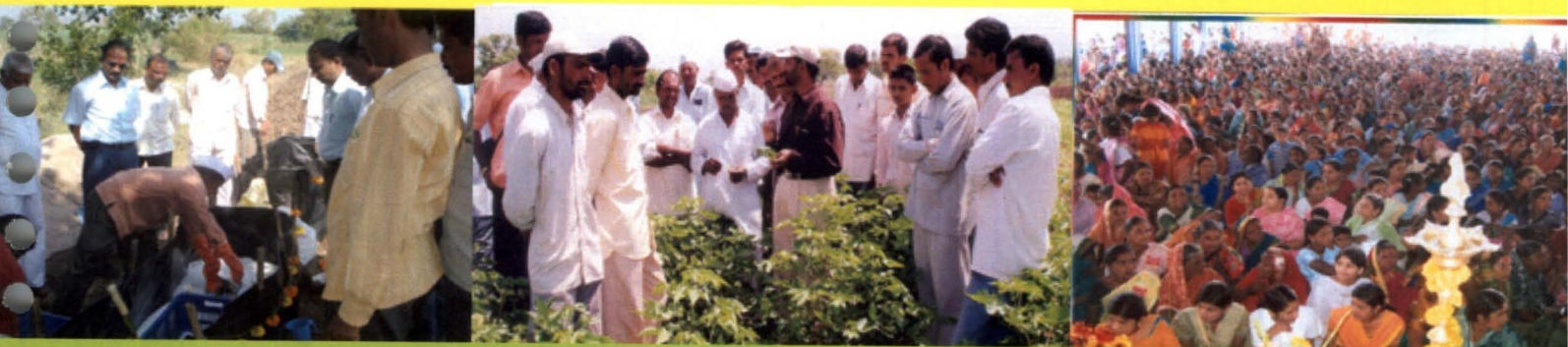


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Comprehensive District Agricultural Plan

(C-DAP) 2007-08 to 2011-12



Prepared by

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Coordinated by

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FOREWORD

India has made considerable headway in agriculture since independence in terms of growth in output, yield and area under major crops. It has gone through a green revolution, a white revolution, a yellow revolution and a blue revolution. However, slow growth of agriculture recorded in the recent years has been a matter of concern among the policy makers, as agricultural growth plays a crucial role in improving rural employment and reducing rural poverty. Slow growth in Agriculture and allied sectors can lead to acute stress in the economy because the population dependent upon this sector is still very large. A major cause behind the slow growth in agriculture is the consistent decrease in investment in this sector by the state governments. While public and private investments are increasing manifold in sectors such as infrastructure, similar investments are not forthcoming in Agriculture and allied sectors, leading to distress in the community of farmers, especially that of the small and marginal segment. Hence the need for stimulating states to increase their investments in the Agriculture and allied sectors has been felt and accorded high priority.

The National Development Council (NDC), in order to deal with this issue, in its meeting held on 29th May, 2007 resolved that a special Additional Central Assistance Scheme (RKVY) be launched. The NDC resolved that agricultural development strategies must be reoriented to meet the needs of farmers and called upon the Central and State governments to evolve a strategy to rejuvenate agriculture. The NDC reaffirmed its commitment to achieve 4 per cent annual growth in the agricultural sector during the 11th plan. In view of the above, a special Additional Central Assistance Scheme -Rashtriya Krishi Vikas Yojna (RKVY) which is a State Plan scheme administered by the Union Ministry of Agriculture was conceived. The pattern of funding under this scheme is 100 percent Central grant. In order to avail of funds under RKVY, each district is entrusted with the task of preparing a comprehensive district agricultural plan. It is in this context, as per the guidelines of Planning Commission, Government of India, that the Department of Agriculture along with all Allied Departments of the district have prepared this Comprehensive District Agriculture Plan of Satara District. I hope that this plan would be useful for formulating policies focusing on agricultural development of Satara district.

(Vikas Deshmukh)
District Collector, Satara

PREFACE

The process of planned economic development in India began with the launching of the First Five Year Plan in 1951 and currently India is in the 11th Five Year Plan (2007-08 to 2011-2012). The main objective of policy makers is to promote growth with social justice. While growth rate of gross domestic product was 3.6 percent per annum during the First-Five Year Plan, it grew at the rate of 7.8 percent per annum during the Tenth Plan and a road map for 9 percent per annum for the 11th Plan is being conceived by the Planning Commission. However, despite this improved performance in growth rates over the plan periods, the major concern is that workforce continues to perpetuate in the agricultural sector. As per 2001 census of India, 59 percent of workforce is in primary sector and in a number of states and districts, this figure is much higher. This means that the agricultural sector has to be an engine of growth as this will lead to inclusive growth. However, a contrary picture has emerged as there has been a sharp deceleration in Indian agriculture with declining growth rates.

In view of the above, a special Additional Central Assistance Scheme -Rashtriya Krishi Vikas Yojna (RKVY) which is a State Plan scheme administered by the Union Ministry of Agriculture was conceived. The main purpose of the scheme is to supplement state specific strategies with a view to rejuvenate agriculture. More specifically, the NDC aims at achieving a growth rate of 4 percent per annum in the 11th Five Year Plan as growth in this sector will make overall economic growth more broad based and inclusive. The pattern of funding under this scheme is 100 percent Central grant. In order to avail of funds under RKVY, each district is entrusted with the task of preparing a comprehensive district agricultural plan. Accordingly, this plan was prepared for Satara district.

The Plan revealed that the main contribution to the gross value of output from agriculture is from horticulture. There is tremendous scope for the growth of horticulture. Floriculture is gaining great importance in Satara district. About 40 per cent of polyhouses in Maharashtra are in Satara district. There is wide scope to cultivate medicinal and aromatic plants in the western ghats of Satara district which has a huge forest cover. The district has four important dams namely Dhom, Koyna, Morna and Kanher. In the command areas, it is possible to cultivate commercial crops such as turmeric, ginger and sugarcane. As the district has access to National Highway-4, marketing of these crops is facilitated. Agro and food processing units have great scope in view of the wide variety of fruits and vegetables grown in this district. Due to

urbanization, a ready market is available for consumption of such products. Thus high value agriculture in the form of horticultural products, agro-processing units will be a major driver of growth in this district. In order to fully capitalize on its agricultural sector, the district must ensure that entire irrigation potential is tapped so that productivity and cropping intensity can be increased

We would like to thank Shri Nanasaheb Patil, Principal Secretary (Agriculture), Government of Maharashtra and Shri Prabhakar Deshmukh, Commissioner Agriculture, Government of Maharashtra, Pune for their support and advice at different stages in preparation of the report. A number of officials from the Commissionerate of Agriculture, Government of Maharashtra, Pune, helped us especially in providing information. We would like to thank all the concerned departments for their help in preparation of this plan report. We also thank all our staff members for processing data and related work.

We place on record our sincere thanks to Dr. S.S. Kalamkar and Dr. Sangeeta Shroff, faculty of Gokhale Institute of Politics and Economics (Deemed University), Pune, who have provided guidance on our draft plan and made suggestions for qualitative improvements. However, none of the individuals and institutions mentioned above are responsible for errors remaining in the report, if any.

Finally, we thank all the district level officers who have taken keen interest in collecting relevant information for the preparation of the plan particularly District Superintending Agriculture Officer for having coordinated the whole process of preparation of this valuable document aimed at all round improvement of agriculture and allied sectors in the district. I sincerely hope that this comprehensive district plan will act as a guide to achieve the targeted agricultural growth rate in 11th plan period.

(Mahaveer Jangte)
District Superintending Agriculture
Officer, Satara.

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List of Abbreviations

A.I.	- Artificial Insemination
A.I.C.	- Artificial Insemination Centre
APMC	- Agricultural Produce Market Committee
ATMA	- Agriculture Technology Management Agency
BAPU	- Block Agriculture Planning Unit
BPL	- Below Poverty Line
CB	- Cross Breed
C-DAP	- Comprehensive District Agriculture Plan
DAPU	- District Agriculture Planning Unit
DDP	- District Development Plan
DFL	- Disease Free Layings
DIC	- District Industries Centre
DPAP	- Drought Prone Area Programme
DPC	- District Planning Committee
DRDA	- District Rural Development Authority
DSAO	- District Superintending Agriculture Officer
EGS	- Employment Guarantee Scheme
FFS	- Farmers Field School
GCA	- Gross Cropped Area
GDP	- Gross Domestic Product
GIA	- Gross Irrigated Area
GoI	- Government of India
GP	- Gram Panchayat
GVO	- Gross Value of Output
Ha	- Hectare
HYV	- High Yielding Variety
IADP	- Integrated Agricultural Development Plan
INM	- Integrated Nutrient Management
IPM	- Integrated Pest Management
KVI	- Khadi and Village Industries
KVK	- Krishi Vigyan Kendra
NADEP	- Namdeo Deorao Pandharipande (method of compost manufacture)
NDC	- National Development Council

NDP	- Net Domestic Product
NGOs	- Non Government Organizations
NHM	- National Horticulture Mission
NIA	- Net Irrigated Area
NPK	- Nitrogen, Potassium and Potash
NWDPRA	- National Watershed development Programme for Rainfed Areas
PPP	- Public Private Partnership
Prod	- Production
Prodvty	- Productivity
PVC	- Primary Veterinary Center
RKVY	- Rashtriya Krishi Vikas Yojna
SAU	- State Agricultural Universities
SC	- Scheduled Castes
SHG	- Self Help Group
SRR	- Seed Replacement Ratio
ST	- Scheduled Tribes
SWOT	- Strength, Weakness, Opportunity and Threat
TAC	- Technical Appraisal Committee
VAPU	- Village Agriculture Planning Unit
ZRS	- Zonal Research Stations

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Executive Summary

'Satata' has rich heritage. It was the capital of Maratha Kingdom spread over 14 lakh square kilometers. Several great warriors, kings, saints, and great personalities created their historical evidence in the history of Maharashtra namely Rani Laxmibai, Krantisinha Nana Patil (Patri sarakar), Savitribai Phule and Karmaveer Bhaurao Patil.. Satara district is located in the western part of Maharashtra. The geographical area of Satara district is 10,480 Sq. Km. which is about 3.4 per cent of the state's total geographical area. Satara district is situated in the river basins of Bhima and Krishna. Panchgani, Mahabaleshwar, Karad, Wai, Koregaon and, Koyananagar are the chief towns of Satara District. Mahabaleshwar, one of the most beautiful hill stations of India, is located in this very district. The physical settings of Satara shows a contrast of immense dimensions and reveals a variety of landscapes influenced by relief, climate and vegetation.

Satara district lies between 17.5 to 18.11 degree North latitude and 73.33 to 74.54 degree Eastern longitude. The district comprises of 11 tehsils namely Satara, Koregaon, Khatav, Karad, Patan, Wai, Jaoli, Mahabaleshwar, Khandala, Phaltan and Man. Under the Satara Zilla Parishad jurisdiction, 1739 villages are covered through 11 Panchayat Samities and 1509 Gram Panchayats. As per the Census 2001, the total population of the Satara district was 28.09 lakh with a population density of 268 per square kilometer. With diverse cropping pattern, the district can be segregated into three broad regions, viz., the Hilly tracts in the West comprising Mahabaleshwar, Jaoli, Patan and parts of Satara, Wai and Karad talukas; Irrigated areas of Wai, Satara, Karad and part of Koregaon talukas in the central region and the drought-prone talukas of Khandala, Koregaon (East), Khatav and Man in the east. The main rivers of Satara district are Koyana and Krishna. Krishna is one of the three largest sacred rivers of southern India.

Out of geographical area, about 12 percent land is as current and other fallow and about 55 percent of land is sown. The cropping intensity of the district is 128.4 percent, which is marginally higher than the state average (127.9 percent). Satara district has a net sown area (NSA) of 5.76 lakh hectares of which net irrigated area accounts for 1.8 lakh hectares. This indicates that only 31.28 per cent of net sown area is irrigated. The gross irrigated area of the district is 2.23 lakh hectares which is 31.85 per cent of gross cropped area (GCA). The cropping intensity in the district is 124 per cent. The maximum area of Satara district is categorized as scarcity zone and agriculture is dependent mainly on monsoons. Hence kharif crops dominate the cropping pattern. The area under kharif crops is about 60 per cent, while that under rabi

crops is 35 percent. The area under summer crops is negligible. Jowar accounts for about 33 percent of gross cropped area of the district. Out of total area under jowar, 30 percent is cultivated in kharif season and 70 percent in rabi season. Horticulture is a major allied activity in Satara district.

The sector-wise income in Satara District shows that the per capita income in Satara district is 1.16 times the state average. The sector wise distribution of income indicates that out of the total district income, about 30 percent comes from the Primary sector. However, about 70 percent of the workforce is engaged in the agricultural sector. This indicates that productivity in the primary sector is very low. The secondary sector contributed about 18 percent to District income and in case of tertiary sector it was around 52 percent. The overall picture leads us to conclude that half of the income of the district is derived from the tertiary sector.

As per SWOT analysis, the district has varied rainfall and soil pattern conducive to the cultivation of a variety of crops, particularly horticultural and medicinal crops. There is also scope to cultivate medicinal and aromatic plants in the Western ghats which has a huge forest cover. The district has 928 polyhouses which is the largest number in the state. Hence, there is scope for Hi-tech cultivation of flowers under controlled conditions. In order to promote horticulture, infrastructure in the form of backward and forward linkages is also developed. In all AES, fruit processing industry is being promoted and Krishi Vidyan Mandals are working efficiently. Since the district has access to NH-4, marketing of produce is facilitated.

The weakness of the district is that 70 percent of workers are in the agricultural sector. While 48 percent are farmers, 21 percent of workers are agricultural labourers. This reveals that a little less than three-fourths of the workforce in Satara is in the agricultural sector. However, the contribution of this sector to District Domestic Product of Satara is only 29 percent. The productivity of agricultural sector is thus very low. Cultivation of oilseeds also presents a dismal performance. A large part of the district receives 500 mm or less rainfall and thus the district has major drought prone areas. In areas which receive heavy rainfall, there is soil erosion. Thus water is a limiting factor in the district which explains the low productivity of crops. The district suffers from severe load shedding. Electricity is available for only 8 hours per day. This limits the use of well irrigation.

Opportunities in the district reveal that here is tremendous scope for the promotion of Horticulture in Satara district. Floriculture is gaining great importance in Satara district. About 40 per cent of polyhouses in Maharashtra are in Satara district. Agro and food processing units have great scope in view of the wide variety of fruits and vegetables grown in this district. As a

large amount of wasteland exists in the district, the Wasteland Development Programme must be implemented on a war footing. Increasing soil erosion in hilly areas is a threat to agriculture in those areas. Lack of micro nutrients in soil, especially zinc will lead to low productivity. The district has about five tehsils which are drought prone. Lack of irrigation and watershed programmes in these tehsils will restrict agricultural growth. At the same time several parts of the district receive heavy rainfall. There are certain years when the crops are affected by floods. Lack of fodder restricts the promotion of animal husbandry which plays a major role in increasing the incomes of farmers besides providing nutritional security. Any delay in completion of irrigation projects will be harmful for agriculture as productivity of crops is affected.

In order to capitalize on the potential of the agricultural sector in the state so as to improve the productivity in this sector and thus enhance the incomes of farmers, the following innovative schemes are being proposed for the 11th Five Year Plan:

Innovative Schemes:

A) Agriculture Department

- Strengthening of Krishi Vigyan Mandal (Kvm)
- Organization of Agriculture Exhibition
- Establishing Contract Farming
- Development of Agro-tourism
- Reclamation of ill-drained Soil
- Agriculture Mechanization
- Establishment of Soil Testing Lab at Taluka Level
- Strengthening of Rameti

B) Dairy Department

- Revival of non functional DCSs
- Formation of SHGs & Shetkari Mandal
- Strengthening of existing DCSs
- Clean milk production promotion schemes
- Artificial Insemination Facility
- Improving green fodder supply to DCSs members
- Extension & Training Center
- Plant Machinery
- Civil Construction

C) Animal Husbandry Department

- Improving A.I. Delivering System
- Establishment of Hatcheries at block level
- Strengthening Distribution network of Govt. Hatcheries by involving producer association
- Establishment of small ruminant market yard
- Breed village of Sheep/Goat
- Strengthening modernization of existing Vet. Hospital

D) Sericulture Department

- Infrastructure for training staff
- Infrastructure for training for farmers
- Consultancy Centers
- Cocoon purchase center
- Starting New reeling Center
- Subsidy for construction of rearing houses

E) Fishery Department

- Reservoirs Development for Fish
- Establishment of Training Centre
- Subsidy for Mechanized Crafts
- Subsidy for Fish Preservation, Transport & Marketing

F) District Industry Centre

- Agro processing Entrepreneurship
- Development of Cooperative industrial Estate
- Agro park incentive Scheme
- Capital for Agro-Processing unit
- Scheme for Quality standards
- Agro information Technology Center
- Food testing Lab
- Export promotion schemes for Agro units

Special Programmes and the Ongoing Projects in the District-

The major Extension and developmental schemes in the district are executed by agricultural department, (state government) which receives funds from both state and central government. In the present system, the schemes are planned and designed at the state and central level and implemented at district level. The agricultural department Zilla Parishad also executes some of the state/central schemes. Part of cess funds available with Zilla Parishad is used for designing the schemes at district level as per the need of agriculture in the district.

Ongoing Schemes of Agriculture Department

- 1) National Oilseed Development Programme
- 2) National Pulses Development Programme
- 3) Maize Development Programme
- 4) Sugarcane Development Programme
- 5) Cotton Development Programme
- 6) Centrally Sponsored Farmer Study Tour
- 7) Irrigated And Balanced Use Of Fertilizers And Organic Farming Scheme
- 8) Centrally Sponsored Efficient Participation Of Women In Agriculture
- 9) Integrated Cereals Development Programme
- 10) Strengthening Of District Training centers
- 11) Strengthening Of Agro Poly Clinics
- 12) Strengthening Taluka Seed Multiplication Farm
- 13) Horticulture Development Programme Through EGS
- 14) National Watershed Development Programme
- 15) Sampurna Gramin Rojgar Yojana
- 16) Drought Prone Area Programme
- 17) Western Ghat Development Programme
- 18) River Valley Project
- 19) National Horticulture Mission

Ongoing Scheme of Animal Husbandry

- 1) Veterinary polyclinics at district level.
- 2) Taluka Veterinary Dispensaries.
- 3) District Artificial Insemination centre.
- 4) Cross breeding, artificial insemination & preservation of indigenous breeds.
- 5) Upgradation of rural backyard poultry by supply of day old chicks / hatching eggs.

- 6) Foot and mouth disease control Programme.
- 7) A S C A D – Assistance to State for control of Animal Diseases (H.S., B. Q., P.P.R., R.D.)

Ongoing Schemes of Fishery

- 1) Fish farming Development Agency.
- 2) Development of Fisheries Co-op. Society.
- 3) Fish farming in impounded water
- 4) Fisheries Requisites.
- 5) Fish seed farming.

Ongoing Schemes of Social Forestry

- 1) Western Ghat Development Scheme
- 2) Central Nursery Development Scheme.
- 3) Vanmahotsav
- 4) Kisan Nursery.
- 5) Selected Water Development Scheme.
- 6) Publicity.
- 7) I W D P Scheme.
- 8) Hariyali Water Shed Development Scheme.
- 9) Road Side Plantation Scheme.
- 10) M.S.S.R.D.C., N.H.A.I. Scheme.
- 11) S.G.R.Y. Scheme

Vision of the Next Plan

The envisaged vision for the 11th Plan is as follows:

- To increase cereals production from 413500 M.T to 496500 Mt. i.e.3.78%
- To increase Pulses production from 43400 MT. to 60400 Mt. i.e.7.41 %
- To increase Oilseed production from 108700 M.T to 175500 Mt i.e.9.28 %
- To increase Sugarcane production from 2938700 M.T. to 4459000 MT. i.e. 6.52 %
- To increase Flowers production from 6914 M.T to 10948 M.T. i.e.10.31 %
- To increase Vegetable production from 529905 M.T. to 790240 M.T. i.e 8.24%
- To increase Spices production from 53317 M.T to 79752 M.T. i.e. 8.73 %
- To increase Fruits production from 392684 M.T. to 678015 M.T. i.e.10.88 %
- To increase Milk Production from 423962 M.T to 568500 M.T. i.e. 6.41 %
- To increase Eggs Production from 2062 lakhs to 2798 Lakhs. i.e. 6.43 %

- To increase Meat, Beef & Broiler Prod. from 15186 M.T. to 20317 Mt i.e. 6.05 %
- To increase Fish Production from 3200 MT. to 4000 MT i.e. 4.89 %
- To increase Caccoon Production from 56 M.T to 561 M.T. i.e. 61.10 %
- To increase Honey Production from 17.76 M.T. to 23.76 M.T. i.e. 5.73 %

District Plan:

The present District Plan is prepared with an objective to achieve an overall growth rate for agriculture and allied sector of 13.65 percent during the 11th Plan period (2007-08 to 2011 to 2012). More specifically, the 11th Plan aims at achieving a growth rate of 11.29 per cent per annum in agricultural sector and a growth rate of 21.91 per cent in the allied sector. This growth rate was targeted after conducting a SWOT analysis and observing the potential that exists in the district.

Sr No.	Department	Agriculture and Allied Sectors (Stream I and Stream II)					
		Financial Budget (Rs. in lakh)					
		2007-08	2008-09	2009-10	2010-11	2011-12	Total
1	Agriculture	244.19	231.65	3923.61	4050.67	3354.93	11805.05
2	Horticulture	689.02	836.57	2959.79	3053.72	2701.37	10240.47
3	Jal Sandharan	3319.87	3677.72	6373.12	6012.28	5892.00	25274.99
4	Animal Husbandry	8.50	31.63	1214.58	1078.55	941.12	3274.38
5	Dairy	933.00	498.00	3374.00	3332.00	3568.21	11705.21
6	Fishery	83.15	84.40	376.85	377.90	456.15	1378.45
7	Minor Irrigation	0.00	0.00	0.00	0.00	0.00	0.00
8	Sericulture	122.26	243.09	647.91	811.96	942.23	2767.45
9	Social Forestry	15.78	10.30	405.97	422.34	209.50	1063.89
10	Co-operative & Marketing	0.00	370.75	1624.00	1290.00	1324.75	4609.50
11	District Industries Center	11.18	81.80	3414.02	3400.00	3239.00	10146.00
12	Khadi & Village Industry	0.35	4.01	30.37	10.37	7.86	52.96
Grand Total Budget		5427.30	6069.92	24344.22	23839.79	22637.12	82318.35

Table: Sector-Wise Outlay for 11th Plan:

Conclusion:

The proposed plan aims at an overall growth rate of 13.65 percent in the agricultural and allied sector. Besides achieving this growth rate, the plan will also lead to improvement in infrastructure in all sectors. This will give a major boost for sustained development of the agricultural and allied sector

Chapter I

Introduction

1.1 Backdrop:

Sustained growth in India's agricultural sector is essential for overall stability of the economy. Agricultural development is also a key to a number of national goals, such as reducing rural poverty, providing food and nutritional security, supplying raw materials for major industries such as textiles, earning foreign exchange through exports and opening up avenues for employment by promoting agro-processing units. Growth in the agricultural sector by contributing to increased rural incomes can also build a strong foundation for consumer demand in rural areas, which in turn can stimulate growth in secondary and tertiary sectors of the economy.

Agriculture has always been India's dominant economic sector and the Green, Blue, White and Yellow revolutions brought about vast changes in the agrarian scene since independence. While the agricultural sector has witnessed many success stories, the economic potential of this economic activity leaves much to be desired and has a long way to go. The growth rate in the agricultural sector has always lagged behind the overall growth rate of the economy. During the Tenth Plan period, while the rate of growth of gross domestic product was 7.8 per cent per annum, the agricultural sector experienced a miniscule growth rate of 2.5 per cent per annum. Indian agriculture is presently at cross roads and one of the major challenges is to reverse deceleration in agricultural growth rates so as to successfully achieve a higher broad based growth. The state of Maharashtra, like most states in India has witnessed sharp deceleration in agricultural growth rate and rapid economic development in this state has led to continuous decline in the contribution of the agricultural sector to the economy of Maharashtra.

As compared to other states in India, Maharashtra is one of the top economic performers with respect to per capita income which is 1.4 times that of All India. The relatively high per capita income in the state, however, conceals the enormous urban-rural contrast and the regional disparities in per capita income. This gets reflected from the fact that in 2005-06, the per capita district domestic product for Mumbai was Rs. 51,938/- (1999-2000 prices) i.e. exactly 1.8 times the state average. Only six districts, three in the Konkan region (Mumbai, Thane, Raigad), in addition to Pune, Kolhapur and Nagpur had per capita income above state average. The per capita district domestic product of Nasik was marginally higher than state average of Rs

29,085/- The remaining districts have per capita income below state average. Thus about 80 percent of districts in the state have per capita income below state average and in case of many of them it is below national average and it is in these districts that agriculture is the main economic activity. About 20 out of 34 districts, i.e. 59 percent of the districts, have more than 70 percent of their workforce in the agricultural sector while 29 districts i.e. 85 percent of the districts have more than 60 percent of the workforce in agriculture. These percentages are more than the national average. This explains the importance of the agricultural sector in the economic and social fabric of Maharashtra as majority of the labour force still depends on agriculture as their primary source of livelihood. Further, in nearly half the districts, the share of agricultural labourers is more than that of cultivators.

A more disturbing feature is that the contribution of agriculture to State Domestic Product is shrinking rapidly from 28 per cent in 1980-81 to 14.2 per cent in 2000-01 as compared to the All India figure of 26 per cent in 2000-01. The growth rate in this sector is also showing a declining trend. While the growth rate during the period 2000-01 to 2006-07 in the agricultural sector was only 0.78 per cent per annum, the secondary and tertiary sector grew at a little more than 9 per cent per annum during the corresponding period. This crisis in the agricultural sector which is manifesting itself in the form of negligible growth rate and low labour productivity, requires urgent attention.

1.2 Rashtriya Krishi Vikas Yojna:

In order to address the issue of deceleration in agricultural growth rate in the state, the National Development Council (NDC) conceived a special Additional Central Assistance Scheme -Rashtriya Krishi Vikas Yojna (RKVY) which is a State Plan scheme administered by the Union Ministry of Agriculture. The main purpose of the scheme is to supplement state specific strategies with a view to rejuvenate agriculture. More specifically, the NDC aims at achieving a growth rate of 4 percent per annum in the 11th Five Year Plan as growth in this sector will make overall economic growth more broad based and inclusive. The pattern of funding under this scheme is 100 percent Central grant.

A number of factors have been held responsible for deceleration in agricultural growth rate such as declining public investment in agriculture combined with inefficiency of institutions providing inputs and extension services, technology fatigue, degradation of natural resources, land fragmentation, inappropriate input pricing policies, market imperfections and mal practices in marketing of agricultural produce and lack of rural infrastructure.

In order to overcome the above weaknesses and give a major boost to the agricultural sector, the RKVY aims at providing assistance to the state to ensure a holistic development of agriculture.

1.3 Objectives of RKVY:

The RKVY aims at achieving 4 per cent growth in agriculture during the 11th Plan period. The broad objectives of the scheme are:

- (i) To provide incentive to the states so as to increase public investment in agriculture and allied sectors. The growth rate of per hectare expenditure (Revenue account) on agriculture and allied activities in Maharashtra is negative since last two decades and per hectare expenditure which was Rs 653/- in 1991-92 (constant prices) declined to Rs 499/- per hectare in 2005-06. The expenditure on agriculture and allied activities as percentage of total budget declined from 9.4 per cent in 1991-92 to 4.1 per cent in 2005-06 and its share in Economic services declined from 29.26 percent to 23.22 per cent during the corresponding period. This data clearly reveals that the agricultural sector in the state is suffering from lack of investment and this issue needs to be addressed. Under the RKVY, therefore assistance will be available to states to mobilize resources for investment in agriculture.
- (ii) To provide flexibility and autonomy to states in the process of Planning and execution of schemes related to Agriculture and allied sectors. The RKVY encourages convergence with other programmes such as NREGS, SGSY, etc.
- (iii) To ensure the preparation of Agriculture Plan for each district in the state and for the state as a whole. In fact, the need for integrated local area plans, based on specific endowments and needs of each area, was given great emphasis from the beginning of the era of planning in India. However, only sporadic efforts and isolated cases of such planning could be located. The Government of India (GoI) therefore felt an urgent need to prepare "District Plan" which should be an integral part of the 11th Five Year Plan. The District Plan must focus on the needs and potential of the district. All stake holders in the district must be taken into consideration while preparing the District Plan and the ultimate aim of the Plan must be to achieve sustainable agricultural growth with food security and a cropping pattern that will augment the income of the farmers.
- (iv) In case of most crops, the potential yield is far lower than actual yield. The RKVY therefore aims at providing assistance for various schemes that will provide the

necessary inputs, technology and extension services to farmers so as to maximize yields.

