 1435.23, Pomogranate (1239). There are 80 villages in Purandar Taluka producing custard apple. Total horticulture area in Purandar taluka is 1403
hectars, and total fig plantation area is 214.17 hectares.

**I. Marketing:** Fruit season is September, November every year. Generally fig is sold at Rs. 15 to 20 per kg. Fruits can be processed. Generally most of fruit producers sell their product locally. Few of them sell the fruits in Mumbai market.

### 5.2 FINDINGS:

The researcher has selected Purandar Taluka, as it is on the top in fig plantation in Pune district. The researcher has selected four villages viz, Sonori, Pimple, supe and Walhe.

The researcher has selected 25 fig producer farmers and 25 non-fig producer farmers from each selected villages of Purandar taluka in Pune district. Thus, the total sample size is 200 farmers. The primary data are collected through field work by providing questionnaire to these selected 200 farmers.

For the analysis purpose 100 fig producer farmers are designated as A farmers and 100 Non Fig producer farmers are designated as B farmers.

**A. Social Aspects**

The social aspects cover Residence, Types of Family, size of family, Education, Religion and Caste of the respondents.
1. **Residence:** Maximum number of A farmers are residing in good houses or Bungalows than B farmers. This is due to more income from Fig Production. (Table No. 4.2).

2. **Types of Family:** 76% A farmers and 71% B farmers have joint families and 24% A farmers and 29% B farmers have nuclear families. Most of the A farmers and B farmers are joint families. (Table No. 4.3).

3. **Size of family:** Maximum 54% A farmers and 58% B farmers have 1 to 5 members size in their family. While Only 9% A farmers and 7% farmers have more than 10 members in their family. (Table No. 4.4).

4. **Education:** 31% A farmers and 37% B farmers have taken their primary education. 23% A farmers and 21% B farmers were completed their secondary education. Only 9% A farmers and 10% B farmers are graduate and post graduate. But 11% A farmers and 11% B farmers are illiterate. Maximum A farmers and B farmers are educated. (Table No. 4.5)

5. **Children’s Education:** 38% A farmers and 33% children of B farmers’ children have completed their primary education. The number of children who completed secondary education is 27% children of A farmers and 25% children of B farmers. 45% A farmers and 19% B farmers’ children are graduate. There are 16% A farmers
and 16% B farmers’ children completed their post graduation. Children of both A farmers and B farmers are educated. (Tabel No.4.6).

6. **Religion:** Out of 200 farmers, 194 farmers are Hindu and thereafter 3 are Muslims, 1 Shikha and 2 are Navbauddh. Majority of A farmers and B farmers are Hindus. (Tabel No.4.7)

7. **Caste:** 150 farmers (75%) are from Maratha Caste out of them 82 (41%) are A farmers and 68 (34%) B Farmers. There are 36 (18%) are from Mali Caste out of them 24 (12%) from A farmers and 12 (6%) B Farmers. Majority of A farmers and B farmers belong to Maratha and Mali caste. (Table No. 4.8)

**B. Economic Aspects:** The economic aspects cover occupation profession, land holding subsidiary business, income, expenditure, bank deposits, loan and repayment of loan.

1. **Occupation:** 182 (91%) members from sample are Farmers. There are only 6 (3%) members who are in Trading business and 2 (1 %). A farmers and 4 members (4%) of B farmers are in service. (Table No. 4.9).

2. **Land holding:** 87 farmers (43.5%) have land between 2.5 and upto 5 Acres. It is followed by 81 farmers (40.5%) who hold land upto 2.5 Acres. 18
members (9%) hold land between 5.10 Acres. Five members have 10 to 15 acres land. There are 32 members (16%) of B producer category who hold land between 5 to 20 acres. Marginal farmers (upto 2.5 Acres) and small farmers (2.5 Acre-10 Acre) are in majority in the sample size. (Table No. 4.10).

3. **Subsidiary Occupation:** Only 12.5% farmers are doing subsidiary occupations along with farming. (Table No. 4.11).

4. **Monthly Expenditure:** 46% A farmers and 51% B farmers have monthly expenditure upto Rs. 5 thousand. 37% A farmers and 43% B farmers spent between Rs. 5 to 10 thousand per month. 10% A farmers and 4% B farmers spend in the range of Rs. 10 to 15 thousand per month. Only 7% A farmers and 7% B farmers have spent between Rs. 15 to 50 thousand per month. A farmers adopted fig plantation therefore they can do more expenditure. (Table No. 4.12)

5. **Bank deposits:** It is observed in the field work that 91% A farmers and 94% B farmers opted to bank accounts. There is no difference between A farmers and B farmers regarding opening the bank account. These A farmers and B farmers had deposits in the bank. A
farmers got more money from fig plantation than B farmers who did not opt to fig plantation. (Table 4.13).

6. **Sources of Loan:** 41% A farmers members and 40% B farmers availed the loan from Co-operative Banks. It is followed by 40% A farmers and 48% B farmers did not avail any kind of loan. Marginally 11% A farmers and 12% B farmers approached moneylenders, patsanstha and relatives and private banks. The co operative bank is the major source for loans to them. The borrowing capacity of A farmers opting to fig plantation increased rapidly. (Table No. 4.14)

7. **Amount of Loan:** 40% A farmers and 48% B farmers did not avail loan maximum 23% A farmers and 14% B farmers had loan above Rs. oneLac. Due to fig plantation borrowing capacity of A farmers is improved. (Table No. 4.15).

8. **Refund of Loan:** 82% A farmers and 91% B farmers are punctual in repayment of the loan. (Table No. 4.16)

C. **Fig plantation**

In the section the researcher has made an attempt to cover the encouragement to opt for fig plantation, yearwise fig plantation, irrigation sources, irrigation system, year and acrewise expenditure, processing of fig, marketing of fig,
satisfaction, effects of fig plantation, employment generation and use of agricultural implements.

1. **Encouragement**: Fig Producers and Non-Fig producers are imitating the farming techniques from their Neighbors. 56% A Farmer and 50% B Farmers started the Fig Production due to encouragement from Neighbours. 12% A Farmer and 2% B Farmers got inspiration from friends. 11% A Farmer and 10% B Farmers got encouragement from relatives and 5% farmers encouraged from Agriculture Officers and training by them.

80% Fig Farmers and Non fig Farmers are encouraged by Neighbours, Relatives and Friends for fig plantation. (Table No. 4.17)

2. **Yearwise Fig and Non Fig Plantation Area**: In the year 2006 to 2010 there is no change in the area of plantation of Fig production. Upto 1 Acres A Farmer were 87. But B Farmers are 68 in 2006 and in the year 2007 it upto 80. Also 1 to 2 Acre Area A Farmers there is no change in the year 2006 -10 they are 9 members. No change in B Farmers which was 30. But A Farmers 3 and B farmers are 1 within 2006 to 2010. For 3 to 4 Acres area A Farmers were only in 2006 to 2009 and one added in the year 2010 total 2 Members, There was no major changes are in the plantation
of Fig. Mainly reasons were Employment, shortage of Water supply, Change of Climate, diseases etc. (Table No. 4.18).

3. **Sources of Water:** 91% A Farmers and 86% B Farmers rely on mansoon for water supply. 96% A Farmers and 93% B Farmers depend on well for supply of water. Borewell is the convenient source of water to 33% A Farmers and 19% B Farmers. Farm tank is the source of water to 8% A farmers and 5% B Farmers. Mansoon is most important source of water for Indian agriculture. All the year irrigation through river and canal is not available to fig Farmers. (Table No. 4.19)

4. **Irrigation System:** 93% A Farmers and 96% B Farmers use water sub canal. The drip irrigation is used by 7% A Farmers and 4% B Farmers. There is still scope for farmers to use drip irrigation and sprinkle irrigation. (Table No. 4.20)

5. **Annual Cost of production of Fig and Non Fig crops:** Per acre annual cost of fig production is in the range of Rs. 10000 to Rs. 50000. The annual cost of Non Fig Farmers was between Rs. 10000 to Rs. 40000. It means that fig production cost is more than Non fig production. (Table No. 4.21)

6. **Annual Income of Fig and Non Fig Farms:** One of the objectives of this research work is to have comparative
analysis of annual income of Fig Farmers and Non Fig Farmers.

Fig producer farmers earning Rs. 1 Lac to 2 Lacs were per annum and per acre were 62 (62%) in 2006, remaining constant to 74 in 2007-08, 73 (73%) in 2009 and 68% (68%) in 2010. This is significant number of fig producer farmers earning upto Rs. 2 lacs per acre. During the same period from 2006 to 2010 hardly 2 Non fig producer farmers could get same income.

Further 8 fig producer farmers earned Rs. 2 Lacs – 3 Lacs in 2006, 9 fig producer farmers in 2007, 14 fig producer farmers in 2008, 17 fig producer farmers in 2009 and 24 fig producer farmers in 2010 had annual income Rs. 2 Lac – 3 Lac per acre.

During the period 2006-2010 only a single non fig producer farmer could achieve this income Rs. 2 Lacs – 3 Lacs in 2008. It is more significant from the fact that during 2006 1 fig producer farmer and during 2008 and 2009, 2 fig producer farmers had their income more than Rs. Lacs per year per acre. (Table No. 4.22). Thus fig production has positive effect on the economic development of the dry land farmers.
7. **Profit of farmers:** It is observed from table 4.23 that the profit earned up to Rs. 50000 by 14 fig farmers in 2006, 21 fig farmers in 2007, 14 fig farmers in 2008, 42 fig farmers in 2009 and 15 fig farmers in 2010. There were 91 Non Fig farmers earning the same profit in 2006, 95 Non fig farmers in 2007, 96 Non fig farmers in 2008, 95 Non Fig farmers in 2009 and 93 fig farmers in 2010. It means non fig farmers were more than fig farmers earning profit up to Rs. 50000.