- (v) The assistance provided by RKVY must maximize returns to farmers.
- (vi) The Allied sector is equally important and allied activities such as livestock, poultry, fishery and forestry have great potential for catalyzing Maharashtra's rural economy. Change in food consumption patterns, from cereals to high protein diet, which includes meat, fish, eggs and dairy products, can give a boost to the livestock and fishery sectors. Forestry, besides creating employment and generating revenue also maintain ecological balance in the state. Hence RKVY aims at promoting the allied sector so that both the agricultural as well as allied sector will grow in an integrated manner.

1.4 Areas of Focus under RKVY:

The main areas of focus under RKVY are:

- (i) *Integrated development of major food crops such as wheat, paddy coarse cereals, minor millets, pulses, oilseeds:* Assistance can be provided for making available certified seeds/HYV seeds to farmers, production of breeder seeds, etc. Assistance for extension service to farmers through Farmers Field Schools can also be provided.
- (ii) *Agricultural Mechanization:* Assistance can be provided for gender friendly implements and other equipments which increase productivity. However, tractors will not be covered.
- (iii) *Improvement of Soil Health:* Assistance can be provided to the states to strengthen soil testing and fertilizer testing laboratories and setting up new ones, improving soil health and promoting organic farming.
- (iv) *Development of rainfed farming systems in and outside watershed areas and also Integrated Development of watershed areas, wastelands, river valleys:* Assistance for development of land, horticulture and generating livelihood for farmers Below Poverty Line will be provided.
- (v) *Support to state seed farms:* Funds are provided to state farms involved in research and seed production for land development, creation of irrigation facilities, upgrading technology. Etc. However, new land acquisition is not permitted.

- (vi) *Integrated Pest Management Schemes*: This would mainly involve training of farmers through Farmers Field Schools on pest management and other extension services.
- (vii) *Encouraging non-farm activities*: Assistance is provided to agri-entrepreneurs/agri-graduates to set up agri-clinics/agri-business centres.
- (viii) *Strengthening of Market Infrastructure and marketing development*: Assistance for setting up cold storage, cold chains godowns, etc will be provided. Assistance to PRIs/SHGs will also be provided for collecting agricultural produce and sale to mandis/government agencies.
- (ix) *Strengthening Infrastructure to promote Extension services*: This would include new initiatives for skill development and training in the farming community and to revamp the existing state agricultural extension systems.
- (x) *Activities related to promoting horticulture and use of micro irrigation systems*: Assistance will be provided for development of nurseries, horticultural activities and encouraging use of micro irrigation systems.
- (xi) *Animal Husbandry and fisheries development activities*: Assistance will be provided for fodder production, genetic upgradation of cattle and buffaloes, enhancement of dairy development, improvement of health of livestock, poultry development, etc.
- (xii) *Special schemes for beneficiaries of land reforms*: Assistance will be provided to beneficiaries of land reforms to make their agriculture more viable.
- (xiii) *Undertaking concept to completion projects*: Undertaking specific projects under agriculture/horticulture/allied sectors in a concept to completion mode with attention given to all components will be encouraged. Beneficiaries under such projects should be BPL farmers. Projects in risk-prone, underdeveloped, agriculturally distressed, remote, hilly and tribal areas are especially encouraged.
- (xiv) *Study tours of farmers*: Assistance can be provided for study tours to farmers to places of interest to them, especially to research institutions.
- (xv) *Organic and bio-fertilizers*: Support will be provided for decentralized production at the village level of organic manures, vermicomposting and introduction of superior technologies for better production.
- (xvi) *Innovative schemes*: Schemes which are innovative and can promote development of agriculture/allied activities can also be proposed.

1.5 Comprehensive District Agricultural Plan:

In order to get assistance from the RKVY scheme, it is mandatory for every state to prepare a 'Comprehensive District Agricultural Plan' (C-DAP) for every district in the state and finally prepare a comprehensive State Plan. C-DAP is a document which encompasses the vision for development of the district in a holistic manner and also the strategies to achieve the same so that there is human development, infrastructure development and higher growth rates which will generate more employment. More specifically:

- (i) C-DAP is an initiative taken in response to the main theme of the 11th Five Year Plan, mainly to achieve 4 per cent growth in the agricultural sector. The district is taken up as the planning unit, with the plan process starting from below so that all stakeholders in the district are incorporated. Essentially, the main aim of C-DAP is to prepare an agricultural development plan from Gram Panchayat upward to the District level.
- (ii) C-DAP will include along with the schemes, the incremental income and employment effect of the proposed schemes. This will be worked out for the working schemes as well as new innovative schemes.
- (iii) C-DAP shall clearly identify the main causes for backwardness of the district and address these issues.
- (iv) C-DAP will also conduct a SWOT analysis so that the drivers of growth in the district are identified and full potential of the district is realized.

1.6 Methodology:

The district plan of Satara district has been prepared considering the various parameters and modalities given in the guidelines and objectives as given above. As holistic approach is needed for agricultural sector development, almost all the sectors/segments concerning rural development, farming and vulnerable sections have been taken into consideration while preparing the CDAP. The important sectors/programmes are animal husbandry, horticulture, sericulture, watershed, minor irrigation, agricultural marketing, technology and extension, rural credit and indebtedness. The CDAP for XI Five Year plan period is prepared keeping X Five Year Plan parameters as a benchmark. Both quantitative and qualitative data used in preparation of this district plan. The former consisted of secondary sources and the latter on the observations and discussions held with various stakeholder like farmers, ATMA officials, elected representatives of GPs and other related organizations. The intensive discussion with officers of

the Department of Agriculture at the state level on the draft plan gave useful inputs and suggestions from time to time. For the systematic and scientific planning, a SWOT analysis of the district was done.

The CDAP is prepared broadly of the framework suggested by the Planning Commission, i.e. decentralised and integrated approach. As per the guidelines, the plan preparation started with consultation with stakeholders at different stages starting from the village level. Several informal meetings were held with the stakeholders at village and taluka as well at district level. The Commissioner Agriculture, Government of Maharashtra, and District Collector and concerned district officials were also consulted during the preparation of plan. This plan was thoroughly discussed in the meeting of District Agriculture Planning Unit (DAPU) and District Planning Committee of the district (see Annexure I). The discussion with the officials of Agro-Economic Research Centre of Gokhale Institute of Politics and Economics, Pune has been immensely helpful for upgrading the CDAP. The Senior officials of the Department of Agriculture at the state level were also provided opportunities for interactive discussions on the draft plan and gave useful inputs and suggestions from time to time.

1.7 Organization of report:

The entire report is organized into six chapters. Chapter I, which is an introduction, gives brief account of Rashtriya Krishi Vikas Yojna (RKVY) - Comprehensive District Agriculture Plan (C-DAP) scheme. Chapter II presents the general description of the district. A SWOT analysis is conducted in Chapter III and the development of the agricultural sector in Satara district is discussed in Chapter IV. The relevance of allied sectors to the districts is discussed in Chapter V. The district plan so as to achieve 13.65 per cent growth rate is presented in last Chapter.

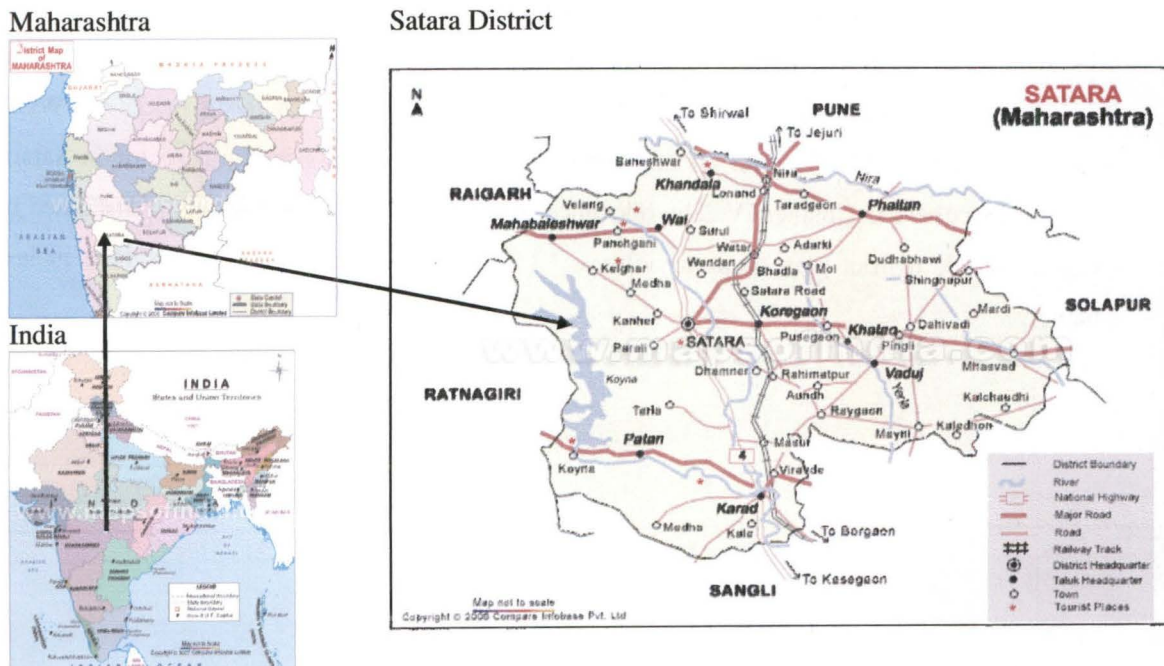
Chapter II

General Description of the Satara District

2.1 Introduction

Satara district is located in the western part of Maharashtra. It is bound by Pune district to the north, Solapur district to the east, Sangli district to the south and Ratnagiri district to the west. Raigad district lies to its north-west. The geographical area of Satara district is 10,480 Sq. Km. which is about 3.4 per cent of the state's total geographical area. Satara district is situated in the river basins of Bhima and Krishna. Panchgani, Mahabaleshwar, Karad, Wai, Koregaon and, Koyanagar are the chief towns of Satara District. Historically Satara was the capital of the Maratha kingdom, land of great warriors, saints and great personalities namely Rani Laxmibai, Krantisinha Nana Patil (Patri sarakar), Savitribai Phule and Karmaveer Bhaurao Patil. This land has rich heritage. Mahabaleshwar, one of the most beautiful hill stations of India, is located in this very district. The physical settings of Satara shows a contrast of immense dimensions and reveals a variety of landscapes influenced by relief, climate and vegetation.

Map 1: Location Map of Maharashtra and Satara in India

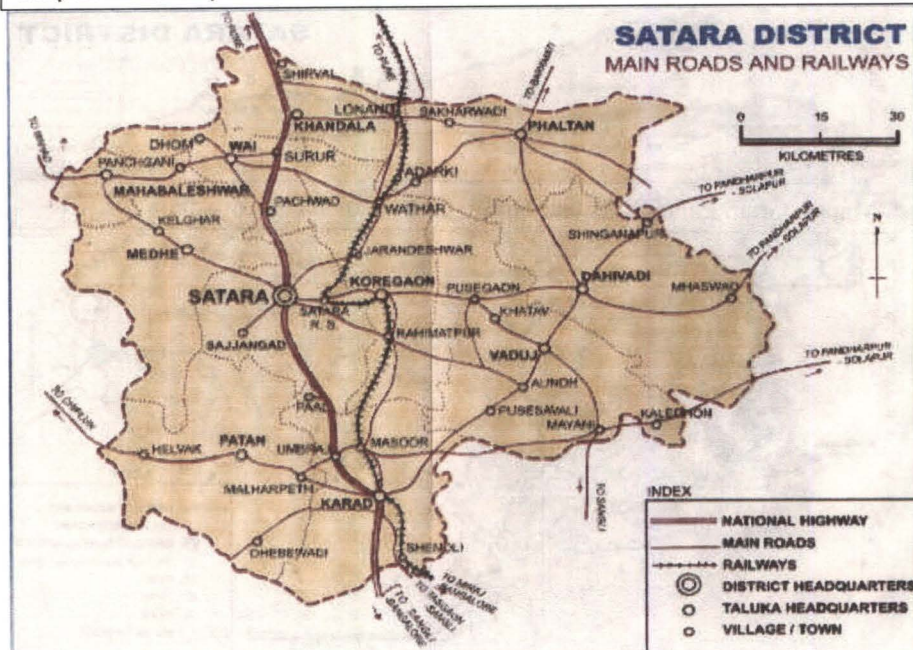


2.2 District at a Glance

2.2.1 Location and Geographical Units:

Satara district lies between 17.5 to 18.11 degree North latitude and 73.33 to 74.54 degree Eastern longitude. The district comprises of 11 tehsils namely Satara, Koregaon, Khatav, Karad, Patan, Wai, Jaoli, Mahabaleshwar, Khandala, Phaltan and Man. Under the Satara Zilla Parishad jurisdiction, 1739 villages are covered through 11 panchayat Samities and 1509 Gram Panchayats. The variation in relief ranges from the pinnacles and high plateaus of main Sahyadrians range having height over 4500 feet above mean sea level to the subdued basin of the Nira river in Phaltan tahasils with the average height of about 1700 feet above mean sea level. The climate ranges from very heavy rainfall in Mahabaleshwar region, which has an average annual all of over 6000 mm to the driest in Man tahsil where the average annual rainfall is about 500 mm. The vegetation cover too varies from the typical monsoon forest in the western parts to scrub and poor grass in the eastern parts.

Map 2: Road map of Satara district

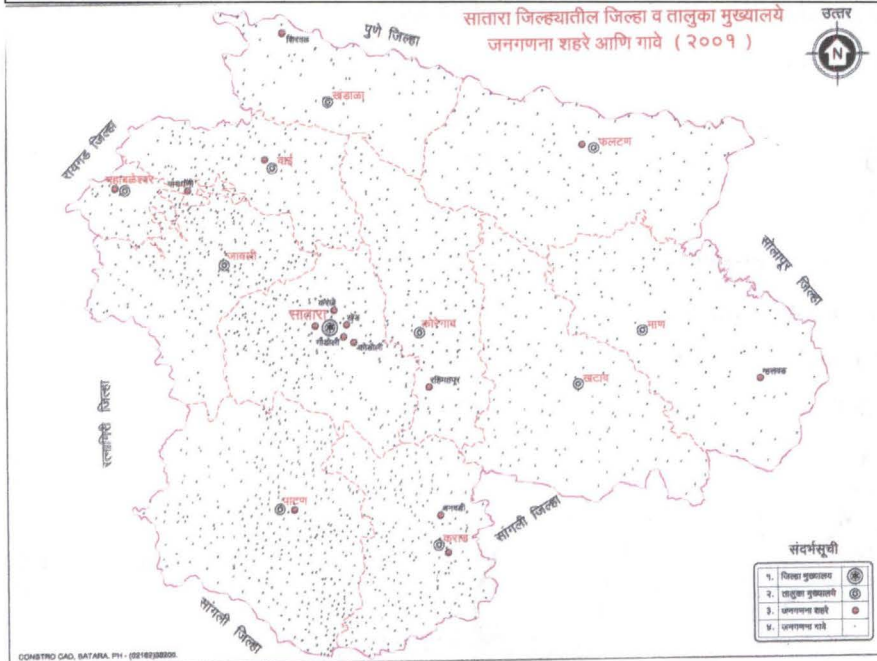


2.2.2 Demographic Profile:

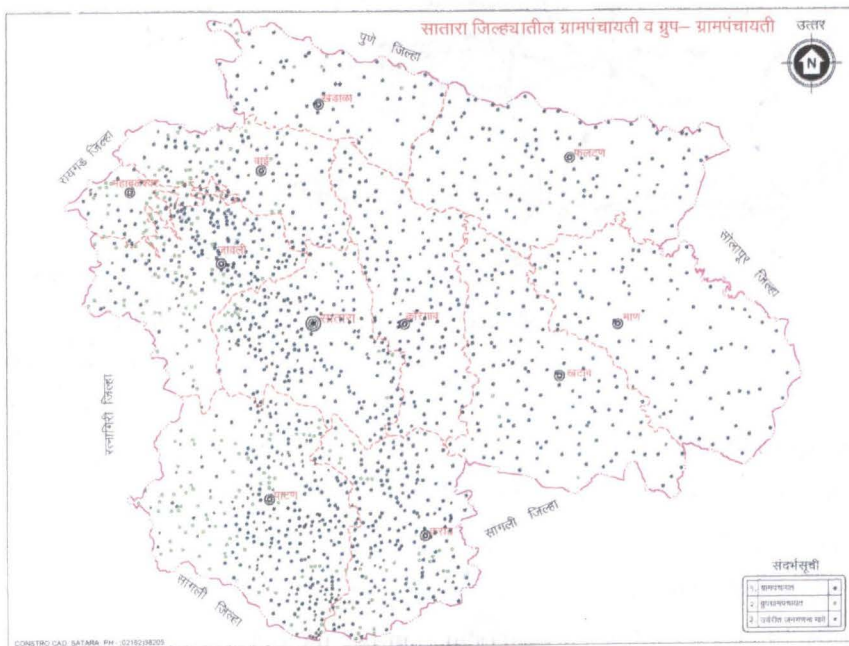
As per the Census 2001, the total population of the Satara district was 28.09 lakh with a population density of 268 per square kilometer. Out of the total population, 24.11 lakh reside in rural areas while 3.98 lakh are in urban areas. This indicates that 86 percent of Satara's population is rural. The ratio of female population per thousand of male was 995. Out of the total population, 8.76 percent belong to SC and 0.78 percent to ST communities. The district has

high literacy level of 78.52 percent, 77.00 percent in rural areas and 86.00 percent in urban areas.

Map 3: Census Towns and Villages of Satara district



Map 4: Gram Panchayats and Group Gram Panchayats in Satara district



It is important to understand the workforce engaged in agriculture in the state before analysing the development of various aspects of agriculture. An analysis on the workforce would not only reveal the share of rural population relying on agriculture for livelihood but also help in framing a suitable agriculture policy for the district. The number of persons in the workforce in Satara district is 13.04 lakhs. This indicates that 46.41 per cent of the population is in the labour force. Out of the total workforce, 70.06 percent of the workers (main and marginal) are engaged in agriculture as cultivators and agricultural labourers. The agricultural labourers constitute 30.8 per cent of the workforce in agriculture while 69.2 percent are cultivators. It can thus be observed that agriculture is the dominant activity in Satara district. The share of workforce engaged in agriculture in Satara district is much higher than that for the state as a whole which is 55 per cent.

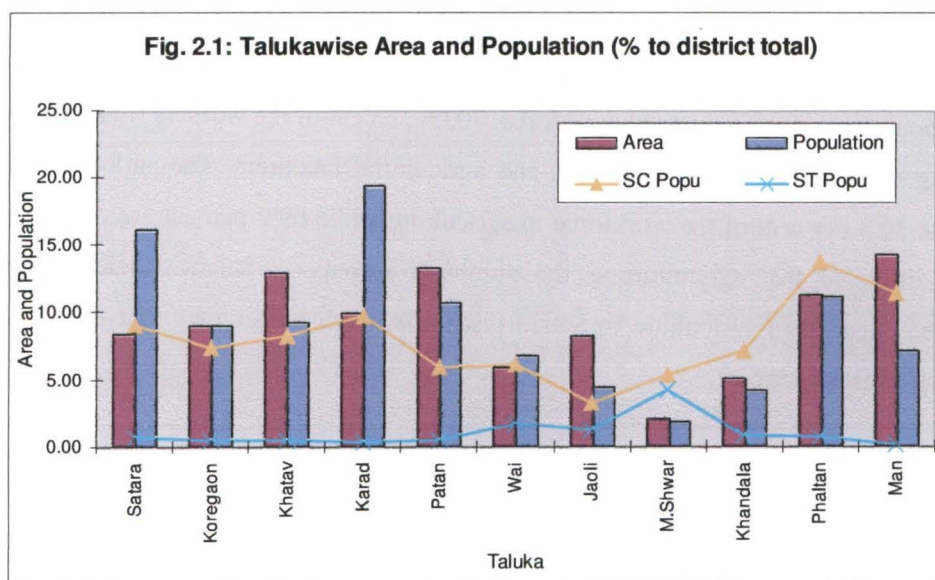
Table 2.1: Taluka-wise area, number of villages, Gram Panchayats and Population of Satara District

Sr. No.	Taluka	General				Population (2001) '000			% to District total		
		Area (sq.km)	% to total	No. of revenue villages	No. of G.P.	Male	Female	Total	Total	S.C. (%)	S.T. (%)
1	Satara	879.53	8.31	210	196	229.1	222.8	451.9	16.09	9.12	0.82
2	Koregaon	948.4	8.96	139	141	126.5	126.6	253.1	9.01	7.43	0.60
3	Khatav	1364.57	12.89	141	129	128.9	132.0	260.3	9.26	8.32	0.51
4	Karad	1042.11	9.85	220	189	266.3	277.2	543.4	19.35	9.77	0.43
5	Patan	1403.64	13.26	343	229	142.7	155.4	298.1	10.61	6.01	0.52
6	Wai	619.09	5.85	12	99	93.7	95.6	189.3	6.74	6.20	1.80
7	Jaoli	868.95	8.21	218	165	59.3	65.3	124.6	4.44	3.31	1.36
8	M.Shwar	221.9	2.10	55	40	29.1	25.4	54.5	1.94	5.47	4.32
9	Khandala	536.08	5.07	66	61	61.1	58.7	119.8	4.27	7.17	0.89
10	Phaltan	1190.29	11.25	123	119	160.6	153.1	313.6	11.17	13.78	0.80
11	Man	1507.87	14.25	104	96	100.1	99.5	199.6	7.11	11.41	0.17
12	Total	10582.4	100.0	1739	1464	1408.3	1400.7	2809.0	100.0	8.76	0.78

Source: District Social & Economic Review- Satara District, 2006-07

The taluka-wise area, number of villages, gram panchayats and population of Satara district is presented in Table 2.1. It can be seen from the table that Satara district has 1739 villages and 1464 gram Panchayats. The population of the district is 28.09 lakhs, of which 19.35 and 16.09 percent of the population was in Karad and Satara taluka which has 9.25 and 8.36 percent of area of the district, respectively. The next two most populous talukas are Phaltan and Patan which accounts for 11.17 and 10.61 percent of the population of the district respectively.

Thus, 57 percent of the district's population is located in Karad, Satara, Phaltan and Patan taluka. The sex ratio of the population consists of 50.1 percent male and 49.9 percent female population. Satara district has no municipal corporation but 8 town councils.



2.2.3 Topography and Agro-Climatic Conditions:

The Satara district contains two main systems of hills- the Sahyadri range in its offshoots, and the Mahadev range and its offshoots. The Sahyadri system includes the main range of the Sahyadris which, through its entire length of sixty miles from north to south forms the western boundary of the district. Within Satara limits, the main range of the Sahyadris, from about eight miles north of Pratapgad passes south-west for about twenty miles. The crest then turns up to the east of south and in an irregular line, continues south by east about forty miles, till it enters Kolhapur near Pritchard about fifteen miles south-west of Patan. In the sixty miles within Satara boundry, the crest of Sahyadri is guarded by five forts.

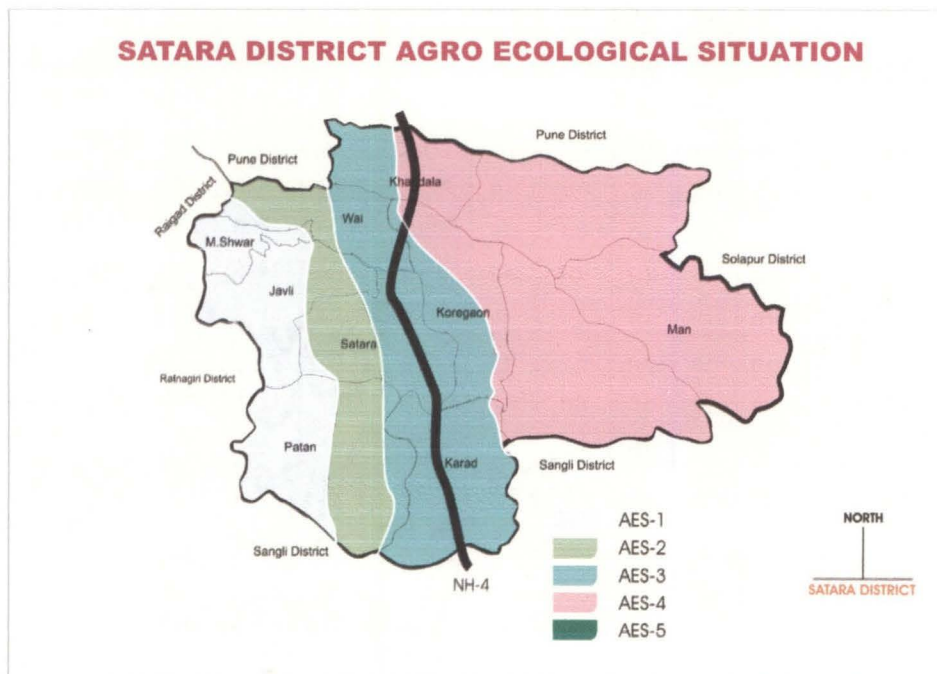
With diverse cropping pattern, the district can be segregated into three broad regions, viz., the Hilly tracts in the West comprising Mahabaleshwar, Jaoli, Patan and parts of Satara, Wai and Karad talukas; Irrigated areas of Wai, Satara, Karad and part of Koregaon talukas in the central region and the drought-prone talukas of Khandala, Koregaon (East), Khatav and Man in the east.

Satara district is divided into five agro-ecological zones as described below.

AES -1	AES-2	AES-3	AES-4	AES-5
Mountain	Sub Mountain	Plains	Drought prone	Annual Irrigated
Mahabaleswar- w	Mahabaleswar-E	Patan - W	Man	Karad
Patan - E	Patan – E	Karad -W	Phaltan - S	Phaltan- N
Jawali - W	Jawali –E	Satara - E	Khandala - E	Satara- E
	Wai – W	Wai -E	Koregaon - E	Wai – E
		Jawali -E		Koregaon –S
		Koregaon -W Khandala -W		Patan –E

Note: E = east, W = west, S= south and N= north

Map 5: Agro-Ecological Zones in Satara district



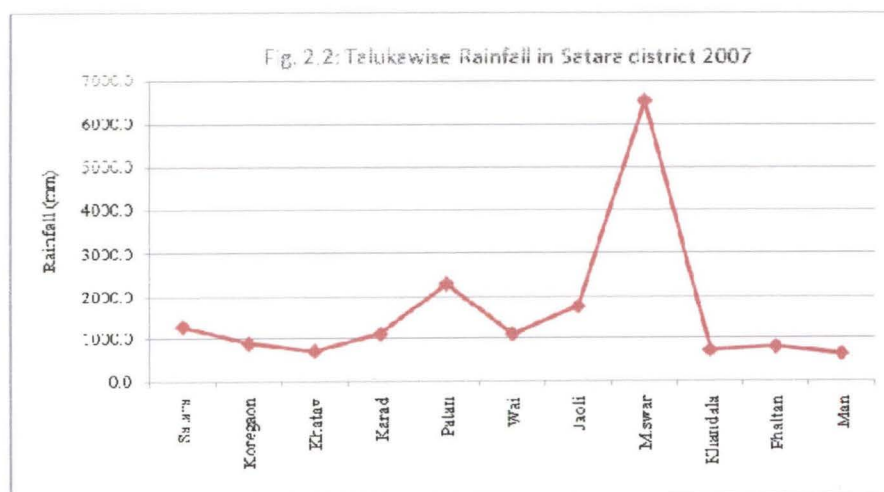
Rainfall and Temperature:

The climate of the district is characterized by dry atmosphere except during monsoon. The temperature varies from minimum 11.6 °c to 37.5° c. The average annual rainfall is 1426 mm. The rainfall pattern varies between 5080 mm on the western hilly region to 457 mm in eastern plateau progressively declining eastwards. Satara district forms a part of the tropical monsoon land and therefore shows a significant seasonal variation in temperature as well as rainfall conditions. As mentioned earlier, over 67 percent of cropped area is cultivated under rained condition in the district. Therefore, monsoon rain plays a critical role in the development of agriculture. The average rainfall of the district is higher than the state average and the variation in rainfall across different blocks within the district as well as over different years is one of the major constraints in district's agriculture.

Table 2.2: Taluka-wise Monthly Normal Rainfall (in mm.)