There were 51 fig farmers who earned profit between Rs. 50000 to Rs. 100000 as against 8 non fig farmers in 2006, there were 41 fig farmers in 2009 and 2 non fig farmers in 2009 earning the same profit. There were 21 fig farmers and 5 non fig farmers earning the same profit in 2010. It means that fig farmers were more than Non fig farmers who earned profit between Rs. 5000 to Rs. 100000.

Same is the case of fig farmers earning profit in the range of Rs. 1 Lac and 1.5 lacs there were 29 fig farmers in 2006, 42 fig farmers in 2007, 14 fig farmers in 2009, 46 fig farmers in 2010 who earned profit Rs. 1 Lac to Rs. 1.5 lacs as against 2 non fig farmers in 2007 and 1 Non Fig farmers in 2009 it means fig farmers are more than non fig farmers earning the profit in the range of Rs. 1 lac to 1.5 lacs.

There were 6 fig farmers in 2006 and 2007, 13 fig farmers in 2008, and 15 fig farmers in 2010 who earned profit more
than 1.5 lacs. There were 3 non fig farmers in 2007, 5 non fig farmers in 2008, and 2 non fig farmers in 2010 who earned same profit. It means fig farmers are more than Non fig farmers who earned more profit than Non fig farmers to the extent of more than Rs. 1.5 lacs.

The hypothesis of this research is that fig production helps the producer farmers to improve their financial status. The table 4.13 concludes that fig production is resulting in improvement of financial status fig producer dry land farmers. Therefore, this hypothesis is positively proved. (Table No. 4.23). In this way the financial status of fig producer farmers is better than the non fig producer farmers.

8. Processing of Fig: Farmers are not processing any thing on their production. (Table No. 4.24).

9. Marketing of Fig: 5% fig Producers are selling fig in local market and 9% fig Producers in Taluka Market 2% in district Market and 83% fig farmers are selling their fig production in Mumbai Market.

On the other hand 18% Non Fig farmers are selling their fruits in local market, 6% in Taluka Market, 7% in District Market and 56% selling in Mumbai Market. It is noticed that fig product and other fruits are not marketed in National and International Market. Maximum sale is Mumbai Market only. (Table No. 4.25)
10. **Agriculture Based Occupation:** The fig fruit production helped the fig producers to be economically well off. They also started the agriculture based occupation to supplement their income. 39% Fig producers started milk business, 6% members started poultry farm, 4 % fig trading, 4% fig plant Nursery and 1% is the industrialist. (Table No. 4.26).

11. **Farmer’s Satisfaction:** 60% fig producers are satisfied while five fig producers 5% are not satisfied. 33% fig producers are partially satisfied. About 93% fig producers are satisfied as fig has yielded maximum returns to them. (Table No. 4.27)

12. **Effects of fig production on other farming:** The first major effect of fig production is on bringing the waste land under plantation. The number of 80% A farmers and 43% B farmers have confirmed it may help helped them to increase their income due to extension in area under fig plantation.

   51% A farmers and 19% B farmers have extended horticulture due to fig production and 50% from A Farmers and 28% B Farmers told that there is shortage manpower due to fig production. 63% A Farmers and 87% B Farmers told that there is shortage of water for other crops due to fig production and 47% A Farmers and 39% B Farmers have told about shortage capital due to fig plantation. 41 % A Farmers and 14 % B Farmers have opted water saving
system i.e. Drip irrigation, Sprinker, pipeline, etc. due to fig plantation. 14% A Farmer and 7% B Farmers informed that due fig plantation the agriculture tourism is encouraged. (Table No. 4.28)

13. **Generation of Employment:** Due to fig production temporary and permanent employment has been generated. 47% A Farmers and 48% B Farmers told that 1 to 2 man power temporary employment are generated and 14% A Farmers and 34% B Farmers told that 1-2 labour permanent employment is generated. 44% A Farmers and 42% B Farmers told that employment is temporarily generated for 3 to 5 labours. But 17% A Farmers and 21 A Farmers B Farmers told that permanent employment is generated to 3 to 5 labours. Fig production has capacity to generate employment. (Table No. : 4.29)

14. **Agricultural Implements:** 87% A Farmers and 56% B Farmers have used Bullcart for agriculture production. 28% A Farmers and 13% B Farmers used Tractor and 19% A Farmers and 29% B Farmers use Petrol Pump spray for medicine JCB is used by 6% A Farmers and 6% B Farmers tractor is used by 5% A Farmers and B Farmers.