Sr.No.	Taluka	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	Satara	0.0	0.0	0.0	0.0	0.0	430.8	389.0	269.9	122.0	39.0	37.0	0.0
2	Koregaon	0.0	0.0	0.0	0.0	0.0	309.8	245.8	152.5	129.4	27.0	27.0	0.0
3	Khatav	0.0	0.0	0.0	0.0	0.0	271.0	143.2	77.8	90.2	100.0	37.0	0.0
4	Karad	0.0	0.0	0.0	0.0	0.0	375.8	210.2	230.2	207.2	12.0	72.0	0.0
5	Patan	0.0	0.0	0.0	0.0	0.0	630.2	795.0	587.0	219.0	35.0	35.0	0.0
6	Wai	0.0	0.0	0.0	0.0	0.0	403.0	251.2	244.5	119.9	40.0	46.0	0.0
7	Jaoli	0.0	0.0	0.0	0.0	0.0	337.1	702.4	513.2	136.3	29.0	41.0	0.0
8	M.Swar	0.0	0.0	0.0	0.0	0.0	1547.0	2119.5	1884.6	709.0	161.0	99.0	0.0
9	Khandala	0.0	0.0	0.0	0.0	0.0	281.5	126.2	113.0	163.8	37.0	0.0	0.0
10	Phaltan	0.0	0.0	0.0	0.0	0.0	417.0	55.0	126.0	127.0	41.0	37.0	0.0
11	Mun	0.0	0.0	0.0	0.0	0.0	299.0	83.3	92.8	102.2	47.0	13.0	0.0

Source –www.agri.mah.nic.in



Map 6: Rainfall pattern -Satara Districts

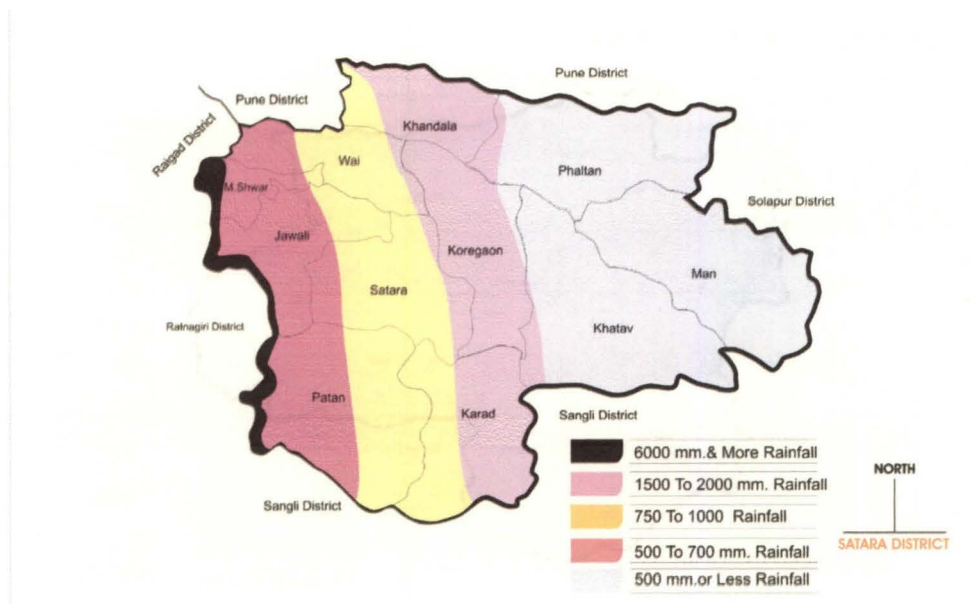


Table 2.3: Taluawise Rainfall for the Satara District- 1991-2000

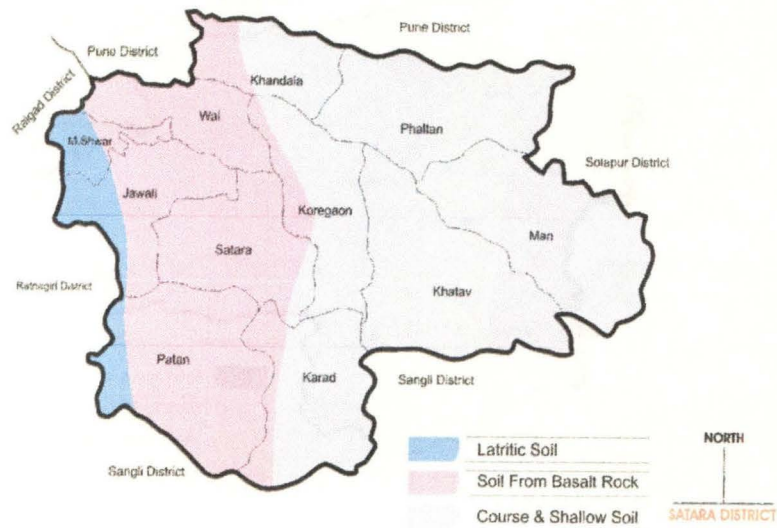
Rainfall in mm

Sl.	Taluka	Year wise Rainfall (m. m.)										Average Rainfall in last 10 years
		1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	
1	Satara	1032	724	978	1365	979	828	908	902	1104	933	975
2	Wai	958	856	1104	1262	790	1195	978	1050	1102	644	994
3	Khandala	638	500	831	600	542	737	631	687	465	438	607
4	Koregaon	851	580	767	1025	776	913	566	891	883	605	786
5	Phaltan	470	430	619	205	499	603	430	855	519	376	501
6	Man	468	337	568	349	465	667	365	779	561	315	487
7	Khatav	544	340	584	442	519	775	464	801	592	387	545
8	Karad	1046	722	880	912	725	850	647	761	604	539	769
9	Patan	1800	1503	1837	3259	1421	1653	2163	1485	1705	1231	1806
10	Javali	1744	1505	1840	1829	1496	1694	2258	1609	1610	920	1651
11	Mahabaleshwar	5863	4901	6358	8002	3948	5472	6198	4939	5483	4298	5546
Average Rainfall		1401	1127	1488	1750	1105	1399	1419	1342	1330	971	1333

Soil Type:

A variety of soils are found in Satara district ranging from deep black soils of plain & scarcity zone to shallow, red or reddish brown soils of sub mountain & western ghat zone. Soils of Satara district are categorized in to 5 types viz., Black (45 percent), Red (5 percent), Alluvial (8 percent), Sandy (12 percent) and Sandy loams (30 percent).

Map 7: Soil Map- Satara Districts



Land Capability Classification:

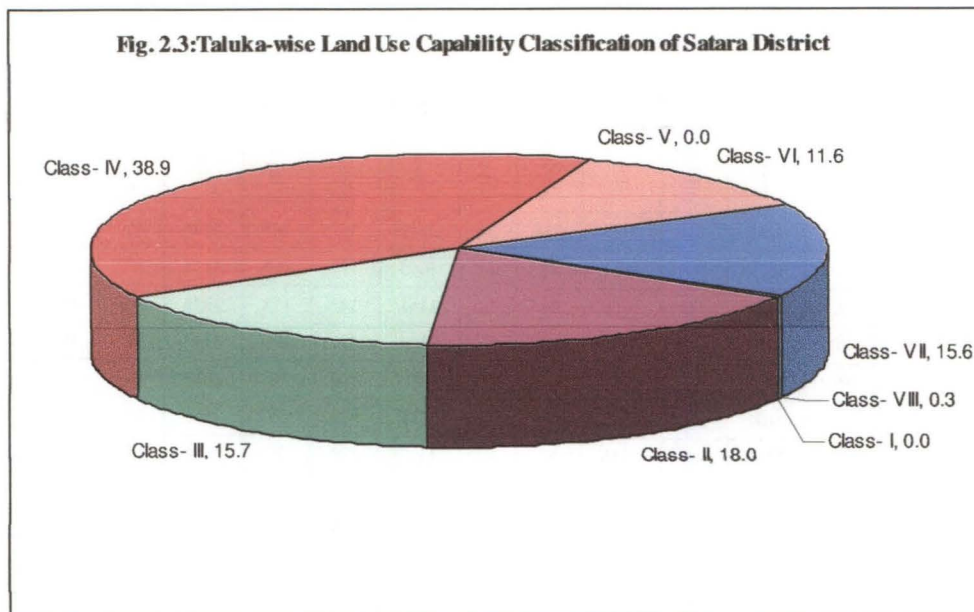
The taluka-wise land use capability classification of Satara district is presented in Table 2.4. It can be seen from the table that out of the total sample surveyed, about 73 percent of land falls under Class III and IV Category, i.e. moderately to fairly good land for cultivation, which is scattered in all the talukas and remaining land is not suitable for cultivation.

Table 2.4: Taluka-wise Land Use Capability Classification of Satara District

	Class-I	Class-II	Class-III	Class-IV	Class-V	Class-VI	Class-VII	Class-VIII	Area not Surveyed	Total Area
Satara	0	9461	8266	18725	0	3427	11711	856	35507	87953
Koregaon	0	12851	9056	24331	0	4027	5086	525	38964	94840
Khatav	0	22590	27437	59496	0	13300	5356	0	8278	136457
Karad	0	20712	10683	29284	0	4293	2870	0	36369	104211
Patan	0	16267	14286	37894	0	10203	35357	880	25477	140364
Wai	0	10612	11452	13594	0	2985	12963	37	10266	61909
Jaoli	0	8047	6021	13757	0	9644	15733	20	33673	86895
M.Shwar	0	2291	1284	1761	0	2400	14027	0	427	22190
Khandala	0	4532	3451	12025	0	3534	5621	0	24445	53608
Phaltan	0	25308	15740	28370	0	10831	9060	0	29720	119029
Man	0	12367	19461	74687	0	28777	7929	0	7566	150787
Total	0	145038	127137	313924	0	93421	125713	2318	250692	1058243

Notes: Class I - Very good cultivable land, Class II - Good cultivable land, Class III - Moderately good cultivable land, Class IV - Fairly good land, suited for occasional cultivation-, Class V - Nearly level land not suitable for cultivation because of stoniness, wetness, etc., Class VI - Steep slopes, highly erosion prone with shallow soils, Class VII - Steep slope with sever soil erosion resulting in eroded stony and rough soil surfaces with shallow soil

Source: District Soil survey & Soil Testing Office, Satara



Soil Fertility Indices:

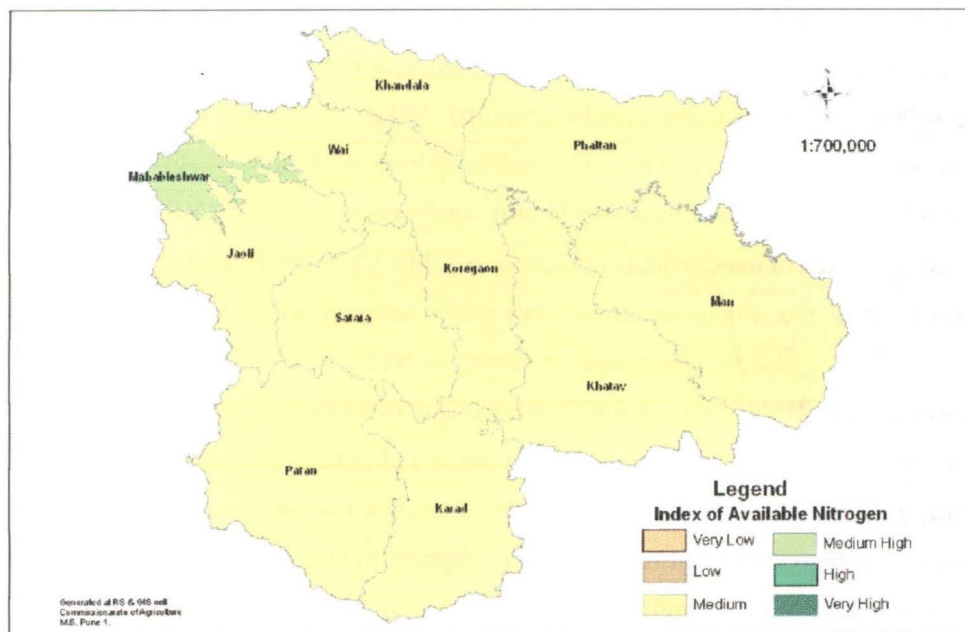
Soil fertility refers to the inherent capacity of the soil to supply nutrients in adequate amounts and in suitable proportions for crop growth and crop yield. The trend in increasing the yield by adopting high yielding varieties has resulted in deficiency of nutrients in soils and has reflected as deficiency symptoms in plants. Hence, it is required to know the fertility status of the soils of the district applying the required dosage of fertilisers and planning the regional distribution of fertilizers. The soil fertility indices of PH, E.C., available organic carbon, available phosphorus and available Potash, analyzed from 45428 total samples collected from different talukas of the district is presented in Table 2.5. It can be seen from the table that about 80 percent of the soil in the district fall under category with neutral PH, followed by 13.82 percent soil of alkaline nature and remaining is acidic status. About 96 percent of soil in the district falls under category of low Electrical Conductivity and about 75 percent of soil contain low Organic Carbon. The available phosphorus and potash status in the soils of Satara district shows that about 92 percent of soil in the district is low in phosphorus, however, soil in the district is categorized in all three categories equally having around 30 percent potash (about 98 percent of soil), which is unlike with other districts of Maharashtra state.

Table 2.5: Soil Fertility Indices

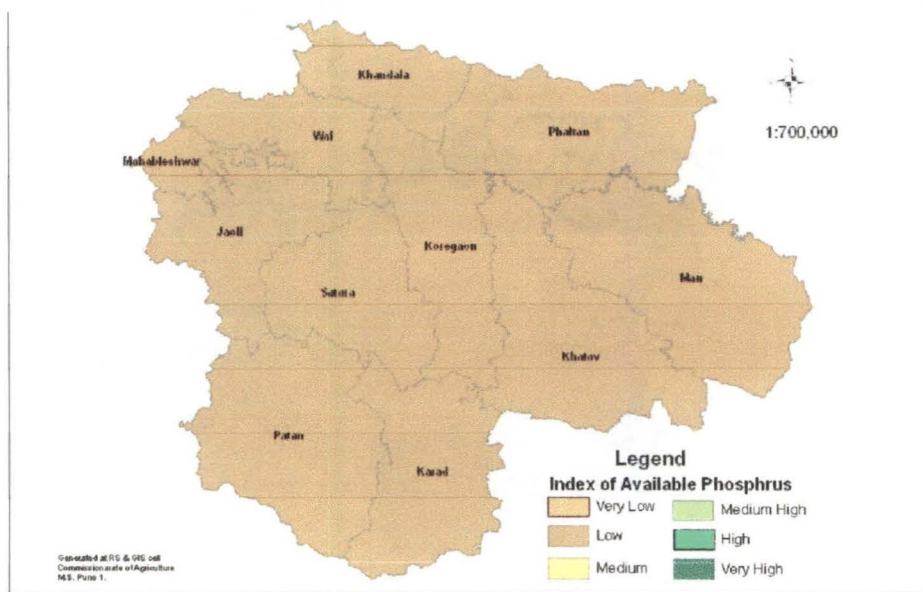
Taluka	No of Soil Samples analysed	PH			E.C.(ds/m)			Organic Carbon (%)			Available Phosphorus (Kg/ha.)			Available Potash (Kg/ha.)		
		Acidic	Neutral	Alkaline	low	Medium	High	low	Medium	High	low	Medium	High	low	Medium	High
Satara	7968	469	7308	131	7723	194	51	3142	587	268	6386	450	6	1232	1104	820
Koregaon	5165	20	4677	468	5051	93	21	1665	559	169	4134	382	2	671	665	532
Khatav	3580	6	3125	449	3456	91	33	1161	342	153	2878	301	0	470	440	361
Karad	5221	40	4807	374	4862	268	91	2184	410	196	4142	213	0	853	970	512
Patan	2658	263	2355	40	2636	15	7	974	394	59	2019	155	3	434	500	244
Wai	3531	65	3107	359	3402	111	18	1371	319	77	2956	108	0	360	382	348
Jaoli	3380	1067	2267	46	3316	47	17	1102	288	72	2741	233	8	349	416	388
M.Shwar	1441	911	526	4	1422	14	5	298	255	133	1144	82	0	175	199	175
Khandala	1786	2	1423	361	1720	55	11	694	188	40	1341	67	0	372	275	231
Phaltan	5861	2	3558	2301	5237	451	173	1916	546	134	4646	497	2	488	742	626
Man	4837	1	3150	1686	4595	185	57	2001	368	53	3779	301	2	681	733	595
Total	45428	2846	36303	6279	43420	1524	484	16508	4256	1354	36166	2789	23	6085	6426	4832

Source- District Soil Survey & Soil Testing Office, Satara

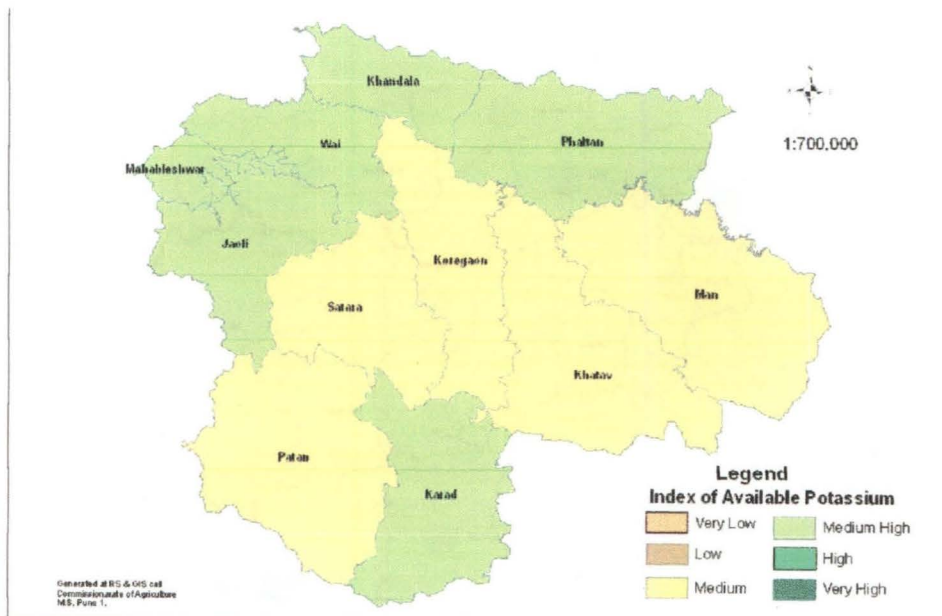
Map 8: Soil Fertility Index of Available Nitrogen (on the basis of Organic Carbon %) of Satara District



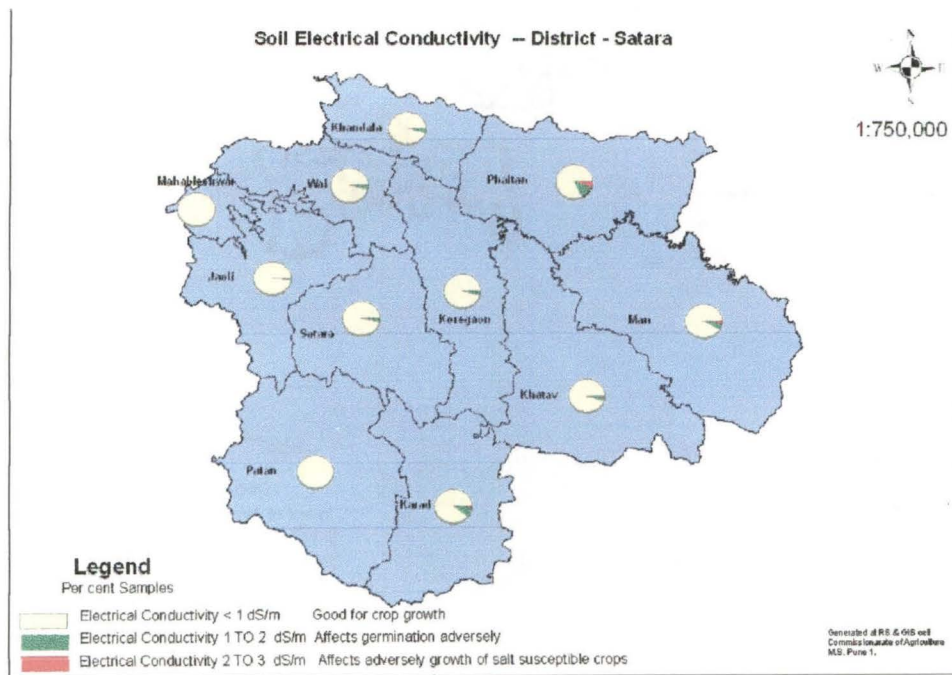
Map 9: Soil Fertility Index of Available Phosphorus of Satara District



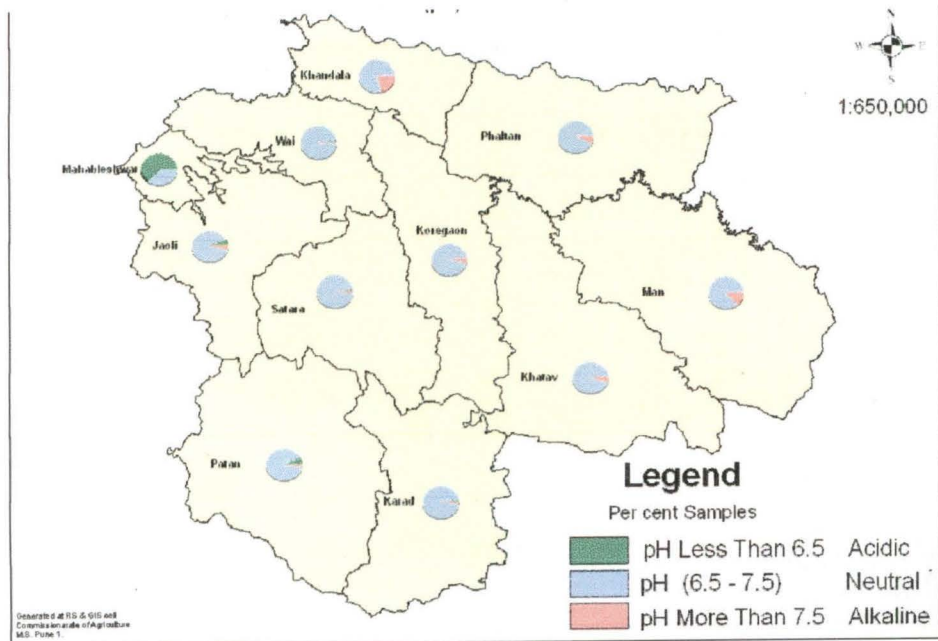
Map 10: Soil Fertility Index of Available Potassium of Satara District



Map 11: Soil Electrical Conductivity of Satara District



Map 12: Soil Reaction pH - Satara District



Micronutrient Status

Because of wide spread deficiencies in soils leading to reduced crop yields, an emphasis is given on soil micronutrient sufficiency /deficiency and are being intensively studied in recent times. The deficiencies are caused due to use of chemically pure and micronutrient free fertilisers, cultivation of improved crop varieties with high nutrient requirements and intensive cultivation of crops.

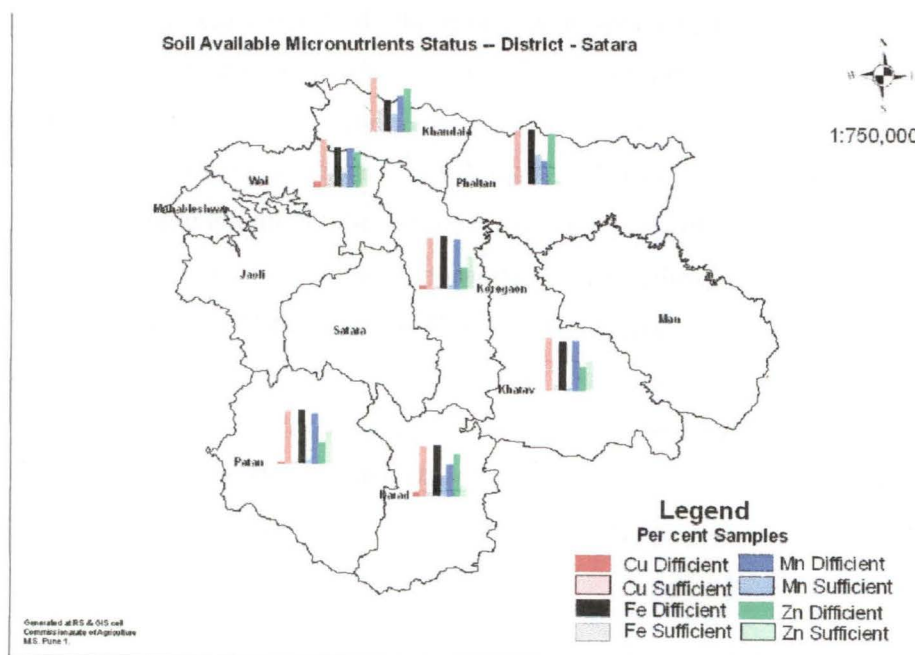
Table 2.6 : Micronutrient Status in the Soil of Satara district

Sr. No.	Name of the Taluka	No of Soil Samples Analyzed	Copper (Cu)		Iron (Fe)		Mangnese (Mn)		Zinc (Zn)	
			S	D	S	D	S	D	S	D
1	Satara	7968	488	14	417	85	465	37	271	231
2	Koregaon	5165	554	13	448	119	524	43	239	328
3	Khatav	3580	142	6	133	15	137	11	69	79
4	Karad	5221	247	3	217	33	231	19	130	120
5	Patan	2658	117	4	100	21	116	5	85	36
6	Wai	3531	320	6	259	67	291	35	164	162
7	Jaoli	3380	198	4	158	44	183	19	94	108
8	M.Shwar	1441	198	0	148	50	183	15	84	114
9	Khandala	1786	198	8	175	31	192	14	111	95
10	Phaltan	5861	312	6	229	89	277	41	111	207
11	Man	4837	163	0	78	85	135	28	21	142
	Total	45428	2937	64	2362	639	2734	267	1379	1622

Note: S- Sufficient, D-Deficient

Source- District Soil Survey & Soil Testing Office, Satara

Map 13: Soil Available Micronutrient Status- Satara District



It can be seen from the table that the available copper, manganese and iron status show that the soils of the district is sufficient in all these micronutrients. However, the available zinc status reveals that about 92 per cent of the soils in the district are deficient in iron which need corrective measures for increased crop production and about 46 percent area of soils in the district have zinc deficiency. Zinc fertilisation is definitely required for sustained crop production.

Rivers:

The main rivers of Satara district are Koyna and Krishna. Krishna is one of the three largest sacred rivers of southern India. Approximately 172 kms of the river course falls inside the district. The Krishna River begins on the eastern brow of the Mahabaleshwar plateau and the source is about 4500 ft. above sea level.

Kudali, Urmodi, Venna and Tarali are small feeder rivers of Krishna. Koyna is the largest tributary of the Krishna in the district. Neera and Manganga rivers are the two representative of the Bhima drainage in the north and north-eastern parts of the district respectively.

2.2.4 Land Use Pattern and Land holdings:

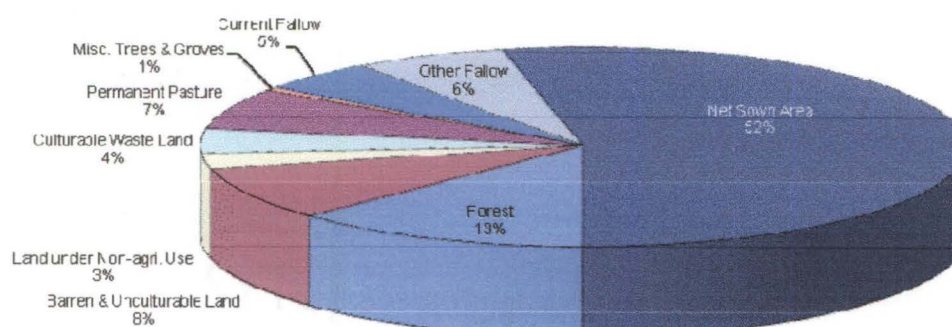
Land use pattern explains how effectively land resources are utilised for different purposes in a state. Development in irrigation and growth in population are the two important factors, which mostly decide the land use pattern of any district/region/state. Table 2.7 presents the detailed land use pattern of the Satara district. It can be seen from the table that out of geographical area, about 36 percent of land is under non agricultural usage i.e. forest, land under non-agricultural use, cultivable waste, permanent pasture and miscellaneous trees and groves. About 12 percent land is as current and other fallow and about 55 percent of land is sown. Thus, altogether about 23.4 percent of land is available in the form of cultivable waste, permanent pastures, land under tree crops and grooves, current as well as other follows, which can be brought under productive use with a proper wasteland development programme. The cropping intensity of the district is 128.4 percent, which is marginally higher than the state average (127.9 percent).