Traditional Fig Farmers are more than the advanced ones. Modern agriculture instruments i.e. tractor, truck, JCB etc are used by 47% A Farmers and 24% B Farmers. It means
that due to fig production the farmers encouraged for use of advanced and modern techniques of agricultures. (Table No. 4.30)

15. **Health:** 6% A Farmers do not get health facility. 57% A Farmers have taken health facility in Private Clinic. 25% A Farmer members have taken health facility from Primary Health centre and 83% B Farmers get health facility from private clinic and 15 % member availed the primary Health facility. So it is clear that A Farmers and B Farmers have taken private health facility instead of Governments’ Health facilities, it means due to increasing in income of A Farmers they have availed private health facility instead of Governments’ Health facilities. (Table No. 4.31).

16. **Tours:** 48% A Farmers and 49% B Farmers enjoyed the State Tourism Scheme. 34% A Farmers and 25% B Farmers had tours in village area. 12% A Farmers and 13% B Farmers have enjoyed the District level. 4% A Farmers and 8% B Farmers enjoyed the Taluka level Tour. 2% A Farmers and 5% B Farmers had enjoyed National tour. So Maximum Farmers have taken experience of tour at local, state and or National level. (Table No. 4.32)
17. Material Facilities: As there is no difference in the basic needs of A Farmers and B Farmers all the essential things i.e. Domestic Gas (For cooking) cycle, Pumpset, Fan, Television, Telephone, Mobile and Motorcycle these things are available to them.

But the expensive material facilities like tractors, Car, Jeep, Van, Air Condition, Computer and internet are available to more (double) number of A Farmers than B Farmers. Fig producers have more purchasing capacity than Non fig producers. (Table No. 4.33)

D. Problems of fig producers:

The farmers have to face many problems while producing the fig fruits they are as follows: (Table No. 4.34).

1. Increase in diseases of Fig production: Total 94% fig Producers has difficulties of heavy diseases of fig production. Main diseases for fig plant are as Tembera, Pandhari Bhushi, Thipake, Phalkuj, Panawari Thipake, Phulkide, Mawa, Khodkida, etc. are the main disease and so the expenditure on medicine are burden on income from the same.

2. Shortage of Labours: 80% fig Producers has faced the problem of shortage of labours.

3. Shortage of Water supply: 73% fig Producers has water shortage difficulty. Actually it is told that few
monsoon is to be for fig production, i.e. 500 ml to 625 ml (20 to 25 Inch) Mansoon is essential for the same. In Sept and Oct. Monsoon must be stopped. This crop is to be taken at 1200 mtrs from sea level and high table land area. But that area is deep valley climate area and it is cool so decrease the production.

4. **Climate:** For fig production the climate is required Light winter, light summer and light monsoon. High winter, mist, hailstone are damaging to fig Trees. Due to more Winter Climate process of preparation of sugar is stopped. 72% Fig Producers are of the opinion that the bad climate is difficulty.

5. **Training:** 50% fig Producers told that due to non education and absence of training the fig farmers could not get maximum output.

6. **Shortage of Capital:** 73% fig Producers told that due to shortage of capital the production is not come out. For the Modernisation, Irrigation facility, Process industries, Storage, AC House, Transport facilities are needed heavy capital. For agriculture purpose minimum interest loan is not provided for the capital, so government should provide some ratio of capital and grant also.

7. **Market Management:** In the view of Market management fig producer’s difficulties are shortage of
storage capacity, gradation and classification shortage of Market facility. The specifications are under:

i) **Market Rate:** No reasonable market rate is fixed for fig production according to by 88% fig Producers. When there is number the rates will crop its price collapses. Production is decreased due to diseases and hence farming of fig production is not profitable.

ii) **Shortage of Market Facilities:** 71% fig Producers says that there are no facilities in the market and this is main difficulties. Now fig fruits producers depends on local market. Some may sell it at Mumbai but there is no marketing in the country and international Market and transport facility.

iii) **Storage capacity:** In the opinion of 50% fig Producers, there is no cold storage facility. Due to storage difficulty, the fig fruits are being sent to local market. The fluctuations in market rate can not benefit the fig farmers for want of storage facility.

vi) **Gradation and Standardisation:** The fig production must be graded and standardised for getting better price. But it is fact that 48% fig fruits are not graded and standardised.
For the purpose gradation and standardisation, training, and standardised production is essential. This may help fig producers to export their product.

v) No export of fig production: 49% producers complained that there is no proper management for export. The fig fruits can be exported to America, England, African Countries, Africa, Europe. For the export there should be the quality fruits. Their packaging must be light the attractive and cold storage is also essential for export.

E. Solutions to the problems of fig producers

The suggestions given by fig producer farmers are as follows: (Table No. 4.35).

1. Training: 65% fig farmers want training so that they can get more production. It needs to be graded, standardised and properly packed for export. For this purpose Government and different NGO’s may provide the training to the farmers at their local areas.

2. Community Farming: Due to 35% fig Producers supports storages, export, process industry, irrigation, transport, modernization. Their difficulties can be solved through the community farming.

   Due to community farming maximum profit can be earned. Common Medicine spray, Modernisation for
agriculture, Cold storage, storage, process industries, Raw Materials and availability of Capital are the favourable for community farming system. For that purpose farmers group, Government and Non Government Organisations may take the leading and enlighten to farmers.

3. **Irrigation Facilities:** According to 76 (76%) fig Producers, the irrigation facilities may be enhanced, and the govt. may introduce the lift irrigation. The grants and minimum interest rate loan also may be provided.

4. **Modernisation:** 52 (52%) fig Producer farmers told that if the modernization is done in the agriculture, the productivity also will be increased and 48 % members told that there is no need of modernization. The modernization must be done but for that purpose govt. must provide the loan with minimum interest along with grant.

5. **Minimum Interest Loan:** 73% fig Producers says that Govt. may provide the loan with minimum interest rate and 28% fir Producers have no complaint about the interest.

    If Government provide the special capital for crops and minimum interest loan for fruit cultivation in dryland area, it will help for solving the problems. Process industry should be started to enhance export.
6. **Federation of Fig Producers:** 60% Fig Producers want to make fig producers Sangh, because fig Producers Sangh is constituted to solve the problem of Fig Producers.

    Encouragement for constituting the Fig Producers Sangh should be given by the Govt. and enlight for the same. Help to the Sangh, automatically the Fig Producers Sangh will be increased.

7. **Establishment of Process industries:** 50% fig Producer gave good response for process industries. Process industry is established for the Jam, Choklate, Dry fruits, Burfy, Milkshake, Packed Tin Figs, Powder etc. such sub products may be prepared. This may help to increase profit by 3 to 4 times.

8. **Reasonable Market Rate:** 72% fig Producers wish to earn reasonable market rate. Fig production expenditure is more, so if they do not get the reasonable rate, they will not earn the good profit. Many a times other fruits are coming in market that affects sale of fig. And some times due to different deseases production is less and that time no profit is earned by the fig Producers.

    For that dry land agriculture Government should give the minimum rate surety to Producers.
9. **Government Grants:** 72% fig Producers feels that the Govt. may provide the grant to the fig production and 28% fig Producers said that there is no need of grant. They have self-sufficient capacity on themselves.

   Dry land agriculture is developing and poor agriculturist self-sufficient and some percent unemployment problem is solving. Govt. may give the grant for fruit cultivation.

10. **Study Tours:** Out of the fig Producers 39% farmer members feel that study tours may be arranged and 62% fig Producers member have no importance for the same.

   If study tours farmers are arranged, the farmers can learn the different research and implement modern agriculture, irrigation facilities, export capacity, figs and process industry knowledge and for the development they can start their own process industries.

   So Co-operative Society, NABARD, Agriculture Department, Federation of Farmers may arrange study tours of societies and for that purpose grant and free tours and concessions may be provided.

11. **Research on fig:** 47% fig Producers members feel that the research must be done on fig crops. And 53% members have no importance for the same.
Due to research minimum sugar fruits are producer production of long time figs are planted. Fig production required minimum water.

Fig production researches are conducted in Agriculture University and Government may give the grants for the same. Then the export quality good quality figs can be produced.

12. **Exemption in Loan**: 73% fig Producers members want the exemption in Loan. And 27% members not responded for exemption.

After getting the loan exemption, farmers have sufficient capital and the fig production will be increased and farmers may enter in the fig process industry.

5.3 **HYPOTHESES TESTING**

Five hypotheses were formulated for this research work. After the analysis of collected data these hypothesis are tested as follows:

**Hypothesis No. 1**

**Fig plantation helps the producer farmers to improve their financial status.**

This hypothesis is tested with the help of data given in the table No. 4.21 to 4.23 in respect of income of fig producer farmers, their earning of profit, their residence available to them and health etc.
A. **Income of Fig producer farmer**

Table 4.12 explains that maximum number of 62 farmers had the annual income in the range of Rs. 1 Lac to 2 Lacs in 2006. This number is increased to 68 in 2009 who earn the same income.

Secondly table 4.12 explains that there were 2 fig farmers earning more than Rs. 3 Lacs per annum in 2008-2009.

B. **Profit**

Table 4.23 indicates that the fig farmers had more profit per hectare than the Non Fig farmers.

C. **Residence**

It is observed by the researcher that fig farmers earn more income and hence they could afford to reside in bungalow, concrete house, this is explained in table 4.2.

Thus the hypothesis No. 1 is positively proved and accepted. Fig plantation helps the producer farmers to improve their financial status.

**Hypothesis – 2**

**Comparatively fig producer farmers are earning more than the non fig producer farmers.**

This hypothesis is tested on the basis of data given in table 4.12. Maximum number of 74 fig farmers earns Rs. 1 Lac to 2 Lacs in 2008 but only 2 Non fig farmers earn the same amount further ‘A’ fig producer increased from 8 in 2006 to 24
in 2010 to earn income Rs. 2-3 lacs whereas there was not a single non fig producer earning the same.