Table 2.7: Land Utilization Pattern of Satara District, 2001

Sr. No.	Taluka	Geographical Area (% to district)	Percentage to total Geographical Area										
			Forest Area	Barren and Uncultivable area	Land under Non-agri. Use	Cultivable Waste	Permanent Pasture	Misc. Trees & Groves	Current fallows	Other Fallow	Net Sown Area	Gross Cropped Area	Cropping Intensity (%)
1	Satara	8.3	9.7	8.4	6.2	2.5	9.1	0.0	3.7	3.7	60.7	88.7	146.2
2	Koregaon	9.0	11.1	3.9	5.4	5.4	0.0	0.0	10.5	13.6	54.9	70.3	128.1
3	Khatav	12.9	3.0	7.4	0.9	0.2	4.1	1.5	11.5	11.9	80.5	100.6	125.0
4	Karad	9.8	10.2	1.9	3.8	0.2	1.4	0.0	1.5	0.6	76.6	85.5	111.5
5	Patan	13.3	19.7	8.7	2.6	6.5	9.6	3.1	2.1	4.1	42.6	52.1	122.3
6	Wai	5.9	20.6	3.2	1.6	0.0	8.5	0.0	4.6	4.2	56.5	79.1	140.0
7	Jaoli	8.2	22.8	10.5	2.5	5.6	2.2	0.0	3.0	4.9	50.5	65.4	129.7
8	M.Shwar	2.1	59.7	2.5	1.2	3.2	6.8	0.5	14.5	4.9	12.6	24.4	193.6
9	Khandala	5.1	12.1	17.0	0.4	0.9	9.6	0.1	7.1	14.9	55.7	99.4	178.5
10	Phaltan	11.2	9.2	11.5	2.6	6.5	6.3	0.0	3.9	7.9	60.1	76.9	128.0
11	Man	14.2	8.6	15.4	1.3	7.6	16.1	0.0	2.2	4.3	28.2	30.0	106.6
	Total	100.0	13.0	8.8	2.7	4.0	7.0	0.6	5.1	6.7	54.8	70.4	128.4

Source: DASO, Satara

Fig. 2.4.: Land Utilisation Pattern of Satara District



The land holding pattern of Satara district for the year 2001 is presented in Table 2.8. It can be seen from the table that about 88 percent of farmers have land holding below 2 hectares (marginal and small farmers) but hold only about 54 percent of total land holding of the district. However, about 3 percent of medium and large farmers (4 and above) have about 19 percent of total land and remaining is with semi-medium farmers. Therefore, the average land holding of the marginal farmer and small farmer of the district is 0.44 and 1.23 hectares respectively.

Table 2.8: Land holding pattern of Satara District, 2001

(percentage to total)

Sr. No.	Taluka	Marginal Farmers (< 1 ha)		Small Farmers (1- 2 ha)		Semi Medium Farmers (2-4 ha)		Medium Farmers (4-10 ha)		Large Farmers (>10 ha)		Av. Land Holding in ha.
		No.	Area	No.	Area	No.	Area	No.	Area	No.	Area	
1	Satara	77.69	40.71	16.83	31.85	4.35	15.28	0.93	6.61	0.19	5.55	0.75
2	Koregaon	67.56	35.53	23.45	30.76	7.67	23.72	1.23	7.58	0.08	2.40	0.85
3	Khatav	55.98	24.70	21.36	19.66	18.27	38.04	4.25	16.06	0.13	1.54	1.21
4	Karad	80.10	59.20	14.90	5.46	4.14	23.25	0.80	9.01	0.06	3.07	0.47
5	Patan	71.10	23.24	16.20	20.45	8.55	22.31	3.50	19.19	0.65	14.82	1.03
6	Wai	76.98	42.62	16.84	29.97	4.83	16.32	1.23	8.50	0.12	2.58	0.79
7	Jaoli	64.63	27.83	20.86	25.30	10.85	25.11	3.58	16.38	0.07	5.37	1.19
8	M.Shwar	67.28	30.84	20.22	25.75	9.28	26.35	2.84	13.15	0.15	3.91	1.00
9	Khandala	66.90	31.05	20.09	29.16	11.12	28.37	1.78	8.87	0.11	2.54	1.07
10	Phaltan	60.32	23.24	25.65	30.33	11.12	26.54	2.67	13.14	0.24	6.76	1.12
11	Man	51.64	17.56	23.73	24.11	18.40	34.01	6.07	22.71	0.17	1.61	1.50
12	Total	67.89	29.99	19.68	24.25	9.68	26.83	2.55	14.14	0.19	4.78	0.96
	Dist. Av.	0.44		1.23		2.77		5.54		24.81		

Source: Agriculture Census 2000/01

2.2.6 Cropping Pattern:

The maximum area of Satara district is categorized as scarcity zone and agriculture is dependent mainly on monsoons. Hence kharif crops dominate the cropping pattern. The area under kharif crops is about 60 per cent, while that under rabi crops is 35 percent. The area under summer crops is negligible. Jowar accounts for about 33 percent of gross cropped area of the district. Out of total area under jowar, 30 percent is cultivated in kharif season and 70 percent in rabi season.

Table 2.9: Cropping Pattern in Satara and Maharashtra 2004-05

Crops	Satara		Maharashtra	
	Area	% to GCA	Area	% to GCA
Rice	441	6.67	15087	6.46
Wheat	381	5.76	7557	3.23
Jowar	2149	32.48	47561	20.35
Bajra	929	14.04	15289	6.54
Other Cereals	279	4.22	6605	2.83
Total Cereals	4179	63.17	92099	39.41
Gram	242	3.66	8299	3.55
Tur	60	0.91	10740	4.6
Other pulses	473	7.15	14815	6.34
Total Pulses	775	11.71	33854	14.49
Total Foodgrains	4954	74.88	124953	53.47
Groundnut	749	11.32	4160	1.78
Safflower	21	0.32	2519	1.08
Soybean	264	3.99	21022	9
Sunflower	42	0.63	3207	1.37
Total Oilseed	1010	15.27	33252	14.23
Cotton	6	0.09	28395	12.15
Sugarcane (H)	232	3.51	3269	1.4
Fruits*	97	1.47	4692	2.01
Vegetables*	183	2.77	3170	1.36
GCA	6616	100.00	233675	100

Note: *relates to 2000-01

Source: Agricultural Statistical Information of Maharashtra State 2006 and Season and Crop Report 2000-01.

Area, Production & Productivity of Major Crops

Kharif:

During the period triennium endings 2004-05 to 2006-07, the area under kharif crops constituted 63 percent of GCA. The area under kharif crops was mostly dominated by foodgrains, especially cereals. Out of the total area under kharif crops, cereals constituted about 31 per cent while pulses constituted only 8.06 percent. Hence together, cereals and pulses constituted 39 percent of total area under Kharif crops. Among cereals, bajra was the main crop accounting for 41 percent of area under cereals, followed by kharif jowar (29.84) and kharif paddy (21.09). Further, bajra constituted 11.88 percent of the area of GCA followed by kharif jowar of 8.72 percent.

Table 2.10: Production and Productivity of Main Kharif Crops in the Satara District TE 2006-07

Sr. No.	Name of Crop	Area (00 ha)	Production (tonnes)	Productivity (Kg/ha)
1	Kharif Paddy	428	654	1529
2	Kharif Jowar	605	681	1094
3	Bajara	824	494	600
4	Ragi / Nachani	72	51	751
5	Maize	85	70	1100
6	Other Cereals	14	4	285
Total Kh. Cereals		2028	1954	96367
7	Redgram	58	31	519
8	Green Gram	58	27	469
9	Black Gram	48	22	455
10	Other Pulses	367	135	369
Total Kh. Pulses		531	215	40490
Total Kh. Foodgrains		2559	2295	89695
11	Groundnut	583	536	913
12	Sessamun	5	1	300
13	Niger	27	6	233
14	Sunflower	18	17	333
15	Soyabean	304	463	1520
Total Kh. Oilseeds		937		
16	Cotton	29	56	190
17	Sugarcane	387	29387	77
Total Cash Crops		416	29443	
18	Vegetables	177	274972	1549
19	Spices	53	40850	773
20	Flowers	9	4355	477
Total Kh. Vegetable		239	320177	
Total Kharif Season		4151	3522938	

Among oilseeds, the main crop cultivated was groundnut and as much as 62.22 percent area under oilseeds was under groundnut, followed by Soaybean (32.44 percent). Area under other oilseeds such as sesamum, sunflower and niger was negligible. Kharif oilseeds constituted 22.57 percent of area under total Kharif crops and 13.50 percent area of GCA. A wide variety of vegetables are cultivated in Satara district. Vegetable, spices and flower crops constitute 5.77 area under kharif crops.

Rabi:

As mentioned earlier, agriculture in Satara district is dominated by kharif season and about 37 percent of GCA is under rabi crops. The area under rabi crops is dominated by foodgrains and as much as 91 percent of area under rabi crops is under foodgrains. Major area (79.61 percent) under foodgrains is under cereals. The main foodgrain crop in the rabi season is jowar and 75.32 percent of area under rabi cereals is under rabi jowar. Further, rabi jowar constitutes 21.03 percent of GCA. Wheat is also rabi crop and constitutes 21 percent area of total rabi cereals and 5.76 percent of GCA. The main pulse crop is gram which constitutes 2.77 percent of GCA. Rabi oilseeds are negligible and constitute less than 1 percent of GCA. The major area under rabi oilseeds is under safflower. The area under rabi vegetables, spices and flowers is 2.68 percent of GCA.

Table 2.11: Production and Productivity of Main Rabi Crops in the Satara District –TE 2006-07

Sr. No.	Name of Crop	Area (00 ha)	Production (tones)	Productivity (Kg/ha)
1	Rabbi Jowar	1459	1463	1002
2	Wheat	400	625	1552
3	Maize	48	99	2150
4	Other Cereals	30	37	1607
Total Rabi Cereals		1937	1937	1148
1	Gram	267	212	796
2	Other Pulses	9	7	734
Total Rabi Pulses		276	276	793
Total Rabi Foodgrains		2213	2213	1104
1	Sunflower	7	3	503
2	Safflower	27	10	387
3	Other Oilseeds	0	0	0
Total Rabi Oilseeds		34	34	382
1	Vegetables	165	254936	1549
2	spices	16	12464	733
3	Flowers	5	2553	477
Total Rabi Vegetables		186	186	
Total Rabi Season		2433	2433	

Source: DASO, Satara.

Summer:

Summer crops in Satara district are negligible and constitute less than 1 percent of GCA. The main cereal is maize and groundnut is the main oilseed cultivated in summer.

Table 2.12: Production and Productivity of Summer Crops in Satara District TE 2006-07

Sr. No.	Name of Crop	Area (00 ha)	Production (00 mt)	Productivity (Kg/ha)
1	Maize	700	24	3390
Total Summer Cereals		700	24	3429
Total Summer Pulses		0	0	0
Total Summer Foodgrains		700	24	3429
1	Groundnut	2900	51	1735
Total Summer Oilseeds		2900	51	1759
Total Summer Vegetables		0	0	
Total Summer Season		3600	75	

Overall, it can be concluded that in Satara district, about 73 percent of GCA is under foodgrains with 60.32 percent under cereals and 12.26 percent under pulses. Rabi jowar is the main cereal crop accounting for 21.03 percent of GCA, followed by kharif bajra which occupies 11.88 percent of GCA. Rabi jowar and kharif Bajra together account for about 33 percent of GCA. The area under oilseeds is 15.19 percent of GCA while area under vegetables is 6.46 percent of GCA.

Horticulture:

Satara district has horticulture as a major allied activity. As was observed earlier, 1.47 per cent area of total gross cropped area was under vegetables while 2.77 percent area was accounted by fruit crops in 2001.-02. The major vegetables grown are Onion, Tomato, Potato, Sweet Potato, Brinjal, Cauliflower, Cabbage, Ladyfinger, Cluster Beans, Methi, Drumstick, Capsicum, Carrot, Cucumber, etc. and major fruits crops grown are grapes, bananas, mango, cashew, coconut, papaya, guava, Strawberry, cocum etc.

Sericulture:

Sericulture has emerged as the virtual economic lifeline for farmers in Satara District. Thousands of farmers in this region are now rearing silkworms and also continuing with their farming. Sericulture-related activity is spread across 284 hectares in the district. The process begins with farmers planting Mulberry saplings in the shade. Once these samplings grow sufficiently, government officials are called in to inspect the tree and the leaves.

Animal Husbandry:

Animal husbandry is closely interwoven with agriculture and obviously plays an important role in the national/state economy and also in the socio-economic development of rural households. This is the sector where poor contribute to growth directly instead of getting benefit from growth generated elsewhere. The livestock sector (animal husbandry and poultry) is one of the important allied activities of agriculture. By providing substantial income to rural households especially in the areas where agricultural growth is poor, it helps to reduce the rural poverty. Satara district is very rich in case of animal population. The district has 731573 bovines, 3401389 sheep and 388270 goats. Also 2911381 poultry birds are being reared by the farmers. Satara district is well known for remarkable fish production also.

Table 2.13: Livestock Population of Satara and Maharashtra, 2003

Particulars	Livestock Population ('000)		% share of Satara
	Satara	Maharashtra	
Cattle	373	16359	2.28
Buffalo	358	6046	5.92
Total Bovine	732	22405	3.27
Sheep	340	3075	11.06
Goat	388	10456	3.71
other	11	560	2.02
Total Livestock	1471	36495	4.03
Poultry	2911	38979	7.47

Source: 17th Livestock Census, 2003

Allied activities in the form of animal husbandry and dairy development play a very important role for rural households. Besides providing additional employment, these sectors also supplement income and enhance nutritional security. It is well known that dietary patterns are gradually shifting towards livestock and dairy products with increase in income levels. Hence Animal Husbandry and Dairy development can play a major role as activities allied to agriculture.

Dairy Development:

▪ Govt. Milk Scheme	:	2 (Satara and Mahabaleswar)
▪ Co-op. Doodh Sangh	:	9
		Ajinka Co-op Doodh Sangh, Satara
		Khandala Co-op Doodh Sangh, Kannavadi
		Phaltan Co-op Doodh Sangh, Phaltan
		Satara Co-op Doodh Sangh, Satara
		Jawali Co-op Doodh Sangh, Jawali

	Yashodeep Co-op Doodh Sangh, Vaduz
	Koyna Co-op Doodh Sangh, Karad
	Shi-Shambhoo Co-op Doodh Sangh, patan
	Patan Co-op Doodh Sangh, Patan
▪ Registered Pvt. Milk Projects	: 21
▪ Non-Registered Pvt. Milk Projects	: 09
▪ Overall per Day Milk Collection	: 5.480 Lakh Ltrs.
▪ Overall per Day Milk Distribution	: 5.480 Lakh Ltrs.
▪ Registered Milk Producing Societies-	: 1346
▪ Active Milk Producing Societies	: 412
▪ No. of Milch Cattle (Cows & Buffaloes)-	: 434482
▪ Milk Collection from outside of District	: ---- Lakh Ltrs.
▪ Per capita Milk Consumption	: 200 ml

Source- District Dairy Development Officer, Satara

Fisheries Development:

▪ Length of Rivers in District	: 676 Kms.
▪ Water spread Area Favorable for Fisheries	: 14457 Ha.
▪ Fish Production in 2005-06	: 3200 MT

Source- District Fishery Development Officer, Satara

Agriculture Marketing Centers:

All the APMC's from the district are the major centers of marketing. These centers are supported by Maharashtra State Agriculture Marketing Board, Satara, various co-operative marketing societies & private agencies in the district. The number of marketing centres in the district are as below:

APMC	- 11
Co-operative Sugar factory	- 11
Milk Co-op Societies	- 1346 (Govt. 5, Co-op.-6, Private 191)
Rice mills	- 10
Oil mills	- -
Cold Storage & Pre Cooling Centres	- 5
Winery-	- -

2.2.5 Irrigation and Groundwater:

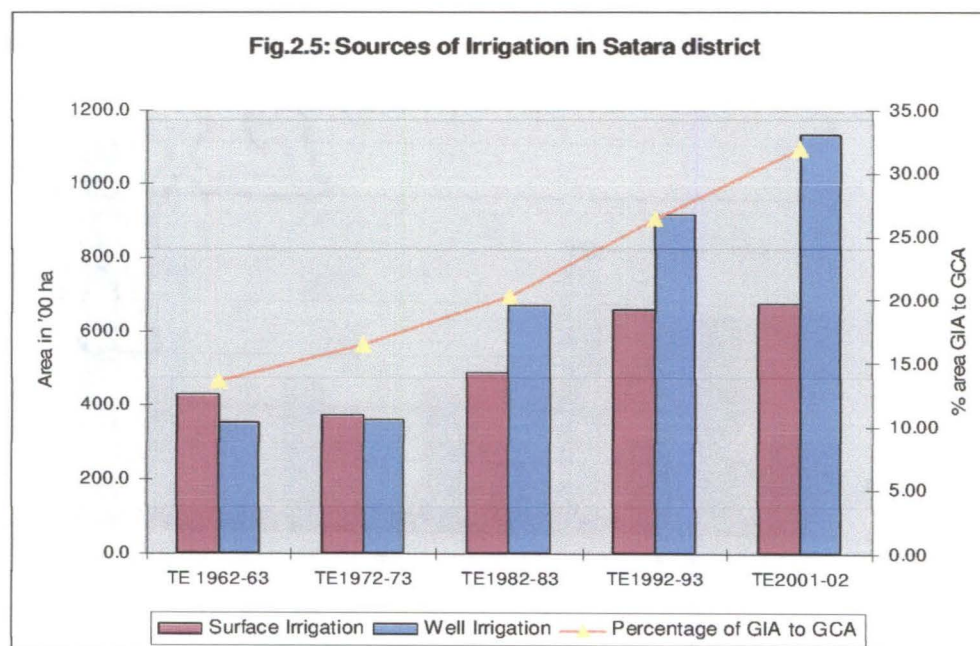
Satara district has a net sown area (NSA) of 5.76 lakh hectares of which net irrigated area accounts for 1.8 lakh hectares. This indicates that only 31.28 per cent of net sown area is irrigated. The percentage of net irrigated area to net cropped area in Indapur, Baramati, Junner, Shirur & Daund is 34 per cent, 28 percent, 31 per cent, 24 percent, 25 percent, respectively. The percentage of irrigated area in the rest of the talukas is much lower than district Average. The gross irrigated area of the district is 2.23 lakh hectares which is 31.85 per cent of gross cropped area (GCA). The irrigation cropping intensity in the district is 124 per cent.

Table 2.14: Sources of Irrigation and Groundwater

(Area in '00 ha)

Year	Surface Irrigation	Well Irrigation	Net Irrigated Area (NIA)	Gross Irrigated Area (GIA)	% of GIA to GCA	% of groundwater Irrigation to NIA
TE1962-63	430.7	355.7	786.3	1023.7	13.65	45.23
TE1972-73	372.3	362.0	734.3	939.7	16.53	49.30
TE1982-83	487.3	668.7	1156.0	1335.7	20.31	57.84
TE1992-93	656.3	917.3	1573.7	1902.0	26.54	58.29
TE2001-02	673.0	1127.3	1800.3	2234.3	31.85	62.62

Source: Season and Crop Report, various issues.



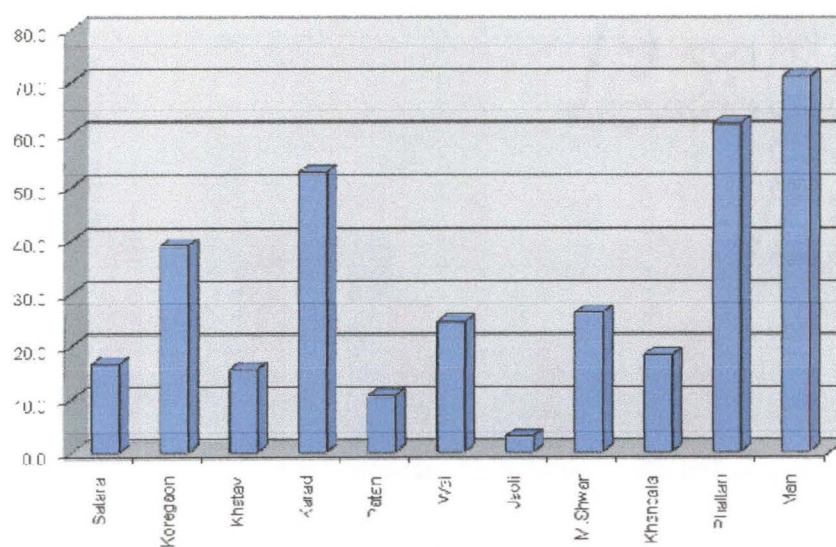
The surface irrigation and well irrigation constitute 37.4 per cent and 62.6 per cent of the gross irrigated area respectively. The Satara district is part of two main watersheds. The Bhima River watershed, which is a tributary of the Krishna, includes the north and northeast of the district, north of the Mahadeo hills. The rest of the district is drained by the upper Krishna and its tributaries. Satara contains some important irrigation works, including the Krishna canal.

Table 2.15: Talukawise area under irrigation in Satara district

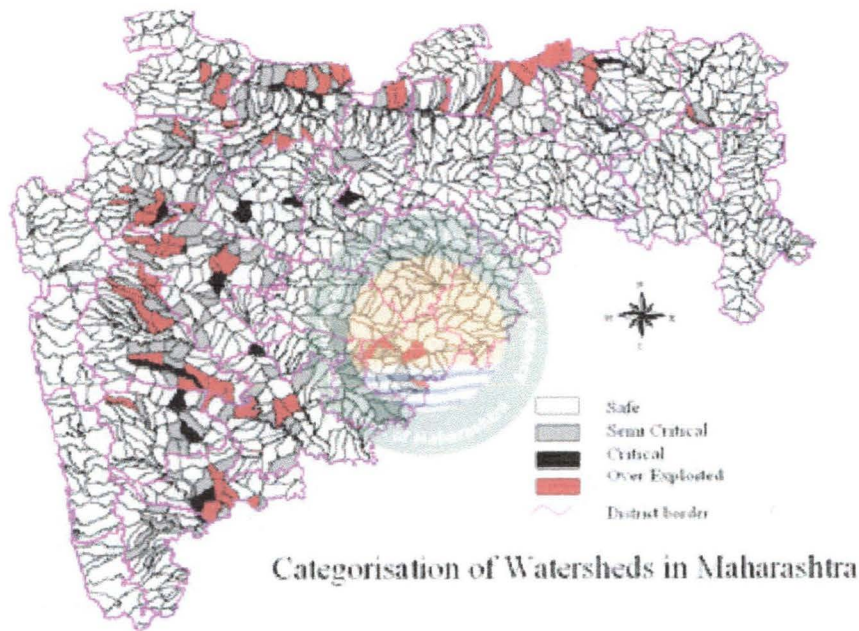
(Area in ha)

Taluka	Canals (Area)	Tanks	Open Wells	Tube/Bore wells	Lift Irrigation	Other Sources	Total Area
Satara	6122	0	6922	0	0	0	13044
Koregaon	5965	0	18346	0	0	1700	26011
Khatav	0	0	21539	0	0	0	21539
Karad	5455	0	13323	0	11851	16460	47089
Patan	4270	0	1464	0	32	2036	7802
Wai	6137	0	5900	0	0	0	12037
Jaoli	753	0	959	0	0	0	1712
M.Shwar	0	0	896	0	0	523	1419
Khandala	800	0	8481	0	0	468	9749
Phaltan	16593	0	40114	0	0	0	56707
Man	0	0	32198	0	0	0	32198
Total	46095	0	150142	0	11883	21187	229307

Fig 2.6: Talukawise Area Irrigated (% of GIA to GCA)



Map 14: Groundwater Estimation in Maharashtra



IR&D Cell, Groundwater Surveys and Development Agency, GoM

2.2.6 District Income:

The sector-wise income in Satara District can be observed from Table 2.16. The per capita income in Satara district is 1.16 times the state average. The sector wise distribution of income indicates that out of the total district income, about 30 percent comes from the Primary sector. It was noted earlier that about 70 percent of the workforce is engaged in the agricultural sector. However, the contribution of this sector to the District income is only 29.4 percent which is very low as compared to other sectors. This indicates that productivity in the primary sector is very low. The secondary sector contributed about 18 percent to District income and in case of tertiary sector it was around 52 percent. The overall picture leads us to conclude that half of the income of the district is derived from the tertiary sector.

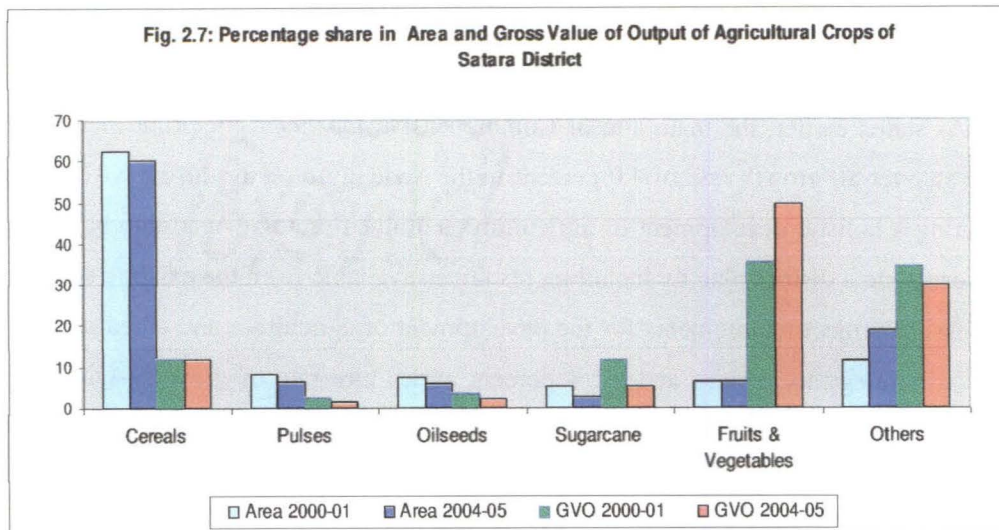
Table 2.16: Sector wise district income and per capita income of Satara district for the year at 1999-2000 constant prices

(figures in lakh)

Sr. No.	Sector	Year 2004-05		Year 2005-06	
		Gross Income	Net Income	Gross Income	Net Income
1.1	Agriculture	213582	203778	225999	215626
1.2	Forestry	4853	4726	4803	4677
1.3	Fisheries	868	757	1234	1076
1.4	Mines & Minerals	3164	2674	2710	2290
	Total Primary Sector	222467	211935	234746	223669
		<i>29.12</i>	<i>30.42</i>	<i>28.11</i>	<i>29.42</i>
2.1	Reg. Industries	56526	43637	73836	57001
2.2	Un-reg. Industries	27086	19927	28769	21165
2.3	Construction	43675	42448	49366	47979
2.4	Elect., Gas & Water Supply	13787	9113	13653	9024
	Total Secondary Sector	141074	115125	165624	135169
		<i>18.47</i>	<i>16.53</i>	<i>19.83</i>	<i>17.78</i>
3.1	Railway	1407	1123	1526	1222
3.2	Transport & Storage	30988	24788	33572	26855
3.3	Communication	31325	26977	34459	29676
3.4	Trade & Restaurants	103375	100592	114332	111254
3.5	Banking & Insurance	96464	92581	104591	100381
3.6	Professional Services	60830	55116	63923	100381
3.7	Public Admin.	21076	18058	23921	57918
3.8	Other Services	54886	50347	58322	20496
	Total Tertiary Sector	400351	369582	434646	401300
		<i>52.41</i>	<i>53.05</i>	<i>52.05</i>	<i>52.79</i>
	Total District Income	763892	696642	835016	760138
	Per Capita Income (Rs)	261	238	282	257
	Total State Income	31083689	27733929	33942498	30295239
	Per Capita Income State (Rs)	303	270	326	291
	% of district Income to State Income	2.46	2.51	2.46	2.51

Note: Figures in italic are percentage to total district income.

Source- District Social & Economic Review, 2006-07



2.2.7 Intra-District growth differentials:

As mentioned earlier, Satara district comprises of 11 talukas which have varying Agro-Ecological Situations and varying Agro-climatic soils. Hence the nature of agricultural operations also differs in the talukas. Mahableshwar which receives heaviest rainfall in the district also has the highest cropping intensity of 193.59 percent while Man which is drought prone has lowest cropping intensity of 106.58 percent. Thus water is a limiting factor which leads to differentials in agricultural development across the district.

In terms of infrastructure development, Satara and Karad taluka are more developed. The district has 861 Seed Distribution centres, out of which 20 percent are located in Karad and 13 percent in Satara. Similarly Insecticide/Pesticide Distribution Centres are concentrated in Satara and karad and together 38 percent out of 827 such centres are located in these two talukas. Satara district has 6236 cooperative societies, out of which re located in Satara, 15 percent in Karad and 15 percent in Phaltan. Talukas such as Man and Wai have only 7 percent of cooperative societies each, while the share of other talukas is even less.

The agro-processing units are concentrated in Mahableshwar which has 50 percent of the fruit agro-processing units. Drought prone talukas such as Khataav and Man do not have any agro-processing units. The scope for rural non-farm employment in these talukas is thus very limited.

Overall it can be concluded that talukas such as Satara and karad are more developed than talukas such as Mann due to varying agro-climatic conditions and infrastructure development.

2.3 Development Vision and Strategy:

As stated earlier, the main aim of Comprehensive District Agriculture Plan is to atleast achieve an over all growth rate of 4.0 percent in the agriculture sector during XIth plan period, by ensuring a holistic development of agriculture and allied sectors. Accordingly, each district has to formulate a district plan by including resources available from the existing schemes. The district has to project requirements for the development of agriculture and allied sector through vision and strategy to achieve at least 4 percent agriculture rate of growth. Accordingly, the following strategies are proposed so as to increase the productivity of crops and livestock in the district.

Sr. No.	Sector	Base Line 2005-06 (Normal) Productivity (qt / ha)	Interventions	Projection (2011-12) Productivity (qt / ha)
I	Agriculture			
	1.Paddy – Increasing Productivity	16.43	Use of HYV, Drought Resistant Variety Seed Integrated Nutrient Management & Integrated Pest Management. Village Seed Production Programme	20.68
	2. Kharif Jawar – Increasing Productivity But Reducing Area.	14.97	1. Use of HYV & hybrid Variety Seed Integrated Nutrient Management & Integrated Pest Management.	18.93
	3. Bajara – Increasing Productivity But Reducing Area.	6.69	1. Use of HYV & hybrid Variety Seed Integrated Nutrient Management & Integrated Pest Management.	8.37
	4.Groundnut Area Extension & Productivity	12.36	Use of notified & high yielding varieties. Use of micro nutrients. Use of organic manures & fertilizers. Adopting raised bed & BBF Technique. Village Seed Production Programme	14.74
	5.Soyabean – Area Extension & Productivity	17.75	1. Use of notified & high yielding variety Seed 2. Use of micro nutrients. Use of organic manures & fertilizers	19.47
	6.Ghevada – (Kidney Pea) Area Extension & Productivity	10.60	Use of notified & high yielding varieties. Use of micro nutrients. Use of organic manures & fertilizers. Village Seed Production Programme	13.27
	7.Rabi Jawar – Increasing Productivity But Reducing Area.	7.16	1. Use of HYV Variety. 2. Integrated Nutrient Management. 3. Integrated Pest Management.	9.15

	8. Wheat.- Increasing Productivity But Reducing Area.	16.60	1. Use of HYV Variety. 2. Integrated Nutrient Management. 3. Integrated Pest Management.	20.58
	9.Gram – Area Extension & Productivity	6.30	1. Use of HYV Variety. Integrated Pest Management. Use of micro nutrients. Village Seed Production Programme	9.25
	10.Sugarcane – Area Extension & Increasing Productivity	87 M.T	1. Use of HYV Variety. 2. Integrated Nutrient Management. 3. Integrated Pest Management.	123 M.T
II	Horticulture			
	11.Pomogranate – Area Extension & Productivity	12.5 M.T	1. Use of HYV Grafts 2. Integrated Nutrient Management. 3. Integrated Pest Management.	17.5 M.T
	12. Grape- Area Extension & Productivity	27.00 M.T	1. Use of HYV Grafts 2. Integrated Nutrient Management. 3. Integrated Pest Management.	32.00 M.T
	13. Strawberry – Area Extension & Productivity	12.5 M.T	1. Use of HYV Grafts 2. Integrated Nutrient Management. 3. Integrated Pest Management.	17.5 M.T
	14. Turmeric – Area Extension & Productivity	5.5 M.T.	1. Use of HYV Variety. 2. Integrated Nutrient Management. 3. Integrated Pest Management.	7.40 M.T.
	14.Ginger – Area Extension & Productivity	17.52 M.T	1. Use of HYV Variety. 2. Integrated Nutrient Management. 3. Integrated Pest Management.	22.50 M.T
	15. Onion – Area Extension & Productivity	19.00 M.T	1. Integrated Nutrient Management. 2. Integrated Pest Management.	23.50 M.T
	16. Tomato – -Area Extension & Productivity -Contract Farming	6.70 M.T	1. Integrated Nutrient Management. 2. Integrated Pest Management.	11.00 M.T
	17. Potato – - Area Extension & Productivity - Contract Farming	6.10 M.T	1. Integrated Nutrient Management. 2. Integrated Pest Management.	11.0 M.T
III	Animal Husbandry			
1	Dairy Poor per capita milk production in dairy	5 liters/animal	1. Improve conception rate of animals by training farmers, technical persons, improving AI infrastructure 2. Improve management practices by training and field visits. 3. Conducting facility improvements and health camps 4. improve disease diagnosis by erecting disease diagnostic labs at each tahasil	12 liters /animal

2	Per capita mutton production (Sheep & Goat)	15 kg/animal	1. Improve breeding programme by supply of graded rams like Ramboulet and Bannur 2. Improvement in management practice by training and field visits. 3. Conducting dosing camps.	25 kg/animal
3	Farmers getting profit – only marginal in dairying	Low profit from dairying	1. Creating Dairy SHG (women) 2. To prepare Value added dairy products 3. Promote local sales and consumption	Improved profit in dairying
4	Poor maintenance of backyard poultry	Poor nutritional and health conditions of BPL families	1. Improving supply of Giriraja birds 2. Following strict vaccination schedule (with technical persons)	Increased consumption of eggs and chicken at village level by BPL families

Besides, strategies to increase productivity in the agricultural and allied sector, the district also has the potential to improve the marketing facilities and overall infrastructure so as to further promote agriculture:

- In the recent past, the demand for flowers locally as well as outside the country has been expanding rapidly. There is a huge international demand for flowers during colder months due to festival season (Christmas, etc). The district has 928 polyhouses which is the largest number in the state. There is thus scope to practice Hi-Tech farming.
- Ajinkyatara Sangh – a cooperative marketing society collects from 500 growers about 2 lakhs flowers per day, which is finally sold to business associates. As production of flowers increases, it is necessary to organize more marketing societies and also arrange for post harvest infrastructure so as to maintain the quality of the product.
- Uncertainty and seasonability of agricultural produce often poses as a major supply constraints. Setting up agro-processing units can help to mitigate this problem. While the district already has several of these units, there is scope to increase the number of such units so as to maintain steady supply, avoid glut in the market, enhance the income of the producer and create employment.
- The district produces 5.45 lakh litres of milk per day. There is however, scope to increase milk production by using better quality breeds of milch animals. The district can take advantage of supplying milk to urban markets such as Pune and Mumbai

which are in close proximity to Satara district. The issues addressed in the 11th Plan will aim at promoting veterinary centres which provide health care to facilitate dairy development. Strengthening of milk collection centres and processing schemes in cooperative sector may be strengthened.

- Encourage contract farming with a view to modernize agriculture.
- Exploit the potential of existing forest reserves by cultivating medicinal and aromatic plants.
- Increase in irrigation facility in DPAP areas so as to improve productivity.
- To establish mobile agriculture centres in the district so that farmers can avail of extension services.
- Agri- tourism has great scope in Satara and promotion of this activity will supplement the income of farmers and generate employment.
- The district has huge waste land which will be utilized in the 11th Plan under wastelands Development Programme. Similarly soil testing programme will also be implemented. Krishi Vigyan Mandals will be strengthened.

Fishery sector will be given a boost. Fish preservation, transport and marketing of fish will also be promoted.

Chapter III

SWOT Analysis of the Satara District

3.1 Introduction

SWOT analysis is a powerful technique for understanding the Strengths, Weaknesses, and for capitalizing on the Opportunities and Threats faced in a business unit. SWOT analysis is a basic straightforward model that provides direction and can serve as a basis for the district plan. Since it concentrates on issues that potentially have a major impact, SWOT analysis is useful when a very limited amount of time is available to address a complex situation. It is an important step in planning and also helpful in accomplishing the objectives of a District plan and obtaining the desired results by maximizing the potential of the strengths and opportunities and minimizing the impact of weakness and threats. Hence, while developing the plan of Satara District, a SWOT analysis has been conducted.

3.2 SWOT Analysis of the District:

3.2.1 Strengths:

- Satara district is characterized by 5 Agro-Ecological Situations (AES). Thus the district has varied rainfall and soil pattern conducive to the cultivation of a variety of crops, particularly horticultural and medicinal crops. During the period 1999-2000 to 2005-06, the growth rate of gross value of output (GVO) from fruits and vegetables was 21.74 percent. This indicates the immense potential that the district has for the cultivation of horticultural crops. While area under fruits and vegetables is about 10 percent of gross cropped area, its contribution to GVO from agriculture is 48 percent. Mahableshwar district has a climate which is very conducive to grow strawberries while pomegranates are cultivated in drought areas of the district. Thus nearly half the state domestic product from agriculture is obtained from horticultural crops. The state must therefore capitalize on this potential to further augment its State Domestic Product from agriculture. Since 68 percent of farmers have marginal landholdings, cultivation of vegetables can be promoted which give remunerative returns.
- There is also scope to cultivate medicinal and aromatic plants in the Western ghats which has a huge forest cover.

- The district has 928 polyhouses which is the largest number in the state. Hence, there is scope for Hi-tech cultivation of flowers under controlled conditions. The establishment of “Ajinkyatara Farmer’s Co-operative phale phule kharedi vikri sangh ltd” in 2001 greatly facilitated the marketing of flowers. The turnover of this co-operative is huge and the risk involved in marketing of flowers is minimized. Farmers are also receiving loans and technical guidance for the cultivation of flowers.
- In order to promote horticulture, backward and forward linkages are also fairly suitable. In all AES, fruit processing industry is being promoted and Krishi Vidyan Mandals are working efficiently. There are 43 agro processing units in the district. There is also availability of good planting material and technical know-how.
- Since the district has access to NH-4, marketing of produce is facilitated.
- The literacy rate in the district is 78.5 percent and female literacy is 68.7 percent. Agricultural labourers constitute 21 percent of workforce and hence there is availability of labour for farm operations. Women are actively involved in agriculture which adds to labour supply for farm activities.
- About 60 percent of the district is well communicated by railway and to the national highways and the rest of the area in the district is well connected to state highway. Thus a suitable communication system can help to provide markets for agricultural produce.
- The agricultural sector is supported by co-operative banks which provide financial help to strengthen this sector. There are 266 co-operative banks in the district. A strong co-operative structure by providing finance can help to promote the agricultural sector.
- The horticulture sector can be further strengthened by promoting exports of several fruit crops such as strawberries and pomegranates. These fruit crops are also transported to major markets in Mumbai, Pune, etc. for which there is a huge urban demand. In the vegetable sector, cultivation of French beans is popular which is transported to Punjab which has a huge consumer demand for kidney beans.
- The district has great potential to develop Agri-tourism, especially in Koyna, Thosegar, Mahableshwar and Patan.
- The district has important dams such as Koyna Dam, Kander Dam Dhom Dam which have hydro electric projects. These dams also serve as tourist spots.

- The command areas in the dams are suitable for the cultivation of commercial crops such as ginger, turmeric, and sugarcane. Fodder is an important crop which can also be cultivated in command areas and thus promote animal husbandry.
- With respect to allied activities, dairy is most popular and 73 percent of the income from animal husbandry is derived from milk production. The district can make efforts to further strengthen this sector.
- The district has 7 major irrigation projects and 18 minor irrigation projects. After completion of these irrigation projects, the irrigated area will increase leading to higher productivity of crops.
- About 5400 Small Scale Industries are playing an important role in the economy of the district. Such units should be further strengthened as they have potential to generate employment and augment the income of the district.
- Krishi Vigyan Kendra, Kalawade in Karada taluka is a major research centre funded by Indian Council of Agricultural Research (ICAR), New Delhi. Farmers can avail of technical know-how from this centre to improve farm practices.

3.2.2 Weaknesses:

- The structure of workforce in Satara indicates that 70 percent of workers are in the agricultural sector. While 48 percent are farmers, 21 percent of workers are agricultural labourers. This reveals that a little less than three-fourths of the workforce in Satara is in the agricultural sector. However, the contribution of this sector to District Domestic Product of Satara is only 29 percent. The productivity of agricultural sector is thus very low.
- In Satara district 56.6 percent of area is under cereals which contribute to only 12 percent of GVO. In case of pulses which occupy 11.5 percent of area, the contribution to GVO is only 2 percent. This speaks of low productivity from foodgrains in Satara district. About 30 percent of the GCA is under jowar. Out of total area under jowar, 70 percent is rabi, while the remaining 30 percent is kharif. Further, 12 percent area is under bajra. Thus the cropping pattern in Satara district is dominated by low value cereals. The growth rate of GVO from cereals during the period 1999-2000 to 2005-06 was -2.22 percent per annum while that of pulses was 0.40 percent per annum.
- Cultivation of oilseeds also presents a dismal performance. While area under oilseeds is 14 percent of GCA, its contribution to GVO is 5 percent of total GVO from

agriculture. The growth rate in GVO from oilseeds during the period 1999-2000 to 2005-06 was only 0.66 per cent per annum which indicates that productivity is very low.

- About 30 percent of area in Satara district is irrigated while the remaining 70 percent is rainfed. A large part of the district receives 500 mm or less rainfall and thus the district has major drought prone areas. In areas which receive heavy rainfall, there is soil erosion. Thus water is a limiting factor in the district which explains the low productivity of crops.
- There is high percentage of wasteland in Satara district. Out of the total geographical area, 8.8 percent is barren and unculturable land, 4 percent culturable waste while 12 percent is current and other fallow. Thus about 25 percent of land is not used for cultivation, mainly due to hill area and undulating topography. Land holding is also fragmented. About 87.4 percent of farmers are small and marginal owning 43.6 percent of area. Further, 68 percent of farmers own less than 1 hectare of land with poor irrigation facilities, leading to low productivity
- The micro nutrient status of the soil indicates that there is deficiency in zinc which affects the productivity of the crop.
- The cropping intensity of the district is 128.45 percent. In drought prone talukas such as Mann it is as low as 106 percent.
- The district is characterized by both droughts and floods. While talukas such as Khatav, Mann, Phaltan, Khandala suffer from severe drought in certain areas, there are other talukas such as Mahableshwar, Satara and Wai which are badly affected by floods. Such conditions not only affect the cropped area but there is also mortality of livestock. The yield of crops is far lower than potential yields due to droughts and floods.
- The climatic conditions in the district vary greatly. While tehsils which have assured rainfall avail of major loan facility (64 percent) provided by financial institutions, the tehsils located in the drought prone areas are able to claim only 36 percent of loan availability. Thus a vicious circle is created and the drought prone areas are unable to improve their economic condition.
- While the district has 43 agro processing units, about 37 percent are located in Mahableshwar. Thus there is concentration of units in one taluka.
- The district suffers from severe load shedding. Electricity is available for only 8 hours per day. This limits the use of well irrigation.

- Overall infrastructure development is unsatisfactory in Satara district. Post harvest infrastructure such as cold chains, pre cooling units, etc are not easily available. Lack of godowns for storage of fertilizers is another limiting factor.
- With respect to allied activities such as animal husbandry, only dairy farming is promoted. The contribution of poultry to GVO from allied activities is only 9 percent. This indicates that poultry is a neglected sector in animal husbandry and there are only 232 poultry farms in the district. A similar picture emerges with respect to meat and meat products whose contribution to GVO is only 12 percent. In fact there is negative growth rate in GVO from animal husbandry as well as fisheries. Normally such allied activities help to augment incomes of farmers and have high income elasticity. The progress of the district in this sector is therefore dismal.
- The Seed Replacement rate is below 20 percent for several crops such as paddy, groundnuts and beans.
- Limited fodder is available for promoting animal husbandry as many parts of the district fall in drought prone areas. Sheep and goat rearing is conducted in a traditional manner.
- Sugarcane occupies 7 percent of the gross cropped area in the district. However, 21 percent of the irrigated area is under sugarcane. Further there is no water drainage in sugarcane fields. This leads to water logging which lowers productivity of the crop.
- The contribution of the Industry sector to District Domestic Product is only 18 percent. Thus agriculture is not giving boost to industrial sector. Rural Non farm Employment is also very limited.

3.2.3 Opportunities:

- There is tremendous scope for the growth of Horticulture. Horticultural crops have a strong potential to raise returns to land, labour and capital and are pro- small farmers. In Satara district, the land holding pattern reveals that 87.4 percent of farmers are small and marginal. Cultivation of horticultural crops therefore provides opportunity to them to raise their incomes.
- The share of fruits and vegetables has been undergoing a major change in the food basket of the urban and rural consumer over the years. The share of fruits and vegetables in urban food expenditure increased from 12 percent in 1983 to 15.8 percent in 2004-05. In case of rural food expenditure this share increased from 9.3

percent in 1983 to 14.5 percent in 2004-05. This increase in demand for fruits and vegetables provides an opportunity for Satara district to increase production of these horticultural crops.

- There is wide scope to cultivate medicinal and aromatic plants in the western ghats of Satara district which has a huge forest cover.
- Floriculture is gaining great importance in Satara district. About 40 per cent of polyhouses in Maharashtra are in Satara district. The district has 928 polyhouses and majority of the owners come from lower middle class. In view of the huge demand for flowers mainly in urban areas of the country, there is tremendous scope to augment the income of farmers and thus increase the contribution of agriculture to District Domestic Product.
- The district has four important dams namely Dhom, Koyna, Morna and Kanher. In the command areas, it is possible to cultivate commercial crops such as turmeric, ginger and sugarcane. As the district has access to National Highway-4, marketing of these crops is facilitated.
- Agro and food processing units have great scope in view of the wide variety of fruits and vegetables grown in this district. Due to urbanization, a ready market is available for consumption of such products. Food processing has also been deregulated in 1991 and foreign direct investment in food processing has been gradually raised to 100 percent. Food processing has also been accorded priority status for borrowing from institutional credit agencies.
- The APMC act has been amended allowing private markets and direct transaction of food commodities between buyers and sellers. Contract farming which allows for backward and forward linkage is gaining popularity. Hence farmers must capitalize on this method of farming as they can get the required inputs including technical know-how and also have a ready market for their produce.
- A number of government schemes such as Employment Guarantee Scheme linked to Horticultural Development in Maharashtra and National Horticulture Mission provide opportunity to promote the horticultural sector.
- With completion of irrigation projects, the district has the opportunity to increase area under irrigation. This will go a long way in increasing potential yield of crops. Further, irrigation also makes it possible to increase cropping intensity which will augment farmer's income.

- Water resources must be used efficiently so as to maximize yields. The district must make all round efforts to encourage the farmers to use Micro irrigation systems such as drip and sprinkler irrigation.
- In view of the limited area under irrigation, all round efforts must be made for soil and water conservation through watershed programmes. Out of total area irrigated, 65 percent is under well irrigation. Thus recharge of ground water is essential. This is especially possible in the district as there are several areas which receive heavy rainfall. In drought prone areas, water conservation and rain water harvesting must be undertaken in the rainy days.
- In view of the district having hilly areas, opportunity can be taken for contour farming.
- As horticulture has great potential in the district, the opportunity for export of crops such as mango, strawberry and pomegranate must be exploited. These horticultural crops have great demand in the international markets and such potential must be tapped. Satara has been identified for setting up Agri-Export Zone for grape and grape wine and onion. This will give a boost to exports. Marketing of such crops in major urban markets must also be tapped.
- As agriculture is the main economic activity in Satara, this sector must provide raw material to the industrial sector. Thus growth in the agricultural sector can stimulate growth in industrial and service sector. Facilities for grading, packaging, storage etc. must be promoted.
- Seed Replacement Rate is very low for several crops and higher SRR will increase productivity of crops.
- The share of agriculture in District Domestic Product is very low, despite 70 percent of the workforce in the district being engaged in this sector. All round efforts must be made to increase productivity of crops and capitalize on price advantage so as to increase the contribution of this sector to the district domestic product.
- Allied activities such as dairy farming, poultry, sericulture, etc., play a very limited role in the economy of Satara. These activities are not only a major source of employment and supplementary income but also add to nutritional security. The district has 972 ponds which are utilized for fish farming. Sericulture also has great scope in the entire agro-ecological situations of the district.
- As a large amount of wasteland exists in the district, the Wasteland Development Programme must be implemented on a war footing

3.2.4 Threats:

- Rural infrastructure has a very important role to play for the development of agriculture. With increase in production of horticultural products, lack of post harvest infrastructure and agro processing units may lead to huge post harvest losses.
- Roads, markets, communication, electricity, and other such infrastructure are equally important and lack of such facilities will be an impediment to agricultural growth.
- Increasing soil erosion in hilly areas is a threat to agriculture in those areas. Lack of micro nutrients in soil, especially zinc will lead to low productivity.
- The district has about five tehsils which are drought prone. Lack of irrigation and watershed programmes in these tehsils will restrict agricultural growth.
- Several parts of the district receive heavy rainfall. There are certain years when the crops are affected by floods.
- Lack of fodder restricts the promotion of animal husbandry which plays a major role in increasing the incomes of farmers besides providing nutritional security.
- Any delay in completion of irrigation projects will be harmful for agriculture as productivity of crops is affected.
- About 56.6 percent of GCA is under low value cereals. The contribution of agriculture to District Domestic Product is thus very low.

3.3 Accommodating SWOT – Addressing Issues Emerging out of SWOT analysis:

From the SWOT analysis, it is clear that Satara district has varying agro-climatic zones. While the hilly tracts receive heavy rainfall in the range of 6000 mm, the eastern talukas receive barely 380-400 mm rainfall. Thus heavy rains in the western talukas sometimes lead to seasonal flooding and there is drought in the eastern talukas. The district must therefore make efforts to practice contour farming and prevent soil erosion in the hilly tracts. In drought prone areas of the district, soil conservation and rain water harvesting must be undertaken in the rainy days.

Horticulture has great potential in the district and important fruit crops cultivated are mango, grape, strawberry and pomogranate. These crops have demand not only in urban markets but also export potential. Hence all round efforts must be made to promote export of these crops so as to augment the incomes of farmers and give boost to the agricultural sector. Further, industrial growth is very limited in Satara district and cultivation of horticultural crops can help to promote agro-processing industries. While this is already happening in certain talukas, there is further scope for value addition. Horticulture must also further promote secondary industries such as grading, packaging, transport etc. to generate employment in the district.

Allied activities such as dairy, poultry, sericulture play a very limited role in Satara. It is necessary to encourage these activities so as to provide supplementary incomes to the farmers. Wasteland in the district may be used for fodder.

The productivity from oilseeds is very low. Thus efforts must be made to increase productivity from oilseeds.

Overall, the SWOT analysis of Satara leads us to conclude that water is a limiting factor because of which productivity of crops is low and cropping pattern is of low value cereals. The district also has hilly tracts which have their own limiting features. Appropriate cultivation must be undertaken on this undulating topography.

3.4 Sectoral/Regional Growth Drivers of the District:

Satara district comprises of 11 talukas with varying agro-climatic zones and topography. There are four Agro-climatic situations in the districts where different crops can be cultivated

1. Mountain Zone: This zone receives heavy rainfall and cultivation of strawberry, cocum and medicinal plants is undertaken. This zone also has cool climate and heavy rainfall. Agro-processing units are located here and this region has tremendous potential for growth.
2. Sub-Mountain zone: This zone is suitable for cultivation of turmeric, ginger and vegetables. Floriculture which has great potential in the district is also carried out in this zone.
3. Plain Zone: A wide variety of vegetables and spices are cultivated in this zone.
4. Drought Prone zone: This zone comprises of talukas such as Mann which receive less than 500 mm of rainfall. Hence horticultural crops such as pomegranate, custard apple and tamrind are cultivated here.

Table 3.1: Growth regions of Satara District

<i>Type of growth region</i>	<i>Talukas</i>
Vibrant growth region	Satara, Karad, Wai
Medium growth region	Koregaon, Mahabaleshwar, Patan, Jawali, Phaltan
Slow growth region	Khatav, Khandal, Man

The different growth regions of the district are characterized by the following factors

- **Vibrant Growth Region**

The vibrant growth region covering Satara, Karad, Wai talukas are characterized by the following indicators of development.

- a) Sugarcane Cultivation, gross irrigated area to gross cultivable area is more than 20% in these talukas.
- b) Horticulture development especially fruits & vegetable production is picking up.
- c) MIDC for Industry and has Industrial base
- d) Green home belt, Potential exists for Crop diversification
- e) Growing interest among farmers towards organic farming.
- f) Scope for Sericulture development.
- g) The talukas have well established APMC
- h) Network of NGOs and SHGs exists in the talukas.
- i) Scope for Agro processing units.

- **Medium Growth Region**

The medium growth region covering Koregaon, Mahabaleshwar, Patan, Jawali, Phaltan talukas are characterized by the following indicators of development.

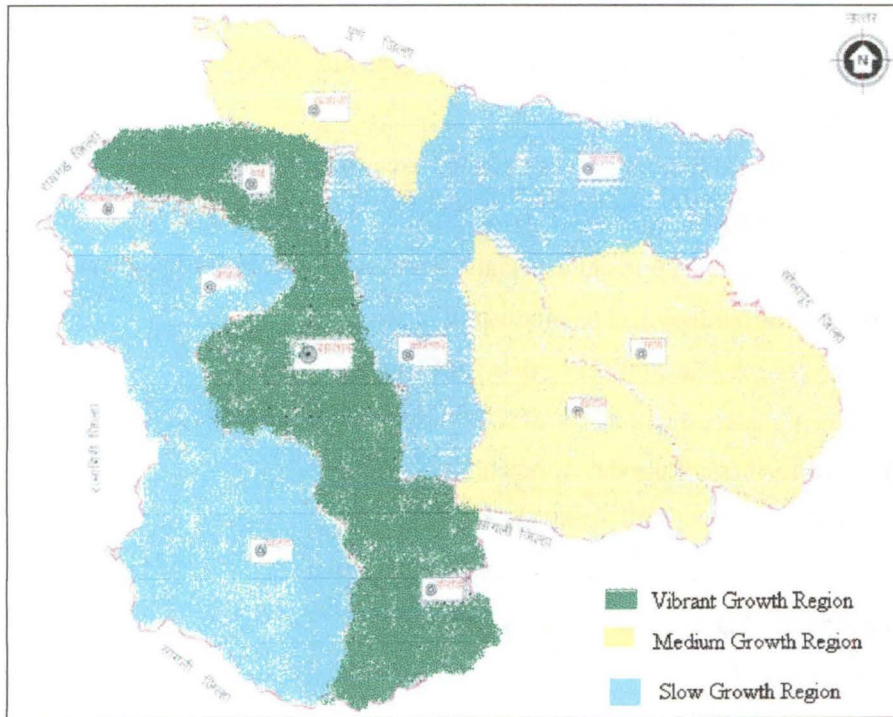
- a) Cultivation of sugarcane in command area
- b) Ranjma export to Punjab and other part of country
- c) Ginger, vegetables cultivation in Koregaon talukas.
- d) Agro-tourism, medical plant cultivation in Mahabaleshwar and Patan taluka
- b) Strawberry cultivation in Mahabaleshwar taluka.
- c) Scope for Agro processing d) Fruit & vegetable in Khed and Ambegaon talukas

- **Slow Growth Region**

The slow growth region covering Khatav, Khandal, Man talukas are characterized by the following indicators of development.

- a) Scope for Pomogranate and Onion in some part of Man and Khatav
- b) SEZ in Khandala
- c) Food park in Khandala

Map 15: Growth Regions of Satara district



Chapter IV

Development of Agriculture Sector

4.1 Introduction-

As noted earlier, the agricultural and allied sector's contribution to the economy of Satara district was about 30 percent, which is higher than the contribution of secondary sector (about 18 percent), and more than half of tertiary sector (about 52 percent) respectively (2005-06). In contrast, 70 percent of the workforce is dependent on the agricultural sector as an economic activity. This clearly speaks of low productivity in the agricultural sector.

Fostering more rapid rural development, particularly raising the productivity and competitiveness of crops and accelerating the growth of the agricultural sector is critical for inclusive growth. More rapid growth in the primary sector will directly as well as indirectly contribute to generating greater opportunities for employment and income growth. Increase in rural incomes will stimulate growth in the secondary and tertiary sector as demand for industrial goods and services will increase. However, for this to happen, appropriate policy measures have to be formulated and public expenditure in the agricultural sector has to be directed towards more productivity enhancing investments so as to stimulate growth and further encourage private investment. Realizing the importance of agricultural growth, the RKVY was implemented so as to give a major boost to the agricultural sector in the 11th Plan. In this chapter an overview of the development of the agricultural sector is presented and constraints in yield gaps are noted. The recommended interventions for the district and action plan are outlined. The projected growth rate during the 11th Plan is calculated and researchable issues are discussed.