Considering the profit there were 51 A farmers earn profit Rs. 50000 – 1 Lac whereas 8 B farmers earn the same amount. In 2010, 46 ‘A’ farmers earn Rs. 1 -1.5 lacs and 24 A farmers earned profit Rs. 50000 -1 lac it indicate fig farmers are earning more than B non fig farmers. In this way hypothesis No. 2 is positively tested and accepted. Comparatively fig producer farmers are earning more than the non fig producer farmers.

Hypothesis – 3

**Fig production has good effects on agriculture based occupation.**

This hypothesis is tested with the help of the data given in the table 4.27

The major effects of fig production are to bring waste land under plantation which is confirmed by 80 A farmers and 43 B farmers. Further fig production is extended fruit cultivation.

It is told by 51 A Farmers and 19 B Farmers there is shortage of capital, shortage of water and shortage of man power due to fig production but 41 A Farmers and 14 B Farmers have opted water saving system i.e. sprinkler, pipeline. Thus the hypotheses No. 3 is positively tested and accepted. Fig production has good effects on agriculture based occupation.
Hypothesis – 4  
Farmers are not processing the figs.

This hypothesis is tested on the basis of data given in table 4.4.7. In this table not a single fig producer is processing his fruits. (100% fig producers are not processing their fruits). Therefore, hypothesis No. 4 is positively tested and accepted.

Farmers are not processing the figs.

Hypothesis – 5  
Fig producer farmers have various problems during the fig production.

This hypothesis is tested with the help of the data given in the table 4.9. It indicates that the main problems for fig production are the climate change, water supply (scarcity of water), capital shortage, employment and fruit diseases. As the fig producer farmers are faced above problems during the fig production the hypothesis No. 5 is positively tested and accepted. Fig producer farmers have various problems during the fig production.

5.4 CONCLUSIONS

1. There is positive economic impact of fig production on dry land farmers.

2. The financial status of fig producer farmers is better than the non fig producer farmers.

3. There is positive impact of Fig production on agriculture based occupation.
4. Fig producer farmers have following problems during the fig production:

a. Diseases of fig plants is the major problem infront of the Fig producer farmers.

b. Shortage of Laborers is another major problem of the Fig producers.

c. Shortage of Water facility is the big problem to the Fig production.

d. Bad Climate is again one of the problems of Fig producer farmers.

e. Absence of training to the fig farmers is also the problem of Fig producers.

f. Shortage of Capital is the main problem.

g. Guaranteed reasonable market rate for fig is not fixed.

h. No market opportunities at National and International level.

i. There are no cold storage facilities and godowns for fig fruits at local level.

j. No trained labour for gradation and separation of fig fruits for International market.

k. There is no export facility for fig fruits.
6. The solutions for the problems of dry land fig producers are as follows:

   a. For the production of best quality Fig fruits, Government and NGOs’ different NGO’s should provide the training to the fig producer farmers at their local areas.

   b. To minimize the expenditure and earn more profit community farming should be adopted by the Fig producer farmers.

   c. Irrigation facilities should be provided to the Fig producer farmers.

   d. Modern and advanced techniques and equipments should be used by the farmers for the production of Figs.

   e. Government should provide Minimum Interest Loan to the Fig producer farmers.

   f. Federation of Fig Producers should establish to solve the problem of Fig Producers.

   g. Process industry should establish for processing on the Fig fruits.

   h. Government should give the minimum rate surety to Fig fruits.

   i. Government should provide grants for cultivation of Fig.
j. Study tours of Fig producing farmers should arrange to motivate them for Fig production and its processing.

k. Researches should be conducted to develop better varieties of Fig, processing on fig and other areas related to the Fig.

l. Exemption in the loan should be given to the Fig producer farmers and farmers who started the Fig processing industry.

5.5 RECOMMENDATIONS

The researcher suggested the following recommendations based on the present research work:

1. **Encouragement for fig plantation:**
   
   Government should encourage the dry land farmers for plantation of fig production because this is very useful for economic development to the dry land farmers.

2. **Increase the area of fig plantation:**

   The fig fruit plantation area should not be limited up to the Maharashtra but it should be extended in all over India where the dry land is available.

3. **Irrigation Facility:**

   Government should provide the irrigation facilities i.e. tank, irrigation scheme, and dams etc. to provide water to the fig plants in summer season.

4. **Crop Loan:**
As the production cost of fig plantation is more the Government should provide crop loan against Fig plantation and interest should be exempted, if the farmer refunds the loan in time.

5. **Micro Irrigation System:**

At present many farmers are using the traditional system for irrigation which requires a large amount of water and the area is drought prone area. The micro irrigation system should be used by the farmers. The government should give the 100% grants for micro irrigation system.

6. **Research of new type of Fig plant:**

The Researchers should undertake the researches to find out new varieties of fig plant which will be diseases resistant, requires less amount of water and give the maximum yield. Government should give motivation, facilities and provide funds for such type of researches.

7. **Fig cultivation Awareness Campaign:**

The Government should organize fig cultivation awareness campaigns to increase the fruit cultivation area, to motivate the farmers for cultivation of fig to aware them about various government schemes regarding fruit plant cultivation.

8. **Minimum Basic price:**

When there is more production of fig fruits, then the rates of fig collapses which cannot fullfill the expenditure of the farmers.
Therefore, government should decide the minimum basic price for figs based on production cost.

9. **Production of export quality fruits:**

The farmers should used biological and organic fertilizers for the fig plants, they should avoid chemical fertilizers, they should maintain the quality of fruits so that, they can export their fruits and get the benefit of international market and our country get the foreign currency.

10. **Training of farmers:**

The Government and agricultural department should organize various training programmes, seminars, workshops, orientations, field visits, interviews of successful fig farmers for the farmers. This will be useful for the farmers to improve their knowledge and skills regarding the fig production which directly effects and the quality and yield of the fig. As the quality increases the fruits will be exported and the farmers earned more profit through the fig plantation.

11. **Cultivation of high yeilding varieties of Fig:**

Now days the Poona Fig variety of fig is traditional cultivated in the Purandar Taluka instead of this variety newly invented and recommended high yielding varieties like Excel should be cultivated by the farmers.
12. **Market and Transport Facility:**

The fig fruits of Purandar Taluka farmers are sold in the local as well as Mumbai market. But they are not getting the benefit of National and International markets. The government should provide the facility, infrastructure and linkages with national and international market.

Internal roads and transport facilities should be better for the transport of fig fruits from farm to the State, National and International Market.

13. **Removal of Agents:**

The government should provide the opportunity for the farmers to sell the fig fruits directly to the consumer without agents. It will decrease the production cost and increase the profit of the farmers.

14. **Fig Processing Industry:**

The fig processing industry should be established in the Purandar Taluka so that the fig fruits after their production immediately processed and it will avoid the wastage of fruits. The processed figs get more price which increases the profit. The government should provide grants, low interest loans, infrastructural and other facilities for the fig processing industry. The government should motivate the farmers to establish fig processing industry.

15. **Community farming:**
The farmers should initiate the community farming for fig cultivation. This community farming decreases the production cost and increases the profit through common irrigation, maintenance, Transport, godowns, Process Industry, Cold Storage, agricultural implements, fertilizers and Medicines facilities.

16. **Cold Storage facility:**

Government should provide the cold storage facility for fig fruits. There should be one cold storage after every ten fig producing villages. Thus there should be 4 to 5 cold storages in Purandar Taluka. So the fresh fig fruits will be stored immediately after harvesting and transported in the market when the rate for the figs is maximum. This will increase the profit of the fig producer farmers.

17. **Fig Producers Federation:**

Farmers should form the federation of fig producers. This federation will take care of the fig production by tackling the problems of fig producers and providing solutions to them.

18. **Study Tours:**

Agriculture Department of government, federation of fig producer farmers, should organize the study tours. They should visit to the farm of successful fig producer farmers, fig processing industry, Krushi Vikas Pratisthan, Agricultural
Universities, Agricultural Research Center, Markets etc. It will motivate the farmers to cultivate the fig, to use modern and advanced technology for fig production, to do the new and innovative experiments in fig cultivation to acquire the knowledge and skills regarding fig production and to change their attitude towards the fig production.

19. **Insurance:**

The Government should provide insurance facility to the fig crop. If natural calamity occurs and there is any loss to the farmer then the farmer will not suffer from this loss and more number of farmers will get attracted towards Fig cultivation.

20. **Loan Exemption:**

Government should provide a loan exemption facility to the fig producer farmers. As the Purandar is drought affected taluka, the farmers are very poor. If they take the loan from bank or any financial institute, but due to climate change and diseases on the fig crop and fluctuation in market price there may be loss to them. These farmers are unable to repayment the loans so government should provide loan exemption facility to such farmers.

21. **Stories of successful fig producer farmers:**

The stories of successful fig producer farmers should be written and published in books, news papers, the interviews of such successful fig producer farmers should be broadcasted on
radio and television. Such farmers should be awarded by the government. This will motivate the other farmers and attract them towards the cultivation of fig.

### 5.6 APPLICATION OF SCHULTZ’S THEORY:

#### 5.6.1 Schultz’s Theory:

The man who is bound by Traditional agriculture cannot produce much food no matter how rich the land. Thrift and work are not enough to overcome the niggardliness of this type of agriculture. To produce an abundance of farm products requires that the farmers has access to and has the skill and knowledge to use what science knows about soils, plants, animals and machines. To command farmers to increase production is doomed to failure even though they have access to knowledge. Instead, an approach that provides incentives and rewards to farmers is required. The knowledge that makes the transformation possible is a form of capital, which entails investment. Investments not only a material inputs in which a part of this knowledge is embedded but importantly also investment in farm people”.