4.2 Land Use:

It was observed in the earlier chapter that Satara District has a geographical area of 10.58 lakh hectares. The area under forest cover in Satara district is 13 percent, while fallow uncultivable land is 11.8 percent of geographical area. Land under non-agricultural uses accounts for 2.7 percent of geographical area. About 23.4 percent of geographical area is under cultivable waste, permanent pastures, land under tree crops and grooves, current as well as other follows, which can be brought under productive use with a proper wasteland development programme. The net sown area is 54.8 percent of geographical area.

4.3 Soil Health:

The trend in increasing the yield by adopting high yielding varieties has resulted in deficiency of nutrients in soils and is reflected as deficiency symptoms in plants. As we have seen in the earlier chapter, the soil fertility indices of PH, E.C., available organic carbon, available phosphorus and available Potash, analyzed from 45428 total samples collected from different talukas of the district shows that about 80 percent of the soil in the district fall under category with neutral PH, followed by 13.82 percent soil of alkaline nature and remaining is acidic status. About 96 percent of soil in the district falls under category of low Electrical Conductivity and about 75 percent of soil contain low Organic Carbon. The available phosphorus and potash status in the soils of Satara district shows that more than 93 percent of soil in the district is low in phosphorus however; soil in the district is equally distributed in all three categories, i.e. low, medium and high potash. The available copper, iron and manganese status show that the soils in the district is sufficient in these micronutrients. However, the available zinc status reveals that about 46 per cent of the soils in the district are deficient in iron which needs corrective measures so as to increase crop production. Zinc fertilisation is definitely required for sustained crop production. The reclamation and development of saline/Alkali soils in Satara district is presented in Table 4.1. It can be observed from the table that 2459 hectares are under saline/Alkali soils and this area has not yet been treated.

Table 4.1: Reclamation and Development of saline/ Alkali soils

Taluka	Area under saline / alkaline Soil (ha)	Area treated (ha) up to 2006-7	Balance Area (ha)
Satara	0	0	0
Koregaon	0	0	0
Khatav	0	0	0
Karad	1533	972	561
Patan	0	0	0
Wai	301	227	74
Jaoli	0	0	0
M.Shwar	0	0	0
Khandala	0	0	0
Phaltan	625	425	200
Man	0	0	0
Total	2459	1624	835

Source: District Soil Survey & Soil Testing Officer, Satara.

In Table 4.2 the type of soil found in the talukas of the district is presented. The soil in Satara district is of five types. It can be observed from Table 4.2 that 48 percent of the soil in the district is black soil, mostly found in Man and Khatav taluka. About 70 percent of the red soil

is observed in Patan and Jawali. Out of the total area in Mahabaleshwar, 97.4 percent is covered by red soil. The talukas of Karad, Phaltan and Khatav together constitute about half the alluvial soil in the district. Sandy soil is negligible in the district constituting less than even half percent of the soil in the district. Man taluka accounts for 32 percent of sandy loam soil.

Table 4.2: Soil health Status of the Satara district

Sr. No.	Name of the block	Black		Red Soil		Alluvial Soil		Sandy Soil		Sandy loams	
		Area (ha)	% to total	Area (ha)	% to total	Area (ha)	% to total	Area (ha)	% to total	Area (ha)	% to total
1	M.shwar	224	2.61	8370	97.39	0	0	0	0	228	2.65
2	Patan	31572	27.71	71927	63.12	9573	8.40	880	0.77	12216	10.72
3	Jawali	11695	31.96	36239	68.05	5297	9.95	20	0.04	1666	3.13
4	Wai	31635	61.26	9700	18.78	10308	19.96	0	0	14171	27.44
5	Karad	43000	62.55	5611	8.16	20136	29.29	0	0	6353	9.21
6	Satara	27351	52.15	15923	30.36	9172	11.49	0	0	15903	30.32
7	Koregaon	42019	75.90	1048	1.89	12295	22.21	0	0	25905	46.79
8	Man	136539	95.34	1251	0.87	5431	3.19	745	0.52	88698	60.34
9	Phaltan	63604	71.22	2036	2.28	23669	26.50	0	0	35781	40.06
10	Khandala	26301	90.19	228	0.78	2634	9.03	0	0	15720	53.90
11	Khatav	04519	71.54	3082	2.40	20578	16.06	0	0	57065	44.52
	TOTAL	518459		155415		119093		1645		273706	

4.4 Water Resources and Management:

As we have seen in earlier chapter the gross irrigated area of the district is 2.23 lakh hectares which is 31.85 per cent of gross cropped area (GCA) and the cropping intensity in the district is 124 per cent, which is relatively higher as compared to state average of about 117 percent. Mahabaleshwar, Patan, Jawali, khandala, and Karad are the high rainfall zones in the district are approximately 70 to 80 percent rainfalls to the district. But man Khatav and other areas has uncertain rainfall in past years. Hence there is need to water management and irrigation projects. The information regarding irrigation projects, rainfed and irrigated area is presented in Table 4.3 and water analysis report is presented in Table 4.4. The information on irrigation projects which are near completion is presented in Table 4.5. The water analysis is important to know the condition of water for safety purposes. The number of water samples analyzed in the Pune district is presented in Table 4.3. Out of total 3304 samples, 49.3 percent of samples are moderately safe while 37.6 percent of samples are moderately unsafe. Out of total samples, 1.5 percent samples are unsafe.

Table 4.3: Information regarding irrigation projects and rainfed and irrigated area

Name of the block	Rainfed area (ha)	%	Irrigated area (source wise)									Lift			Wells / Bore wells		
			Major			Medium			Minor			%	P	A	%	P	A
			%	P	A	%	P	A	%	P	A						
M'shwar	4704.9	87	-	-	-	-	-	-	-	-	-	-	-	-	13	910	857
Wai	36735	55	89	7809	6980	-	-	-	-	-	-	-	-	-	45	15725	13718
Khandala	47414.7	80	-	-	-	-	-	-	76	1345	1023	-	-	-	20	9680	8450
Phaltan	48488	65	-	-	-	-	-	-	47	4792	2265	-	-	-	35	3298	29025
Man	28077.9	82	-	-	-	-	-	-	-	-	-	-	-	-	18	4380	3525
Khatav	101592	74	-	-	-	83	2412	2017	-	-	-	-	-	-	26	16870	11475
Koregaon	24660.1	72	91	2000	19212	-	-	-	70	281	199	-	-	-	28	4720	2242
Satara	65550	44	88	18246	16146	-	-	-	83	848	712	-	-	-	66	2740	1995
Jawli	40947	72	81	2200	1790	-	-	-	-	-	-	-	-	-	28	6900	5489
Patan	38032	82	-	-	-	-	-	-	-	-	-	54	65	32	13	14710	12000
Karad	72156	60	87	7988	6997	-	-	-	-	-	-	-	72	44	36	-	25236

Notes: % - share of the total area under irrigation, P - Potential area of the project, A - Actual area irrigated, Conversion of tanks to percolation tanks if any

Table 4.4: Water Analysis Report

Name of the Taluka	No of Water samples analyzed	Permissible C - 1	Moderately Safe C-2	Moderately unsafe C - 3	Unsafe C-4
Satara	472	26	279	167	0
Koregaon	525	9	331	181	4
Khatav	323	26	137	153	7
Karad	455	16	219	217	3
Patan	115	21	77	17	0
Wai	422	22	223	176	1
Jaoli	211	52	138	21	0
M.Shwar	173	11	74	83	5
Khandala	256	174	68	14	0
Phaltan	202	13	34	127	28
Man	150	11	49	87	3
Total	3304	381	1629	1243	51

Notes-C-1 Good Water for Agriculture, C-2 Medium Water for Agriculture, C-3 Water dangerous for Agriculture, C-4 Water Unfit for Agriculture

Source: District Soil Survey & Soil Testing Officer, Satara.

The number of Soil Testing Laboratories in Pune district is presented in Table 4.6. During the year 2007-08, there were 9 Soil testing laboratories with an annual analyzing capacity of 26000 samples. It can be observed that 4 laboratories are in Private sector, 4 are in cooperative and public undertaking and only one laboratory is in Government sector. The perspective micro irrigation plan, protective (community tanks) irrigation plan and perspective crop-wise micro irrigation plan is presented in Table 4.7 to 4.9.

Table 4.5: Information on Irrigation Projects near Completion in Satara district

Type of the project *	Name of the project	Blocks covered	Area irrigated (ha)		After Completion of Project Irrigated Area (ha)	12 month Irrigation (ha)	Seasonal Irrigation (ha)
			Projected	Actual			
MAJOR	Dhom	Wai	43847	36218	32925	4305	16979
	Kanher	Satara	12745	11078	11070		
	Arphal Kalva	Satara /Koregaon	21579	15672	14247	2734	7514
	Arphal (helgaon)	Karad	3606	3125	2500	0	0
	Arphal (Masur)	Karad	3400	2888	2600	0	0
	Veer	Khandala	33788	26987	17989	2340	24447
	Tembhu	Karad	1150	860	600	0	0
	TOTAL	7		120115	96828	81931	9379
MINOR	Dhom Balkawadi	Wai	48450	28100	18100	0	0
	Ner	Khatav	4548	4324	2636	0	0
	Ranand	Man	4358	1003	1093	0	278
	Tarali	Patan	4858	1862	1862	0	0
	Urmodi	Satara	1822	1417	1417	0	0
	Yeralwadi	Khatav	3187	3187	2187	0	1446
	Yewati masola	Karad	2145	2145	1927	24	0
	Morana	Patan	5286	4229	3806	100	0
	Andhali	Man	2203	1873	1496	0	1035
	Urmodi	Satara	51734	37000	27750	0	0
	Uttarmand (manewadi)	Patan	6667	6000	4800	0	100
	Tarali	Patan	23301	18131	14276	0	0
	Hatgheghar & Mahu	Jawali	6955	5980	5300	0	0
	Nagewadi	Wai	2635	2100	1560	0	0
	Wang	Patan	8644	6889	6200	0	100
	Neera- Devghar	Khandala/Phalatan	90096	62706	43050	0	0
	Mhasvad	Man	2757	2206	1362	0	611
	Krishna (khodashi)	Karad	7196	7196	7196	300	585
TOTAL	18		276842	196348	146018	424	4155
GRAND TOTAL	25		396957	293176	227949	9803	53095

Table 4.6: Soil Testing Laboratories in Satara district -Year 2007-08

Soil Testing Laboratories Under	No of Soil Testing Laboratories			Annual Analysing Capacity	No. of Samples Analysed	No of Soil Testing Laboratories having Annual Analysing System
	Static	Mobile	Total			
Govt. Sector	1	0	1	10000	15500	1
Co-operative & Public Undertaking	4	0	4	12000	5500	0
Private Sector	4	0	4	4000	1000	1
Total	9	0	9	26000	22000	2

Source: District Soil Survey and Soil Testing Office, Pune.

Table 4.7: Perspective Micro Irrigation Plan

(Phy. in ha and Fin. in lakh Rs.)

Sr. No	Activity	Actual coverage up to March 2006 (ha)	Area coverage in 2006 – 2007 (ha)	Unit Cost	2007-08		2008-09		2009-10		2010-11		2011-12		Total	
					Phy	Fin	Phy	Fin	Ph	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Drip Irrigation	1215.28	1068.04	25,700	1,410	362.32	1,452	369.5	1,465	373.91	1,571	405.98	1,590	406.17	7,488	1917.88
2	Sprinkler Irrigation	2751.53	720.78	7,000	740	51.8	740	51.8	740	51.8	740	51.8	740	51.8	3,700	259
	TOTAL	3966.81	1788.82			414.12		421.3		425.71		457.78		457.97		2176..88

Table 4.8: Protective (Community Tanks) Irrigation Plan

(Area in ha and Investment in lakh Rs.)

Year/Type	Half Dugout			Fully Dugout			Total		
	No.	Area	Investment	No.	Area	Investment	No.	Area	Investment
Existing Community Tanks (2006-07)	81	513.5	251.9	0	0.0	0.0	81	513.5	251.9
2007-08	30	300.0	145.8	10	100.0	59.6	40	400.0	205.4
2008-09	30	300.0	145.8	10	100.0	59.6	40	400.0	205.4
2009-10	30	300.0	145.8	10	100.0	59.6	40	400.0	205.4
2010-11	30	300.0	145.8	10	100.0	59.6	40	400.0	205.4
2011-12	30	300.0	145.8	10	100.0	59.6	40	400.0	205.4
Total	150	1500.0	729.0	50	500.0	298.0	200	2000.0	1027.0

Table 4.9: Perspective Crop-wise Micro Irrigation Plan

Sr. No.	Crops	Actual coverage Mar. 06	Area coverage 2006 -07	Proposed coverage											
				2007-08		2008-09		2009-10		2010-11		2011-12		Total	
				Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
A	Drip Irrigation														
1	Mango	55.96	62.03	60	7.2	60	7.2	60	7.2	60	7.2	72	8.64	312	37.44
2	Tamarind	7.26	0	0	0	0	0	0	0	0	0	0	0	0	0
3	Ber	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4	Pomegranate	254.41	395.76	450	99	480	105.6	470	103.4	500	110	510	112.2	2410	530.2
5	Sapota	34.04	29.7	30	3	35	3.5	38	3.8	40	4	42	4.2	185	18.5
6	Guava	6.82	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Cashewnut	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8	Arecanut	0	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Papaya	7.91	5.36	5	1	5	1	5	1	5	1	5	1	25	5
10	Grapes	148.64	0	50	11	55	12.1	50	11	52	11.44	58	12.76	265	58.3
11	Banana	87.93	96.63	120	26.4	130	28.6	140	30.8	130	28.6	135	29.7	655	144.1
12	Citrus	1	0	0	0	0	0	0	0	0	0	0	0	0	0
13	C.apple	4.67	22.18	30	4.92	25	4.1	28	4.59	25	4.1	28	4.59	136	22.3
14	Fig	4	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Amala	20.21	0.38	10	1.6	15	2.4	12	1.92	10	1.6	14	2.24	61	9.76
16	Coconut	1.28	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Vegetables	366.52	200.36	300	96	310	99.2	330	105.6	350	112	325	104	1615	516.8
18	Flowers	16.99	10.54	10	3	12	3.6	10	3	10	3	14	4.2	56	16.8
19	Cotton	13.04	0	0	0	0	0	0	0	0	0	0	0	0	0
20	Sugarcane	108.79	0	30	9.6	40	12.8	40	12.8	45	14.4	40	12.8	195	62.4
21	Strawberi	49	56.81	70	22.4	60	19.2	60	19.2	72	23.04	78	24.96	340	108.8
22	Lime	5.42	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Ginger	9.69	165.66	200	64	180	57.6	180	57.6	225	72	228	72.96	1013	324.16
	Sprinkler Irrigation														
1	Leafy Veg. / Flowers / Others	638.86	720.78	680	47.6	680	47.6	680	47.6	680	47.6	680	47.6	3400	238
2	Cereals/ Pulses/ Oilseeds etc.	2112.67	0	60	4.2	60	4.2	60	4.2	60	4.2	60	4.2	300	21
	Total Sprinkler	2751.53	720.78	740	51.8	740	51.8	740	51.8	740	51.8	740	51.8	3700	259
	Grand Total	3966.81	1788.82	2150	414.12	2192	421.3	2205	425.71	2311	457.78	2330	457.97	11188	2176.88

Source: DSAO, Satara.

4.5 Major Crops and Varieties in the District:

Crops are grown in three seasons in the districts, i.e Kharif, Rabi and Summer. The cropping pattern of the Satara district is identical with the state as well as most of the districts in the state. Kharif is the predominant season, in which bajara crop accounts major share in area, followed by jowar. As we have seen earlier, about 32 percent of gross cropped area is under jowar, followed by bajara, which has about 14 percent share. The major crops and varieties grown in Satara district is presented in Table 4.10.

Table 4.10: The major crops and varieties grown in Satara district

Sr. No	Major Crop	Varieties
1	Paddy	Karjat 84, Jaya, R-24, Indrayani, Sahyadri
2	Kharif Jowar	CSH 5, CSH 9, CSH 14, CSH 16 CSH 17 CSH 18, Phule Amruta
3	Bajara	ICTP-8203, Hybrid- Rhrbh-8609, Rhrbh-8924
4	Rabi Jowar	CSH 5, CSH 9, CSH 14, CSH 16, M 35-1, CSH 18, Phule Amruta, Mauli, Phule Yashoda, Selection 3
5	Wheat	HD 2189/ N 59, N 5489 / Godavari Panchavati / Lok-1, NIAW 301 / MACS-2846 / MACS- 2496, NI 5439 / NIAW -34
6	Tur	BDN- 1.2, IOPL-87, ICPL 87110, BSMR-733, ATK-884
7	Bean	Varun, Arka Komal, Contender, Local
8	Soybean	MACS 450, D 228, PK 1029, IS 335
9	Gram	Vijay, Vishavas, Virat, Vishal
10	Groundnut	M 13, TMV 10, JL 24, SB 11, TAG 24, JL-286
11	Cotton Varieties Improved Hybrid	LR 5166, Verlaxmi, H- 4
12	Sugarcane	CO-714, CO-8014 CO-86032, CO 7527, CO-88121, CO-94012, CO-265
13	Potato	Kupri, Chamdrmukhi, Kupri Joyti
14	Onion	N-53, Basvant-780, N-2-H, N- 257
15	Turmeric	Rajapuri Waigaon, Krishna, Selem. Kadappa.
16	Ginger	Mahm, Acc-116, ACC-
17	Tomato	Pusa rub, Dhanshri, Bhagyeshri, Rajshri

4.6 Input Management-

The growth and level of agricultural output to a large extent is determined by the pattern of resource structure or input mix in the agricultural sector. Technological developments shift the production function up and to the right enabling the farmers to make grater use of yield increasing inputs. As is well known, the pace of agricultural development in India increased with the introduction of new production technology. An increase in per hectare yield and total production of a crop over a period of time is due to increased use of inputs like land, irrigation, chemical fertilizers and high yielding varieties of seeds. The planting material production plan for next five year is presented in Table 4.11.

Table 4.11: Planting Material Production Plan

Sr. No.	No. of Nurseries	Area under mother plants (ha)	Production of seedlings /grafts (lakh)
	Existing facilities (2006-07)		
1	Kashil	7.70	1.24
2	Vaduj	2.74	0.49
3	Kadegon	4.00	0.79
4	Shival	3.00	1.89
5	Dhaiwadi	2.60	0.87
		20.04	5.28
	2007-08		
1	Kashil	7.70	3.00
2	Vaduj	2.74	1.50
3	Kadegon	4.00	3.00
4	Shival	3.00	2.50
5	Dhaiwadi	2.60	1.00
		20.04	
	2008-09		
1	Kashil	7.70	4.50
2	Vaduj	2.74	2.50
3	Kadegon	4.00	4.00
4	Shival	3.00	3.00
5	Dhaiwadi	2.60	1.50
		20.04	15.50
	2009-10		
1	Kashil	7.70	4.50
2	Vaduj	2.74	2.50
3	Kadegon	4.00	4.50
4	Shival	3.00	4.00
5	Dhaiwadi	2.60	1.50
		20.04	17.00
	2010-11		
1	Kashil	7.70	5.00
2	Vaduj	2.74	3.00
3	Kadegon	4.00	4.50
4	Shival	3.00	3.50
5	Dhaiwadi	2.60	2.00
		20.04	18.00
	2011-12		
1	Kashil	7.70	5.00
2	Vaduj	2.74	3.00
3	Kadegon	4.00	4.50
4	Shival	3.00	3.50
5	Dhaiwadi	2.60	2.50
		20.04	18.50
	Total		
1	Kashil	7.70	22.00
2	Vaduj	2.74	12.50
3	Kadegon	4.00	20.50
4	Shival	3.00	16.50
5	Dhaiwadi	2.60	8.50
		20.04	80.00

Note:- Development investment includes items like irrigation development, fencing, land development, building & structures, poly-houses, shade net houses, poly tunnels, machineries & implements etc.

The Seed Replacement Ratio (SRR) of important crops in Satara district is presented in Table 4.12. The SRR is cent percent in case of jowar. However, in case of other crops, it varies from 1 percent to 85 percent among the crops.

Table 4.12: Planning of Agriculture Inputs in the District – Seed

Sr. No	Name of the Crop	Area under Crop (ha)	Present SRR %	Proposed SRR	Seed required (qt.)	Expected Seed Availability (qt.) from			Expected Total seed (qt)
						Mahabeej	Private sector	Village Seed Prod. Progra	
2007-08									
1	Paddy	36400	9%	12%	4186	892	594	4175	5661
2	Jowar	56500	100%	100%	5650	3390	2260	0	5650
3	Bajara	84000	84%	85%	2142	1265	842	35	2142
4	Groundnut	56500	4%	8%	4520	3390	1130	0	4520
5	Soyabean	28600	40%	42%	9009	6569	2190	250	9009
6	Beans	37600	3%	6%	1354	753	251	350	1354
Total Kharif		306800			26861	16259	7267	4810	28336
7	Jowar	138300	8%	12%	1660	416	277	2442	3135
8	Wheat	42400	32%	35%	14840	6204	4136	4500	14840
9	Gram	29200	4%	10%	2190	774	516	900	2190
10	Safflower	3500	1%	5%	26	22	0	4	26
11	Groundnut	3500	3%	5%	175	105	70	0	175
T. Rabi & Summer		216900			18891	7521	4999	7846	20366
Grand Total		523700			45752	23780	12266	12656	48702
2008-09									
1	Paddy	44000	12%	15%	5280	1356	904	4200	6460
2	Jowar	56800	100%	100%	5680	3480	2320	0	5800
3	Bajara	82000	85%	90%	2214	1298	866	50	2214
4	Groundnut	57000	8%	12%	6840	5130	1710	0	6840
5	Soyabean	30000	42%	45%	10125	5835	3890	400	10125
6	Beans	39000	6%	8%	1872	853	569	450	1872
Total Kharif		308800			32011	17952	10259	5100	33311
7	Jowar	137500	12%	15%	2063	540	360	2450	3350
8	Wheat	44000	35%	38%	16720	7152	4768	4800	16720
9	Gram	31000	10%	12%	2790	1074	716	1000	2790
10	Safflower	3800	5%	12%	68	50	10	10	70
11	Groundnut	4100	5%	10%	410	316	94	0	410
T. Rabi & Summer		220400			22051	9132	5948	8260	23340
Grand Total		529420			54062	27084	16207	13360	56651
2009-10									
1	Paddy	44600	15%	17%	6066	1426	950	4250	6626
2	Jowar	56800	100%	100%	5680	3570	2380	0	5950
3	Bajara	80000	90%	95%	2280	1278	852	150	2280
4	Groundnut	58500	12%	18%	10530	6318	4212	0	10530
5	Soyabean	32000	45%	50%	12000	8475	2825	700	12000
6	Beans	42000	8%	10%	2520	1365	455	700	2520
Total Kharif		313900			39076	22432	11674	5800	39906

7	Jowar	137000	15%	20%	2740	882	588	2500	3970
8	Wheat	45000	38%	40%	18000	7200	4800	6000	18000
9	Gram	33000	12%	15%	3713	1568	1045	1100	3713
10	Safflower	3950	12%	20%	119	80	20	20	120
11	Groundnut	4600	10%	15%	690	535	155	0	690
T. Rabi & Summer		223550			25262	10265	6608	9620	26493
Grand Total		537450			64338	32697	18282	15420	66399
2010-11									
1	Paddy	45400	17%	22%	7990	2267	1511	4300	8078
2	Jowar	57100	100%	100%	5710	3600	2400	0	6000
3	Bajara	78000	95%	100%	2340	1284	856	200	2340
4	Groundnut	60000	18%	20%	12000	8400	3600	0	12000
5	Soyabean	34500	50%	55%	14231	7939	5292	1000	14231
6	Beans	44000	10%	20%	5280	2628	1752	900	5280
Total Kharif		319000			47551	26118	15411	6400	47929
7	Jowar	136000	20%	25%	3400	1140	760	2500	4400
8	Wheat	46000	40%	42%	19320	7092	4728	7500	19320
9	Gram	34000	15%	20%	5100	2160	1440	1500	5100
10	Safflower	4100	20%	30%	185	130	24	35	189
11	Groundnut	4800	15%	20%	960	632	328	0	960
T. Rabi & Summer		224900			28965	11154	7280	11535	29969
Grand Total		543900			76516	37372	22691	17935	77898
2011-12									
1	Paddy	45900	22%	25%	9180	2700	1800	4700	9200
2	Jowar	57500	100%	100%	5750	4305	1845	0	6150
3	Bajara	75000	100%	100%	2250	1170	780	300	2250
4	Groundnut	61500	20%	25%	15375	10455	4920	0	15375
5	Soyabean	35000	55%	60%	15750	7950	5300	2500	15750
6	Beans	45000	20%	25%	6750	4095	1155	1500	6750
Total Kharif		319900			55055	30675	15800	9000	55475
7	Jowar	134100	25%	35%	4694	1635	1090	2500	5225
8	Wheat	47000	42%	45%	21150	7290	4860	9000	21150
9	Gram	35000	20%	25%	6563	2858	1905	1800	6563
10	Safflower	4250	30%	35%	223	152	39	45	236
11	Groundnut	5100	20%	25%	1275	939	336	0	1275
T. Rabi & Summer		225450			33905	12874	8230	13345	34449
Grand Total		545350			88960	43549	24030	22345	89924

The talukawise total fertiliser consumption and crop-wise nitrogen, phosphorus and potassium consumption in Satara district during 2006-07 is presented in Table 4.13 and Table 4.14. It is observed that the highest consumption of NPK was in Satara taluka. This is possibly because of cultivation of sugarcane and wheat crops.

Table 4.13: Talukawise Fertilizer Consumption in Satara district 2006-07

Sr. No.	Taluka	Major crops	Fertiliser Consumption (kg)			Total
			N	P	K	
1	Satara	Paddy, Jowar, Groundnut, Soyabean, Sugarcane, Wheat, Rabbi Jowar.	6232	2887	2448	11567
2	Koregaon	Jowar, Wheat, Beans, Soyabean, Sugarcane.	5214	2415	2048	9677
3	Khatav	Bajara, Jowar, Wheat, Potato.	6634	3073	2606	12313
4	Karad	Paddy, Kharip Jowar, Groundnut, Soyabean, Sugarcane, Wheat, Beans, Rabbi Jowar.	5530	2561	2172	10263
5	Patan	Paddy, Kharip Jowar, Groundnut, Soyabean, Sugarcane, Wheat & Other	5845	2927	2482	11254
6	Wai	Paddy, Nachani, Jowar, Beans, Pea, Sugarcane, Wheat.	2887	1337	1113	5337
7	Jawali	Paddy, Nachani, Jowar, Beans, Soyabean, Sugarcane.	2658	1231	1044	4933
8	M'Shwar	Paddy, Nachani, Wheat & Potato.	110	51	43	204
9	Khandala	Bajara, Jowar, Wheat, Beans, Soyabean.	2895	1341	1137	5373
10	Phaltan	Bajara, Rabi Jowar, Wheat, Soyabean, Maize, Sugarcane.	4173	1933	1639	7745
11	Maan	Bajara, Jowar, Wheat, Soyabean, Potato.	4125	1693	1455	7273
Total			46303	21449	18187	85939
Average Fertilizer use in Satara District (Kg/ha)			66	30	26	122

Source- ADO ZP, Satara

Table 4.14 Crop wise NPK Consumption - Year 2006-07

Sr. No.	Major crops	Fertiliser Consumption (Kg/ha)			Total
		N	P	K	
1	Kharip Jowar	53	30	34	117
2	Paddy	57	18	34	109
3	Bajara	33	8	0	41
4	Redgram	9	35	0	44
5	Groundnut	19	26	0	45
6	Soyabean	16	35	0	51
7	Rabbi Jowar	55	21	19	95
8	Wheat	98	35	37	170
9	Gram	17	26	0	43
10	Safflower	39	35	0	74
11	Beans	76	35	0	111
12	Sugarcane	324	163	165	652
13	Other Cereals, Pulses, Oilseeds & Cotton	97	35	25	157
14	Fruit Crops & Vegetables	189	62	104	355
District Total		66	30	26	122

The planning of fertilizer requirement planning of plant protection chemicals requirements, cropwise plant protection chemicals requirements is presented in Table 4.15 to 4.17.