Prof. Schultz has stated that, differences in land are least important, differences in the quality of material capital are of great importance and differences in the capabilities of farm people are most important in explaining the differences in the amount and rate of increase in farm production.
Hypothesis of Schultz was that “the rate at which farmers who have settled into traditional agriculture accept a new factor or production depends upon its profit, with due allowance for risk and uncertainty and in this regard the response is similar to that observed by farmers in modern agriculture”. He also suggested that farmers are remarkably efficient in allocating the factors at their disposal in current production. According to Schultz, there is no correlation between the size of farms and productivity.

He asserted that modern agricultural inputs must be available at reasonable rate. That will lead to investment in agricultural profitable.

According to Schultz, the investment in human capital has radical social and economic implication. He emphasized that education is the best form of investment in human capital.

5.6.2 Application of Schultz theory to present research.

According to Schultz the transformation of Traditional Agriculture in modern agriculture depends on the following:

a. New factors in production.

b. Availability and price of non traditional (Modern) agricultural inputs.

c. Modern Material inputs.

d. Farm people with modern skills.

e. Investment in human capital.
Schultz theory may be considered in the context of this research, which studies the impact of fig plantation on Dry land farmers in Pune District.

1. **Traditional Agriculture**

   It is primarily peasant farming, characterised by backward world, primitive and labour intensive agriculture, with low productivity. Indian economy is agrarian in character. There are generally small sized farms. The land and labour are principal inputs of traditional agriculture. But there is great scope for increasing total production and resource productivity through technological change.

   Total area under cultivation in Pune district is 1150900 hectares (73.68% of total area), total area under cultivation in Purandar Taluka is 98059 hectares (88.85%) of total area).

2. **Transformation to modern agriculture.**

   Government of Maharashtra declared five Talukas of Pune District as drought prone area. Horticulture is important for water scarcity zone with low water balance. The fruit plantation is useful for the economic development of farmers having waste land. The area under plantation in Purandar Taluka is 80852 hectares (73.26% of total geographical area).

   Fig, custerred apple, pomegranate, bear are popular fruits grown in this area. Land, water, hilly area and climate are in favour of horticulture in Purandar Taluka. The horticulture
yields net profit of about Rs. 1 to 1.5 lacs per Acre, whereas the fig plantation yields Rs. 2 to 2.5 lacs net profit per Acre.

Fig plantation in Purandar Taluka can be considered as transformation of traditional agriculture to modern agriculture.

3. **New factors of Production.**

Prof. Schultz pointed out that the traditional farmers accept new factors of production considering its profit.

Fig plantation was accepted by the farmers in Purandar taluka as they were encouraged by Neighbours, friends, and agricultural officers. (P. 102 of thesis)

Moreover the hypothesis of this research is that, “Fig plantation helps the producer farmers to improve their financial status”. This hypothesis is positively proved as income of fig producer farmers increased and they earned profit. (P. 145).

Secondly hypothesis of the research was that ‘comparatively fig producer farmers are earning more than the non fig producer farmers”. This hypothesis is positively proved. (P. 146.)

4. **Modern Material inputs.**

Prof. Schultz asserted that modern agricultural inputs must be available at reasonable rate. That will lead to investment in agriculture. Irrigation, better seeds, better manures and fertilizers, plant protection, use of mechanisation are various aspects of agricultural inputs.

   A. **Drip Irrigation.**

   B. **Market Facilities.**

   C. **Fig processing Unit:**

   D. **Farm people with modern skills.**
5. **Investment in human capital.**

   Literacy rate in Purandar taluka is 77.34% these farmers want training. This can be given by government. They should arrange seminars, workshops, orientations, field visits, interviews of successful fig farmers. This will be useful for the farmers to improve their knowledge and skills regarding the fig production, which directly affects the quality and yield of the fig. It will be exported to earn more foreign exchange.

5.7 **SCOPE OF FURTHER RESEARCH**

   This research studies the economic impact of fig production on Dry Land Farmers in Pune District with special reference to Purandar Taluka. In future any researcher may study the economic impact of other than fig production on irrigated or dry Land farmers.

   The researcher is quite aware of the fact that there are several other aspects such as marketing, cost benefit analysis, impact of Globalisation on fig and Horticulture, Impact of Globalisation on marketing of fruits and fig and problems before food processing Industry and Remedial measures to over come them. There are also some another subjects for further research such as to study about agro base industry and fruit processing Industry. The study about export marketing of fig and other horticulture is also necessary.

   The researcher has limitations to complete the research in stipulated time period. Therefore the researcher felt that there is further scope for the other scholars to study in more detail the other aspects of the research problem.