Table 4.15: Planning of Fertilizer Requirement

Sr. No	Taluka	Fertilizer Grade	Fertilizer use (mt.) 2006-07	Requirement of Fertilizer (M.T.)					Total
				2007-08	2008-09	2009-10	2010-11	2011-12	
1	Satara	Urea	10009	10500	11000	11500	12000	12500	57500
		DAP	1668	1750	1850	2000	2050	2300	9950
		MOP	1463	1500	1550	1600	1650	1700	8000
		SSP	1657	1700	1750	1800	1850	1900	9000
		Complexes & Mixture	8903	8950	9000	9050	10000	10050	47050
		Total	23700	24400	25150	25950	27550	28450	131500
2	Koregaon	Urea	8375	8500	9000	9500	10000	10500	47500
		DAP	1395	1400	1450	1500	1550	1600	7500
		MOP	1223	1250	1300	1350	1400	1450	6750
		SSP	1265	1300	1350	1400	1450	1500	7000
		Complexes & Mixture	6777	6800	6900	7000	7100	7200	35000
		Total	19035	19250	20000	20750	21500	22250	103750
3	Khatav	Urea	10655	11000	11500	12000	12500	13000	60000
		DAP	1775	1800	1850	1900	1950	2000	9500
		MOP	1449	1500	1550	1600	1650	1700	8000
		SSP	1764	1800	1850	1900	1950	2000	9500
		Complexes & Mixture	9477	9500	9600	9700	9800	10000	48600
		Total	25120	25600	26350	27100	27850	28700	135600
4	Karad	Urea	8882	9000	9500	10000	10500	11000	50000
		DAP	1480	1500	1600	1800	1900	2000	8800
		MOP	1297	1300	1350	1400	1450	1500	7000
		SSP	1471	1500	1550	1600	1650	1700	8000
		Complexes & Mixture	7900	8000	8050	8100	8200	8300	40650
		Total	21030	21300	22050	22900	23700	24500	114450
5	Patan	Urea	10149	10500	11000	11500	12000	12500	57500
		DAP	1690	1700	1750	1800	1850	1900	9000
		MOP	1483	1500	1550	1600	1650	1700	8000
		SSP	1680	1700	1750	1800	1850	1900	9000
		Complexes & Mixture	9027	9050	10000	10100	10200	10300	49650
		Total	24029	24450	26050	26800	27550	28300	133150
6	Wai	Urea	4637	5000	5500	6000	6500	7000	30000
		DAP	773	800	850	900	950	1000	4500
		MOP	677	700	750	800	850	900	4000
		SSP	768	800	850	900	950	1000	4500
		Complexes & Mixture	4124	4150	4200	4250	4300	4350	21250
		Total	10979	11450	12150	12850	13550	14250	64250
7	Jaoli	Urea	4270	4500	5000	5500	6000	6500	27500
		DAP	711	800	850	900	950	1000	4500
		MOP	624	650	700	750	800	850	3750
		SSP	707	750	800	850	900	950	4250
		Complexes & M.	3798	3800	3850	3900	3950	4000	19500

		Total	10110	10500	11200	11900	12600	13300	59500
8	M.shwar	Urea	177	200	250	300	350	400	1500
		DAP	30	35	40	45	50	60	230
		MOP	26	30	35	40	45	50	200
		SSP	29	35	40	45	50	55	225
		Complexes & Mixture	157	200	250	300	350	400	1500
		Total	419	500	615	730	845	965	3655
9	Khandala	Urea	4650	4800	5000	5200	5500	6000	26500
		DAP	775	800	850	900	950	1000	4500
		MOP	679	700	750	800	850	900	4000
		SSP	770	800	850	900	950	1000	4500
		Complexes & Mixture	4135	4150	4200	4250	4300	4350	21250
		Total	11009 *	11250	11650	12050	12550	13250	60750
10	Pahaltan	Urea	6702	7000	7200	7500	8000	8500	38200
		DAP	1116	1150	1200	1250	1300	1350	6250
		MOP	979	1000	1050	1100	1150	1200	5500
		SSP	1110	1150	1200	1250	1300	1350	6250
		Complexes & Mixture	5961	6000	6050	6200	6500	7000	31750
		Total	15868	16300	16700	17300	18250	19400	87950
11	Man	Urea	5866	6000	6200	6500	6800	7000	32500
		DAP	979	1000	1050	1100	1150	1200	5500
		MOP	968	1000	1050	1100	1150	1200	5500
		SSP	1097	1100	1150	1200	1250	1300	6000
		Complexes & Mixture	5894	6000	6100	6300	6400	6500	31300
		Total	14804	15100	15550	16200	16750	17200	80800
	GRAND TOTAL	Urea	74372	77000	81150	85500	90150	94900	428700
		DAP	12392	12735	13340	14055	14650	15410	70190
		MOP	10868	11130	11635	12140	12645	13150	60700
		SSP	12318	12635	13140	13645	14150	14655	68225
		Complexes & Mixture	66153	66600	68200	69150	71100	72450	347500
		Grand Total		176103	180100	187465	194530	202695	210565

The triple alliance of pests, pathogens and weeds is the cause of substantial crop losses every year. The development, introduction and diffusion of environmentally safe and effective pesticides will be given priority. There is a need for incorporating the use of chemical pesticides in an Integrated Pest Management (IPM) system. Suitable quality control, safety evaluation and other regulatory systems would be strengthened. The sale of spurious and substandard pesticides would be prevented and bio-pesticides would be promoted

Table 4.16: Planning of Plant Protection Chemicals requirements (mt)

Sr No	Pesticide	Requirement of pesticide from 2007-08 to 2011-12				
		2007-08	2008-09	2009-10	2010-11	2011-12
1	Sulphur (MT)	9	12	14	16	20
2	Azotobactor (MT)	36.9	42	45	50	55
3	PSB (MT)	56.75	7	62	65	68
4	Phorate 10 G (MT)	139	145	150	152	155
5	Endosulphon (Lt)	3238	3500	4000	4500	4800
6	Thiaram (MT)	4.705	5	5.5	5.8	6
7	Monocrotophos(Lt)	560	600	700	800	900
8	Methyl Parathion (MT)	41	45	48	50	52
9	Copperoxychloride (MT)	1.9	2	2.5	3	4
10	Matalaxyl (MT)	0.63	1	1.2	1.5	2
11	Zineb (MT)	3.6	4	4.2	4.3	4.5
12	Chloropyriphos (Lt)	50	100	200	300	400
13	Rhizobium (MT)	64.5	70	75	80	90
14	Tricoderma (MT)	17.155	20	25	30	35
15	Quinolphos (Lt)	3700	4000	4300	4500	4700
16	Mancozeb (MT)	6	10	5	20	25
17	Propiconazol (Lt)	1500	2000	2500	3000	3500
18	Carbendazim (MT)	0.01	0.05	0.1	0.5	1
19	Malathion (Lt)	4500	5000	6000	7000	8000
20	Diametheote	8400	9000	10500	12000	15000
21	Decamethrin (Lt)	900	1200	1500	2000	2500

Table 4.17: Cropwise Plant Protection Chemicals requirements (MT)

Sr.	Main Crop	Area under crop	Major pest / diseases	Recommended & used pesticides in the district	Requirement of that pesticide	Availability
1	Kh.Jawar	3000	Seed Treatment	Sulphur (3 gm/kg)	9	9
		25000	Seed Treatment	Azotobactor(250 gm/10 kg)	6.25	6.25
		25000	Seed Treatment	PSB (250 gm/10 kg)	6.25	6.25
		2000	Stem Fly	Phorate 10 kg/ha	20	20
		700	Stem Borer	Endosulphon 700 ml / Ha	490	490
2	Paddy	15260	Seed Treatment	Thiaram 2gm/kg	2.5	2.5
		7000	Seed Treatment	Azotobactor(250 gm/10 kg)	1.4	1.4
		7000	Seed Treatment	PSB (250 gm/10 kg)	14	14
		1900	Stem Borer	Phorate 10 kg/ha	19	19
		800	Leaf rolling caterpillar	Monocrotophos 700 ml/ha	560	560
		1250	Army Worm	Methyl Parathion 20 kg/ ha	25	25
		1500	Blast	Copper OxyChloride 1250gm/ha	1.9	1.9
3	Bajara	35000	Seed Treatment	Metaxyl 6gm/kg	0.63	0.63
		12000	Seed Treatment	Azotobactor(250 gm/10 kg)	9	9
		12000	Seed Treatment	PSB (250 gm/10 kg)	9	9
		600		Zineb 75% 1000gm/ ha	0.06	0.06
		800	Army Worm	Methyl Parathion 20 kg/ ha	1.6	1.6
4	Maize	3000	Seed Treatment	Azotobactor(250 gm/10 kg)	1.5	1.5
		300	Seed Treatment	PSB (250 gm/10 kg)	1.5	1.5

5	Groundnut	20000	Seed Treatment	Monocrotophos 2 ml/ 80 kg	50	50
		20000	Seed Treatment	Rhizobium 250 gm/ 10 kg	50	50
		20000	Seed Treatment	Tricoderma 50gm/ 10 kg.	10	10
		2500	Leaf rolling caterpillar	Quinolphos 1000ml/ Ha	2500	2500
		3000	Tikka	Mancozeb 1000gm/Ha	3	3
		3000	Rust	Mancozeb 1000gm/Ha	3	3
6	Soyabean	14000	Seed Treatment	Thiaram 2gm/kg	2.1	2.1
		14000	Seed Treatment	Rhizobium 250 gm/ 10 kg	13	13
		14000	Seed Treatment	PSB (250 gm/10 kg)	26	26
		14000	Seed Treatment	Tricoderma 40gm/ 10 kg.	4.2	4.2
		500	Leaf rolling caterpillar	Endosulphon 715 ml / Ha	358	358
		3000	Rust	Propiconazol 500 ml/Ha	1500	1500
7	Sunflower	500	Seed Treatment	Carbendazim 20gm/ 10 kg	0.01	0.01
		1500	Seed Treatment	Tricoderma 50gm/ 10 kg.	0.075	0.075
		500	Hairy Caterpillar	Endosulphon 700 ml / Ha	500	500
8	Red Gram	2000	Seed Treatment	Thiaram 2gm/kg	0.06	0.06
		4000	Seed Treatment	Rhizobium 250 gm/ 10 kg	1.5	1.5
		1500	Pod Borer	Quinolphos 800ml/ Ha	1200	1200
9	Gram	12000	Seed Treatment	Tricoderma 4gm/ kg.	2.88	2.88
		2000	Seed Treatment	Endosulphon 700 ml / Ha	1400	1400
10	Sugarcane	15000	Seed Treatment	Malathion 300 ml/Ha	4500	4500
		15000	Seed Treatment	Azotobactor(1.25kg/ha)	18.75	18.75
		3000	White Fly	Dimethioate 2650 ml/ Ha	7950	7950
		5000	White Woolly Aphids	Phorate 20 kg/ha	100	100
		700	Stem Borer	Endosulphon 700 ml / Ha	490	490
11	Wheat	15000	Seed Treatment	Thiaram3gm/kg	0.045	0.045
		2000	Rust	Zineb 75% 1500gm/ ha	3	3
		900	Aphids/ Jassids	Dimethioate 500 ml/ Ha	450	450
12	Cotton	2000	Ball Worm	Decamethrin 450 ml/ Ha	900	900

4.7 Farm Mechanization/ Farm Projects-

The availability of improved farm equipments and machines also one of the important indicators of agricultural growth of the district. It can be seen from the Table 4.18 that Karad, Koregaon, Satara, Phaltan and Man tahsils together accounts almost 57 percent of the improved farm equipments and machines in the district. Farm Machinery Status and Projection Present Status (Nos) and projected expenditure is presnted in Table 4.19 and 4.20.

Table 4.18: Availability of Improved Farm Equipments and Machineries

Sr. No.	Farm Implement / Equipment / Machinery	Availability (No. / Taluka)											Total
		Satara	Koregaon	Khatav	Karad	Patan	Wai	Jaoli	M.shwar	Khandala	Phaltan	Man	
1	Sprayers	1855	1920	1633	2969	1632	1790	1233	885	1627	1936	1590	19070
2	Seed Cum Fertilizer Drill	4130	4042	4575	4303	3934	3594	2790	1210	3262	4805	4731	41376
3	Animal operated Plough	6012	5798	6275	6369	4247	5045	4433	1597	4840	6630	5928	57174
4	Elect Pumpset	3296	3277	3144	4576	2920	3017	2835	1108	2909	4260	3847	35189
5	Thresher	385	387	293	595	268	227	189	39	203	363	212	3161
6	M B Plough	935	965	705	1492	668	309	233	0	278	866	621	7072
7	Power tiller	86	56	38	301	72	39	33	9	24	69	34	761
8	Tractor	1205	1103	876	1807	839	472	218	38	503	978	967	9006
9	Diesel Engine	1232	1170	1485	1237	1094	1009	845	233	998	1166	1203	11672
10	Cultivator	3369	3157	2549	4979	2601	1920	1644	5	1748	3528	2310	27810
11	Kadbakutti	2820	1735	1944	3165	1263	1733	1292	217	1456	2220	2190	20035
12	Tillage Implements	6203	6138	5536	8526	5343	5012	3809	2912	4866	6233	5955	60533
13	Rotavator	390	273	102	888	201	139	69	0	156	198	97	2513
14	Disc Harrow	1292	1544	727	2273	1123	415	23	0	370	1120	843	9730
	Total	33210	31565	29882	43480	26205	24721	19646	8253	23240	34372	30528	305102

Source: Seventh all India livestock, poultry, fishery and farm equipments census -2003 (Pune district)

Table 4.19: Farm Machinery Status and Projection Present Status (Nos)

Sr. No	Name of Improved farm implements and farm machineries	Present Status	Projection (Requirement of farm implements and machineries)				
			2007-08	2008-09	2009-10	2010-11	2011-12
1	2	3	4	5	6	7	8
1	Tractor	9006	9030	9050	9070	9090	9200
	Crawler Tractor	405	435	460	480	500	5500
2	Power tiller	761	825	900	980	1200	1500
3	Tractor drawn implements						
	Zero till seed drill						
	ii) T.M. Sprayer						
	iii) Cultivator (4 tine)	3289	3400	3500	3600	3700	3800
	iv) Seed cum fertilizer drill	30960	31000	31200	31300	31400	31500
	v) multi crop thresher	1873	1890	1910	1930	1950	2000
	vi) Paddy Thresher	164	175	185	190	195	200
	vii) Paddy Transplanter						
	viii) Reversible plough (single)						
	ix) Reversible plough (double)						
	x) T.D. Cotton planter						
	xi) Newly developed identified T. D. implement						
	xii) Rice Planter	61	65	70	80	90	100
	xiii) P.O wheat Thresher	876	890	910	920	940	970
	xiv) T. O Leveller	2143	2160	2180	2200	2230	2250
	xv) T.O Seed Cum Fert Drill	2030	2050	2070	2080	2100	2200
	xvi) T. O Planter	2067	2075	2085	2095	2100	2115
xvii) Rotavator	2513	2580	2650	2730	2820	2900	
Thresher	656	700	750	800	850	900	
4	Bullock drawn implements						
	i) Disc harrow	9730	9800	9850	9900	9500	10000
	ii) Cultivator	21521	21600	21700	21800	21900	22000
	iii) Paddy puddler (wet land puddler)	2183	2200	2250	2270	2300	2350
	iv) Planter						
	v) Seed drill						
	vi) M B Plough	7072	7100	7200	7300	7400	7500
	vi) Iron plough	28500	28600	28700	28800	28900	30000
	vii) Potato digger	19	25	30	35	40	50
	viii) Multipurpose tool bar						
	ix) Raised bed planter						
	x) Sara yantra						
	Animal operated plough	26674	2700	27300	27500	27800	28000

Self Propelled implements /equipments							
5	i) Power driven augur						
	ii) Urea briquette machine						
	iii) Furrow surry ridger						
	iv) Power weeder						
	v) Disk harrow	1287	1300	1350	1400	1450	1500
	vi) Reaper	15	18	20	25	35	40
	vii) Straw reaper						
	viii) Multi grader						
	ix) Reversible plough						
	x) Power operator chaf cutter	3758	4380	4900	5600	6300	7000
	xi) Dal Mill						
	xii) Cotton gin machine						
	xiii) Self propelled reaper						
	xiv) Electric Pump	35189	36000	36400	36800	37200	37400
	xiv) Diesel pump	11672	11750	11900	12200	12400	12600
	xv) Sub -soiler						
	xvi) Animal Operated Chaff Cutter						
Water Lifting Device (M.O)	973	990	1000	1025	1050	1100	
Water Lifting Device (Animaloperated)	219	225	235	250	270	300	
6	Gender Friendly equipments						
a	Dibbling, Sowing, Trans- planting, Fertilizer application						
	i) Self propelled seed dibbling machine						
	ii) Self propelled sowing machine						
	iii) Self propelled paddy transplanter						
	iv) Paddy seeder						
	Rice Planter	333	350	390	425	450	500
v) Garlic dibbling machine							
b	Interculture implements						
	i) Weeding hook	60533	62500	63000	63500	64000	65000
	ii) Hoe						
	iii) Single wheel hoe						
	iv) Double wheel hoe						
	v) Four wheel ridger						
c	Harvesting implements						
	i) Improved sickle						
	ii) Sugarcane leaf shredder						
	iii) Sugarcane cutting sickle						
	iv) Ladies finger plucker	148	190	195	200	210	220
	v) Fruit cutting machine	64	70	80	95	100	120
	vi) Self Propelled Harvester						
vii) T. O Combine Harvester	17	25	40	50	60	70	
d	Post Harvesting implements						
	i) Maize decorter						
	ii) Groundnut sheller						
	iii) Food grain cleaning machine						
	iv) Chaff cutter						
	v) Hand thresher						
	vi) Seed processing drum						
vii) Heater	19	25	30	35	40	50	

e	Grading Machines / implements						
	i) Potato digger						
	ii) Potato Chaff cutter	173	175	180	185	190	195
	iii) Dal mill	16104	16600	17100	17700	18300	19000
	iv) Animal Operated Chaff Cutter						
	v) M.O Chaff Cutter						
f	Horticultural implements	314	320	330	340	350	360
	i) Different kinds of pruning sizer						
	ii) Horticultural weeder /hoe/ Harvesters						
	iii) Shears	4869	5200	5300	5400	5500	5600
	iv) Fork						
	v) Horticulture Hand Tools						
7	Water lifting devises						
	i) Oil Engine 3 H.P.						
	ii) Oil Engine 5 H.P.						
	iii) Petro Kerosin Pump 2 H.P.						
	iv) Petro Kerosin Pump 3 H.P.						
	v) Electric Pump in well 3 H.P.						
	vi) Electric Pump 5 H.P.						
	vii) Electric Pump 7.5 H.P.						
	viii) Electric Pump 10 H.P.						
	ix) Submersible pump (Boar well) 3 H.P.						
	x) Submersible pump 7.5 H.P.						
	xi) Sprinkler/drip irrigation set	12722	13400	13800	14200	14900	15500
8	Plant protection appliances						
	i) Hand Rotary duster						
	ii) Foot Sprayer						
	iii) Rocking Sprayer	5970	6100	6300	6600	6900	7200
	iv) Napsac sprayer						
	v) Power Sprayer	378	400	425	450	500	550
	vi) H.PS/HPT sprayer						
	vii) T.M. sprayer						
	viii) Tractor operated Sprayers/ Dusters	378	400	425	450	500	550
	ix) P O Sprayers/ Dusters	5970	6100	6300	6600	6900	7200
	x) H O Sprayers/ Dusters	12722	13400	13800	14200	14900	15500
9	Processing units						
	i) Rice mill	3	1	1	1	1	1
	ii) Fruit and Vegetable presevator	0	1	1	1	1	1
	iii) Wheat rawa/maida mill						
	iv) Basen mill	1	0	0	0	1	1
	v) Floor mill						
	vi) Cashewnut processing unit	150	2	2	3	3	5
	vii) Preparation of pickles						
	viii) Tapioca processing unit						
	x) green House	928	40	40	40	40	40
	xi) Sugarcane Crusher	141	145	150	155	160	165
	xii) Sugarcane Crusher	341	360	390	400	425	450

Table 4.20: Farm Machinery Status and Projection (Rs. in Lakhs)

Sr	Name of Implement	07-08	2008-09	2009-10	2010-11	2011-12	Total
1	Seed cum fertilizer drill	11.14	10	5	5	5	26.14
2	Inter-culture equipment	7.87	2	2	2	4	17.87
3	Rice planter	0.03	0.06	0.05	0.04	0.08	0.26
4	Thresher	4.40	5	5	5	5	24.40
5	Winnower	0.17	0.20	0.20	0.20	0.20	0.96
6	Animal operated plough	1.63	1.50	1.00	1.50	1.00	6.63
7	Steel plough	0.50	0.50	0.50	0.50	0.50	2.50
8	Cultivator	0.40	0.50	0.50	0.50	0.50	2.50
9	Disc Harrow	1.05	0.75	0.75	0.75	0.75	4.05
10	Seed cum fertilizer drill	2	10	5	5	5	27
11	Levels	0.28	0.50	0.50	0.50	0.50	2.28
12	Wet Land pudler	0.18	0.53	0.21	0.32	0.53	1.77
13	Sugarcane crusher	0.29	0.45	0.15	0.38	0.38	1.65
14	Animal Cart	13.20	5	5	5	25	53.20
15	H.O. sprayer/duster	10.17	6	6	10.50	9	41.67
16	P.O. sprayer/duster	2.60	4	6	6	6	24.60
17	T.O. sprayer/duster	0.88	1	1	2	2	6.88
18	Water lifting Device (M.O.)	0.85	0.50	1.25	1.25	2.50	6.35
19	Water lifting Device(A.O.)	0.30	0.50	0.90	1	1.50	4.20
20	Diesel Equipment	3.90	7.50	15	10	10	46.40
21	Electric pump set	41	20	20	20	10	111
22	Power Tiller	16	19	20	55	75	185
23	Agril. Tractor	7.20	6	6	6	33	58.20
24	Grower Tractor	9	7.50	6	6	15	43.50
25	MB. Plough	2.80	10	10	10	10	42.80
26	Cultivator	17	16	16	16	16	82
27	Disc harrow	1.30	5	5	5	5	21.30
28	Rotavator	10.72	11.20	12.80	14.40	12.80	61.92
29	T.Operated Seed cum fertidrill	1	1	1	0.50	5	8.50
30	TO Planter	0.80	1	1	0.50	1.5	4.80
31	TO Leveller	1.70	2	2	3	2	10.70
32	Potato Digger	0.30	0.25	0.25	0.25	0.50	1.55
33	Maize Thresher	0.60	8	1.50	0.50	2	5.60
34	PO paddy Thresher	0.55	0.50	0.25	0.25	0.25	1.80
35	PO Wheat Thresher	0.70	1	0.50	1	1.50	4.70
36	PO multi crop Thresher	1.70	2	2	2	5	12.70
37	Maize Thresher	0.024	0.045	0.03	0.03	0.03	0.159
38	PO Sugarcane Thresher	0.40	0.50	0.50	0.50	0.50	2.40
39	Reaper	0.50	0.20	0.50	1	0.50	2.50
40	Rice Planter	1	1.25	2.50	2.50	2.50	9.75
41	MO Chaff cutter	2.48	2.50	3	3	3.50	14.48
42	AO Chaff cutter	0.01	0.025	0.025	0.025	0.025	0.11
43	PO Chaff cutter	31.1	26	35	35	35	162.1
44	Maize Thresher	1.66	0.50	0.50	0.50	0.50	3.66
45	Winnower	0.09	0.15	0.15	0.15	0.15	0.69
	TOTAL	201.27	198.11	202.57	230.55	320.11	1152.61

4.8 Special Programmes and the Ongoing Projects in the District-

The major Extension and developmental schemes in the district are executed by agricultural department, (state government) which receives funds from both state and central government. In the present system, the schemes are planned and designed at the state and central level and implemented at district level. The agricultural department Zilla Parishad also executes some of the state/central schemes. Part of cess funds available with Zilla Parishad is used for designing the schemes at district level as per the need of agriculture in the district.

Ongoing Schemes of Agriculture Department

- 1) National Oilseed Development Programme
- 2) National Pulses Development Programme
- 3) Maize Development Programme
- 4) Sugarcane Development Programme
- 5) Cotton Development Programme
- 6) Centrally Sponsored Farmer Study Tour
- 7) Irrigated And Balanced Use Of Fertilizers And Organic Farming Scheme
- 8) Centrally Sponsored Efficient Participation Of Women In Agriculture
- 9) Integrated Cereals Development Programme
- 10) Strengthening Of District Training centers
- 11) Strengthening Of Agro Poly Clinics
- 12) Strengthening Taluka Seed Multiplication Farm
- 13) Horticulture Development Programme Through EGS
- 14) National Watershed Development Programme
- 15) Sampurna Gramin Rojgar Yojana
- 16) Drought Prone Area Programme
- 17) Western Ghat Development Programme
- 18) River Valley Project
- 19) National Horticulture Mission

Ongoing Scheme of Animal Husbandry

- 1) Veterinary polyclinics at district level.
- 2) Taluka Veterinary Dispensaries.
- 3) District Artificial Insemination centre.
- 4) Cross breeding, artificial insemination & preservation of indigenous breeds.

- 5) Upgradation of rural backyard poultry by supply of day old chicks / hatching eggs.
- 6) Foot and mouth disease control Programme.
- 7) A S C A D – Assistance to State for control of Animal Diseases (H.S., B. Q., P.P.R., R.D.)

Ongoing Schemes of Fishery

- 1) Fish farming Development Agency.
- 2) Development of Fisheries Co-op. Society.
- 3) Fish farming in impounded water
- 4) Fisheries Requisites.
- 5) Fish seed farming.

Ongoing Schemes of Social Forestry

- 1) Western Ghat Development Scheme
- 2) Central Nursery Development Scheme.
- 3) Vanmahotsav
- 4) Kisan Nursery.
- 5) Selected Water Development Scheme.
- 6) Publicity.
- 7) I W D P Scheme.
- 8) Hariyali Water Shed Development Scheme.
- 9) Road Side Plantation Scheme.
- 10) M.S.S.R.D.C., N.H.A.I. Scheme.
- 11) S.G.R.Y. Scheme

4.9 Constraints Analysis-

The productivity/yield of major crops is an important factor determining the agricultural development of a region. The yield of major crops in Satara district for the year 2006-07 which was a normal year has been analysed in comparison with the national and state level yields. The gap has been worked out as shortage compared to the national/state average. It can be seen from Table 4.21 that the district yields however of all the major crops except sugarcane are lower than the state and national average.. There are many factors which determine the yield level of crops - one of them is adoption gaps of the technology, which has been discussed in detailed in the following section.

Table 4.21: Production and Productivity of Important Crops in Satara and Maharashtra 2006-07

Crops	Production ('00 tones)		District share (% to State production)	Productivity (Kg/ha)			Yield Gap (kg/ha) to national average
	Satara	Maha.		Satara	Maha.	India	
Rice	933	25697	3.63	2073	1680	2131	58
Wheat	781	18710	4.17	1782	1520	2708	926
Jowar	1534	37817	4.06	754	819	844	90
Bajra	246	10586	2.32	292	729	886	594
Total Cereals	3813	105886	3.60	947	1101	1815	868
Gram	193	9251	2.09	622	707	845	223
Tur	30	8146	0.37	509	726	650	141
Total Pulses	358	23048	1.55	416	602	612	196
Total Foodgrains	4171	128933	3.24	854	959	1756	902
Groundnut	520	4038	12.88	836	898	866	30
Safflower	11	1686	0.65	479	606	631	152
Sunflower	14	1978	0.71	500	549	567	67
Total Oilseed	865	37251	2.32	874	965	916	42
Sugarcane	44854	662774	6.77	84	78	69	-15

Notes: Production of cotton in '00 bales of 170 kg each and Productivity of Sugarcane in tones per hectare

Source: Office of the Commissionerate of Agriculture, Pune.

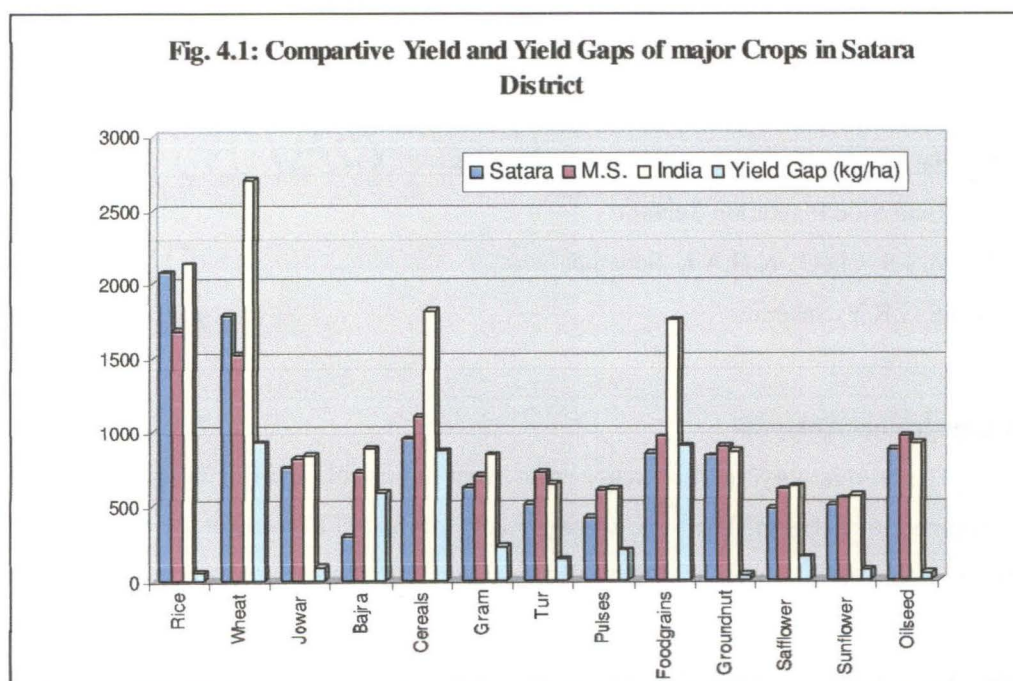


Table 4.22: Present Growth rate of Production of Various Crops in Satara district (2002-03 to 2006-07)

Sr. No.	Crop	Growth rate (%)
1	Paddy	(-) 5.4
2	Bajra	20.1
3	Ragi	(-) 28.3
4	Sunflower	21.1
5	Soyabean	4.4
6	Ground nut	(-) 17.6
7	Tur	(-) 1.5
8	Mung	(-) 4.9
9	Sugarcane	9.3
10	Gram	44.5
11	Wheat	12.0
12	Rabbi jowar	36.9
13	Cereals	5.0
14	Pulses	10.2
15	Oilseeds	(-) 3.9

Table 4.23: Growth rate of crop wise GVA (at constant 1999-2000 prices)-Tenth Five year Plan (2002-03 to 2006-07)

Sr. No.	Crop	Growth Rate-1999-2000 to 2005-06 (per cent)	Growth Rate-10 th Five Year Plan\$ (per cent)
1	Cereals	-2.22	5.12
2	Pulses	0.4	31.57
3	Oil seeds	0.66	-0.15
4	Sugar	-6.6	-4.76
5	Fibre	-44.83**	-28.42
6	Drugs & Narcotics	-10.30	0.48
7	Condiments & Spices	-7.11	-3.81
8	Fruits & Veg.	21.74***	28.74
9	Fodder	1.2*	1.45
10	Byproducts	-0.38	6.62
11	Floriculture	14.08***	6.68
12	Kichen Garden	1.04*	1.04
	TOTAL AGRICULTURE	6.13**	11.51
	ANIMAL HUSBANDRY		
1	Milk	-1.89	0.20
2	Meat & Meat Products	1.55	-12.24
3	Poultry & Poultry Products	-8.22***	-11.07
4	Others	-4.98**	-6.11
	VALUE OF OUTPUT	-2.34	-3.18
	Fisheries	-2.67	5.65
	Agriculture+ Allied Sectors	5.08*	9.6

Notes : \$- 10 FYP Period-data available 2002-03 to 2005-06, *, ** and *** are significant at 10, 5 and 1 percent level, remaining figures are non significant.

Research/Extension/Adoption Gap Analysis:

The crop-wise analysis of gap in technology adoption by the farmers of the Satara district is presented below.

Crop: Paddy

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Preparatory Tillage	Ploughing, Hoeing Puddling	Hoeing, Puddling	P	Lack of awareness
2	Sowing Time	July	July	N	
	1. Spacing	Dibbling 20 X 15 cm Sown 22.5 cm	Dibbling 20 X 15 cm Sown 22.5 cm	N	
	2. Method	Dibbling Transplanting	Dibbling transplanting	N	
3	Varieties	Karjat Jaya , R 24 , Indrayani, Sahyadri	Local, Karjat Jaya , R 24 , Indrayani, Sahyadri	P	Lack of awareness
4	Seed rate per ha	Traspl.40-45 kg Sown 80-100 kg	35-40 kg 70- 80 kg	P	Lack of awareness
5	Seed treatment	Brine soln	No Treatment	F	Lack of awareness
6	Organic manure	10 tone /ha Glycerdia	Nil	P	Non availability / financial problem
7	Fertilizer kg/ha				
	1. Basal 2. Top dressing	100:50:50 50	15:15:15 46	P	Financial problem
8	Fertilizer application				
	1. Basal 2. Top dress	Urea brickets Line application	broadcasting broadcasting	F P	Non availability of Urea brickets Lack of awareness
9	Pest & Disease management	I P M	FFS	P	Lack of awareness
10	Weed management	Mechanical and chemical	mechanical	P	Lack of awareness
11	Water management	As per prescribed by SAU	As Per availability	N	-
12	Method of harvesting	Vaibhav sickle	Local sickle	P	Lack of awareness
13	Yield	40-50 q/ha	20-25 q/ha		

Note: P- Partial, N- No

Analysis of Gaps

- 1) Less adoption of improved & high yielding hybrid varieties
- 2) No adoption of four point planting technology in paddy
- 3) No application of biofertilizers for paddy.
- 4) Imbalance fertilizer application & low application organic manure
- 5) Low application of nitrogenous fertilizers
- 6) Low yield due to leaching of fertilizers from paddy field
- 7) Low plant protection measures for paddy
- 8) Low yield due to high plant population

Crop: Jowar (Kharif)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	June July first week	As per recommended	N	
	2.method	Sowing 45X15 cms	Sowing 30X10 cms	P	Higher Expectation of both grain and fodder
2	Varieties	CSH 5 ,CSH 9, CSH 14 CSH 16 CSH 17 CSH 18 Phule amruta	As recommended	N	-
3	Seed rate per ha	10 kg	10 Kg	N.	
4	Seed treatment	a.4 gms thirum/10 kg of seed	Seed already treated	N	Lack of awareness
		b. azatobacter PSB	nil	F	
5	Organic manure	10 tone /ha	-	P	Non availability & financial problem
6	Fertilizer kg/ha				
	1.Basal 2. Top dressing	50:50:50 50	15: 15: 15 46	P P	Financial problem
7	Fertilizer use- Basal	Two bowl seed drill	seed drill and broadcasting	P	Negligence -
	Top dress	Line application	broadcasting	F	Negligence
9	Pest & Disease management	Chemical	Not practice	F	Lack of awareness
10	Weed management	Mechanical and chemical	mechanical	P	Financial problem
11	Water management	As per schedule	rained	P	Depending upon rainfall
12	Method of harvesting	Uprooting and cutting at ground level	Uprooting & cutting at ground level	N	
13	Yield	40- 50 q /ha	25 –30 Q /ha	P	Poor management practice

Analysis of Gaps

- 1) Sowing of Jowar on light type of soils
- 2) Negligence towards in-situ-soil moisture conservation activities
- 3) No adoption of recommended sowing spacing and plant population
- 4) No seed treatment and seed inoculation
- 5) No seed inoculation with biofertilizers
- 6) No availability of improved variety & pure seed,
- 7) No application of organic manures
- 8) No application basal fertilizers doses at sowing
- 9) No of protective irrigation
- 10) No timely inter-culture operations
- 11) Negligence towards timely plant protection

Crop : Soyabean

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	1 st week of June	As recommended	N	
	2.method	Sowing 30 X10 , Dibbling	Sowing 30 X10 ,	N	
2	Varieties	MACS 450 , D 228 PK 1029 , JS 335	JS 335	N	
3	Seed rate per ha	75 kg	75 kg	N.	
4	Seed treatment	a 4 gms thirum /1 kg of seed	Occasional	P	Negligence
		b. Rhizobium PSB	Occasional	P	
5	Organic manure	10 tone /ha	-	F	Non availability & financial problem
6	Fertilizer kg/ha 1.Basal	75:00:00	18:46	P	Financial problem
7	Method of fertilizer use Basal	Two bowl seed drill At sowing	Two bowl seed drill Broadcasting	P	negligence-
8	Micronutrients	As per soil Health	Application	F	Lack of awareness
9	Pest& Disease management	IPM	Only chemicals	P	Financial problem
11 0	Weed management	Mechanical and chemical	mechanical	P	Financial problem and awareness
11	Water management	As per schedule	As per Schedule	N	
12	Method of harvesting	Uprooting	uprooting	N	-
13	Yield	25-30 q /ha	15-20 Q /ha	P	Poor management practice

Analysis of Gaps

- 1) Sowing of Soyabean on light soils
- 2) Soyabean is taken as rainfed crop
- 3) No availability of good quality certified seed
- 4) No application of organic manures and basal fertilizers
- 5) No timely sowing, seed rate and plant population/spacing
- 6) No seed treatment with fungicide, No seed inoculation with *R. japonicum*
- 7) Lack of protective irrigation during critical growth stages
- 8) Lack of timely inter-culture
- 9) Integrated pest management is not followed.

Crop: Groundnut (Kharif)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	1.Time	2 nd week of June to 2nd week of July	2 nd week of June to 2nd week of July	N	
	2.method	Sowing 30 X10 , 45 X 15 cms Dibbling/two bowl seed drill	30X10 single bowl seed drill	P	Lack of awareness
2	Varieties	M 13 ,TMV 10, JL24,SB 11,TAG 24, JL 28	JL 24	P	Lack of awareness & financial
3	Seed rate per ha	100 –120 kg	100-120 kg	N.	
4	Seed treatment	a.4 gms thirum /1 kg of seed	No practice	F	Negligence
		b. RhizobiumPSB	-	F	
5	Organic manure	25-40 ton /ha	Nil	P	Non availability
6	Fertilizer kg/ha 1.Basal 2. Top dressing	50:75:00	27:69:00	F	Financial problem
		00:00:00	urea		
7	Method of fertilizer use-Basal	Two bowl seed drill At sowing	broadcasting	F	financial problem
8	Pest & Disease management	IPM	Not practice	F	Lack of awareness
9	Weed management	Mechanical and Basaline & goal 25 kg / ha	mechanical	P	Financial problem and awareness
10	Water management	As per schedule	rainfed / as per availability	P	-
11	Method of harvesting	uprooting	uprooting	N	-
12	Yield	18-20 q /ha	11-12 Q /ha	P	

Analysis of Gaps

- 1) Unavailability of improved high yielding variety pure seed
- 2) Recommended layout for sowing not adopted
- 3) Integrated nutrient management practices are not followed.
- 4) Traditional method of sowing, improper seed rate, spacing and plant population
- 5) No seed treatment with fungicides
- 6) No seed inoculation with biofertilizers
- 7) Delay in sowing leads to late harvest in monsoon, causes losses due to sprouting
- 8) No application of soil amendments like gypsum
- 9) No application of micro nutrients as per soil testing
- 10) Timely inter culturing and weed management not followed.
- 11) Water management during critical growth stages is not followed that causes reduction in yield

Crop: Wheat

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	1-15 Nov	Up to 15 th Dec.	P	harvest of kharif crop
	2.method	Sowing 22.5 cms N-S	Seed drill 30 X 10 cm	P	negligence of farmer
2	Varieties	HD 2189 LOK 1, NIAW 301,Godavari	As recommended	N	
3	Seed rate per ha	75-100 kg	100 –125 kg	N.	
4	Seed treatment	a.4 gmsThirum /1 kg of seed	No practice	F	Lack of awareness
		b. azatobacter PSB	-	F	
5	Organic manure	10 tone /ha	-	P	Non availability & financial problem
6	Fertilizer kg/ha	120:60:40 50:00:00	19: 19: 19 45	P	Lack of awareness
	1.Basal 2. Top dressing				
7	Method of fertilizer use	Two bowl seed drill At sowing	broadcasting & seed drill	P	Negligence -
	1. Basal Top dress				
8	Pest& Disease management	chemical	Not practice	F	Lack of awareness
9	Weed management	Mechanical and chemical	Manually	P	Financial problem and awareness
10	Water management	As per schedule	As per Schedule	N	
11	Method of harvesting	Vaibhav sickle	Machinery	P	Lack of awareness
12	Yield	40-45 q /ha	25-30 Q /ha	P	Poor management practice

Analysis of Gaps

- 1) Less application of recently released of improved variety seed.
- 2) Sowing of wheat on light to light medium soils
- 3) No adoption of integrated nutrient management
- 4) No water management as per critical growth stages
- 5) Lack of weed management

Crop : Gram

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	1. Time	2 nd week of oct to 1 st week of nov	2 nd week of oct to dec.end	P	harvest of kharif crop
	2. Method	Sowing 30 X10 cms Dibbling	30 X10 cms	N	
2	Varieties	Vijay vishavas virat vishal	Local & Improved	P	Lack of awareness
3	Seed rate per ha	60-100 kg	75 Kg	P.	Lack of awareness
4	Seed treatment	a.4 gms thirum /1 kg of seed	No practice	F	Negligence
		b.azatobacter PSB, Rhizobium	-	F	
5	Organic manure	10 tone /ha	-	P	Non availability
6	Fertilizer kg/ha			P	Financial problem & awareness
	1. Basal	25:50:00	20: 40: 00		
7	Method of fertilizer use		Two bowl seed drill & broadcasting	P	Negligence
	2. Basal	Two bowl seed drill			
8	Pest& Disease management	Pest Control & IPM	Not practice	F	Lack of awareness & Financial problem
9	Weed management	Mechanical & chemical	mechanical	P	Financial problem and awareness
10	Water management	As per schedule	As per schedule	N	
11	Method of harvesting	uprooting	uprooting	N	-
12	Yield	20-25 q /ha	12-15 Q /ha	P	Poor manage. practice

Analysis of Gaps

- 1) Non adoption of soil selection and recommended land preparation
- 2) Poor germination due traditional methods of sowing
- 3) Late sowing of crop
- 4) No protective irrigation is given
- 5) No adoption of recommended plant population and spacing
- 6) No seed treatment with fungicides
- 7) No seed inoculation with biofertilizers
- 8) Application of basal chemical fertilizer no followed
- 9) No availability of good quality improved variety seed
- 10) Integrated pest management practices not follo

Crop : Jowar (Rabi) Irrigated

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1. Time	15 Sept – 15 Oct	15 Sept – 15 Nov.	P	Depend on harvest of kharif crop
	2. method Spacing	Sowing with two bowled seed drill Sowing 45X15 cms	Sowing 30X10 cms	P	Exception of both grain and fodder
2	Varieties	CSH 5 ,CSH 9 CSH 14 CSH 16 m 35-1 CSH 18, Phule amruta, mauli, Selection 3	Using hybrid and improved varieties M35-1	P	Lack of awareness
3	Seed rate per ha	10 kg	Less or more	N.	
4	Seed treatment	4 gms sulphur /1 kg of seed azatobacter PSB	Seed already treated	N	Lack of awareness
			-	N	
5	Organic manure	10 tone /ha	-	P	Non availability
6	Fertilizer kg/ha				Lack of awareness & financial. Problem.
	1. Basal	60:60:60	10:26:26	p	
	2. Top dressing	60:00:00	46:00:00		
7	3. Total	120:60:60	56:26:26.		
	Method of fertilizer use	Two bowl seeddrill At sowing	Four cultivar single bowl seeddrill	P	Lack of awareness
	Top dress	Line application	broadcasting	P	Lack of awareness
8	Pest& Disease management	IPM	Not practice	F	Lack of awareness
9	Disease managements	Seed treatment and chemical	Not practice	F	Lack of awareness
10	Weed management	Mechanical and chemical	mechanical	P	Financial problem and awareness
11	Water management	As per schedule	Rainfed and protective irrigation	P	availability of water
12	Method of harvesting	Uprooting and cutting at ground level	Uprooting & cutting at ground level	N	-
13	Yield	irrg. 40-45 q/ha	15-20 q/ha	P	

Analysis of Gaps

- 1) Sowing of Jowar on light type of soils
- 2) Negligence towards in-situ-soil moisture conservation activities
- 3) No adoption of recommended sowing spacing and plant population
- 4) No seed treatment and seed inoculation
- 5) No seed inoculation with biofertilizers
- 6) No availability of improved variety & pure seed,
- 7) No application of organic manures
- 8) No application basal fertilizers doses at sowing
- 9) No of protective irrigation
- 10) No timely inter-culturE operations
- 11) Negligence towards timely plant protection

Crop : Jowar (Rabi) Rainfed

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1. Time	15 Sept – 15 Oct	15 Sept – 30 Oct	P	Depend on harvest of kharif crop
	2. method Spacing	Sowing with two bowled seeddrill Sowing 45X15 cms	Sowing 30X10 cms	P	Exception of both grain and fodder
2	Varieties	CSH 5 ,CSH 9, CSH 14 CSH 16, M35-1 CSH 18, Phule amruta, mauli phule yashoda., Selection 3	Using hybrid and improved varieties M35-1	P	Lack of awareness
3	Seed rate per ha	10 kg	10-12 kg	N.	
4	Seed treatment	4 gms sulphur /1 kg of seed azatobacter PSB	Seed already treated	N	Lack of awareness
			-	N	
			-	N	
5	Organic manure	10 tone /ha	No use O.M.	P	Non availability
6	Fertilizer kg/ha		fertilizer No used	F	Negligence Financial
	1. Basal 2. Top dressing	25:25:00 25:00			
7	Method of fertilizer use	Two bowl seeddrill		F	Lack of awareness
	Basal Top dress	At sowing Line application	- -		
8	Pest & Disease management	IPM	Not practice	F	Lack of awareness
9	Disease managements	Seed treatment and chemical	Not practice	F	Lack of awareness
10	Weed management	Mechanical and chemical	mechanical	P	Financial problem and awareness
11	Water management	As per schedule	Rainfed and protective irrigation	P	availability of water
12	Method of harvesting	Uprooting and cutting at ground level	Uprooting & cutting at ground level	N	-
13	Yield	Rainfed 20-25 q /ha	8-10 Q /ha	P	

Analysis of Gaps

- 1) Sowing of Jowar on light type of soils
- 2) Negligence towards in-situ-soil moisture conservation activities
- 3) No adoption of recommended sowing spacing and plant population
- 4) No seed treatment and seed inoculation
- 5) No seed inoculation with biofertilizers
- 6) No availability of improved variety & pure seed,
- 7) No application of organic manures
- 8) No application basal fertilizers doses at sowing
- 9) No of protective irrigation
- 10) No timely inter-culture operations
- 11) Negligence towards timely plant protection

Crop : Kidney Bean (Ghevada)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1. Time	2 nd week of June to 2 nd week of July	As per recommended	N	--
	2. method	Sowing 30 X10 ,	30X10 cm	N	---
2	Varieties	varun, Arka Komal, Contender,	Local waghera	P	Lack of awareness financial
3	Seed rate per ha	100 ,kg	100- kg	N.	--
4	Seed treatment	a. 4 gms thirum /1 kg of seed	No practice	F	Negligence
		b. Rhizobium PSB	-	F	
5	Organic manure	10 tone /ha	2 tone / ha	P	Non availability
6	Fertilizer kg/ha 1. Basal 2. Top dressing 3. Total	25:50:00	---	F	Financial problem & awareness.
		00:00:00			
		25:50:00			
7	Method of fertilizer use Basal	Two bowl seeddrill At sowing	---	F	Negligence
9	Pest & Disease management	IPM	Not practice	F	Lack of awareness
11	Weed management	Mechanical and chemical	mechanical	P	Financial problem and awareness
12	Water management	As per schedule	Rainfed	p	Protective Irrig. If available
13	Method of harvesting	uprooting	uprooting	N	-
14	Yield	20-22 q /ha	12- 15 Q /ha	P	.

Analysis of Gaps

- 1) No adoption of in-situ-soil moisture conservation measures
- 2) Unavailability of good quality improved variety seed
- 3) No of seed treatment and seed inoculation with biofertilizers followed
- 4) No application of organic manures and basal chemical fertilizers
- 5) No protective irrigation facilities during dry spells.
- 6) No adoption of integrated pest management
- 7) No adoption of recommended intercropping.
- 8) No adoption of recommended plant populations and spacing as per particular variety.
- 9) No Adoption of timely inter-culture operations like hoeing and weeding.

Crop: Sugarcane (Suru)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	Jan to Feb.	Jan to Feb	N	--
	2.method	Single eye bud Belt System. Two eye bud Three yen bud	--- --- Three eye bud sets	P	Negligence
2	Varieties	Co-714, co- 8014. 86032,com- 7527,	As recommended	N	---
3	Seed rate per ha	25000, sets /ha.	As recommended	N	---
4	Seed treatment	1] 1% Fungicide + insecticide dipping sets. 2] Azato + Aceto+ psb bio fertilizer.	No application	F	Lack of awareness
5	Organic manure	10 ton/ha.	No application	F	Non availability
6	Fertilizer kg/ha				
	1.Basal	25:60:115	10:26:26	p	Lack of awareness
	2. Top dressing	100:00:00 25:00:00 100:55:00	46:00:00 00:00:00 56:52:52		
	3. Total	250.115:115.	112:78:78		
7	Method of fertilizer use- Basal	Sowing in furrow	Broad casting	p	Lack of awareness
	Top dress	Line placement	broadcasting	p	Negligence
8	Micronutrients	As per soil condition	---	F	Negligence
9	Pest& Disease management	I.p.m	Partial spray	P	Lack of awareness
10	Weed management	Manually & chemically	manually	N	
11	Water management	As per schedule & drip irrigation.	traditional	p	availability of water & lack of awareness.
12	Method of harvesting	Manually	manually	N	
13	Yield	100 ton/ ha.	65 tons / ha.	p	Poor management practice

Analysis of Gaps

- 1) Lack of awareness to the seed treatment
- 2) Non availability of organic manure
- 3) Problem of fertilizer utilization
- 4) Problem of water management
- 5) Less knowledge of method of harvesting

Crop : Sugarcane (Pre-seasonal)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1. Time	Oct to nov	Oct to november	N	--
	2. method	Single eye bud Belt System. Two eye bud Three yen bud	--- --- Three eye bud sets	P	Negligence
2	Varieties	Co-740, co- 8014. 86032, com- 88121 co-94012,	As recommended	N	---
3	Seed rate per ha	25000, sets /ha.	As recommended	N	---
4	Seed treatment	1] 1% Fungicide + insecticide dipping sets. 2] Azato + Aceto+ psb bio fertilizer.	No application	F	Lack of awareness
5	Organic manure	10 ton/ha.	No application	F	Non availability
6	Fertilizer kg/ha 1. Basal 2. Topdressing 3. Total	34:85:85 136:34:00 34:00:00 136:85:85 340:170:170.	10:26:26 46:00:00 00:00:00 56:52:52 112:78:78	p	Lack of awareness
7	Method of fertilizer use 3. Basal	Sowing in furrow	Broad casting	p	Lack of awareness -
	4. Top dress	Line placement	broadcasting	p	Negligence
8	Micronutrients	As per soil condition	---	F	Negligence
9	Pest& Disease management	I.p.m	Partial spray	P	Lack of awareness
10	Weed management	Manually & chemically	manually	N	
11	Water management	As per schedule & drip irrigation.	traditional	p	unavailability of water & lack of awareness
12	Method of harvesting	Manually	manually	N	- --
13	Yield	125 ton/ ha.	75 tons / ha.	p	Poor management practice

Analysis of Gaps

- 1) Lack of awareness to the seed treatment
- 2) Problem of fertilizer utilization
- 3) Problem of water management
- 4) Less knowledge of method of harvesting

Crop : Sugarcane (Adsali)

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing Time	July to Aug	July to Aug	N	--
	Sowing method	Single eye bud Belt System. Two eye bud Three yen bud	--- --- Three eye bud sets	P	Negligence
2	Varieties	Co-740, co- 88121. 86032.	As recommended	N	---
3	Seed rate per ha	25000, sets /ha.	As recommended	N	---
4	Seed treatment	1] 1% Fungicide + insecticide dipping sets. 2] Azato + Aceto+ psb, bio fertilizer.	No application	F	Lack of awareness
5	Organic manure	10 ton/ha.	No application	F	Non availability
6	Fertilizer kg/ha				
	1. Basai	40:85:85	10:26:26	p	Lack of awareness
	2. Top dressing	160:00:00	46:00:00		
		40:00:00	00:00:00		
3. Total	160:85:85 400:170:170.	56:52:52 112:78:78			
7	Method of fertilizer use-Basal	Sowing in furrow	Broad casting	p	Lack of awareness
	Top dress	Line placement	broadcasting	p	Negligence
8	Micronutrients	As per soil condition	---	F	Negligence
9	Pest& Disease management	I.P.M.	Partial spray	P	Lack of awareness
10	Weed management	Manually & chemically	manually	N	
11	Water management	As per schedule & drip irrigation.	traditional	p	unavailability of water & lack of awareness
12	Method of harvesting	Manually	manually	N	- --
13	Yield	150 ton/ ha.	88, tons / ha.	p	Poor management practice

Analysis of Gaps - Sugarcane (Suru) / Pre seasonal / Adsali

- 1) Selection not suitable for sugarcane plantation
- 2) No recommended land preparation
- 3) Indiscriminate application of irrigation water
- 4) No of proper crop rotations
- 5) Non application of required quantity of organic manures to soil

- 6) No application of green manuring
- 7) Untimely sugarcane planting other than recommended seasons
- 8) Lack of availability of improved variety good planting material
- 9) Use of over aged planting material
- 10) Lack of seed treatment with fungicides and bio fertilizers
- 11) No fertilizer management, indiscriminate, untimely faulty method of application
- 12) No paired row planting method
- 13) Traditional method of planting, closed planting, more plant population
- 14) No timely weed management
- 15) No water drainage in sugarcane fields.
- 16) Recommended earthing up operations not followed
- 17) No adoption of intercrops like potato, onion, cabbage etc

Sugarcane Ratoon

- 1) Improper cutting of crop
- 2) No selection of variety suitable for Ratoon
- 3) No gap filling in planted sugarcane crop
- 4) No fertilizer management followed for ratoon crop
- 5) No timely harvesting of crop i.e. before February.
- 6) Crop harvested after February not suitable for ratooning
- 7) No planting management of planting sugarcane crop
- 8) Suitable for ratooning
- 9) No of proper water drainage in sugarcane fields
- 10) No timely weed management in ratoon crop
- 11) Late harvesting of Ratoon crop

Crop: Potato

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	Kharif-june- july Rabi – oct - nov	As recommended	N	--
	2.method	Dibbling in furrow.	As recommended	N	--
2	Varieties	Kupri chadramukhi. Kupri Jyoti.	As recommended	N	--
3	Seed rate per ha	15 qt /ha	As recommended	N	--
4	Seed treatment	Thirum @ 3gm + chlorinated water.	1% bavistin	P	Lack of awareness
5	Organic manure	10 ton/ha	5-6 to/ha	P	Unavailability
6	Fertilizer kg/ha 1.Basal 2 top dress	100:60:120 50:00:100	25:50:50 urea	p	Lack of awareness
7	Method of fertilizer use Basal	Sowing in furrow	Broadcasting	P	Negligence
8	Weed management	manually	manually	N	--
9	Water management	As per schedule	As schedule	N	--
10	Method of harvesting	Manually digging	Manually digging	N	--
11	Yield	20 to 30 ton/ha.	15 to 20 ton/ha	P	Poor management

Analysis of Gaps -

- 1) Improper use of fertilizers in cultivation of potato
- 2) Lack awareness use of Organic manure
- 3) Improper methods of use of fertilizers
- 4) Les productivity due to the poor management

Crop: Tomato

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	Kharif-June-July Rabi – Sept. – Oct.	As recommended	N	--
	2.method	Transplanting in furrow.& furrow. 60*45 cm	As recommended	N	--
2	Varieties	Pusa rubi . Dhanshri Bhagyeshri.Rajshri	As recommended & Private.	P	Lack of awareness
3	Seed rate per ha	150 to 200 gm/ha	As recommended	N	--
4	Seed treatment	Thirum @ 4gm + Trichoderma viridy	1% bavistin	P	Lack of awareness
5	Organic manure	10 ton/ha	5-6 to/ha	P	Un availability
6	Fertilizer kg/ha 1.Basal	50:50:50 50:00:00	10:26:26 15:15:15	p	Lack of awareness
7	Method of fertilizer use Basal	Transplanting	transplanting	N	---
8	Weed management	manually	manually	N	--
9	Water management	As per schedule	As required	N	--
10	Method of harvesting	Manually Picking	Manually picking	N	--
11	Yield	50 to 60 ton/ha.	40 to 50 ton/ha	P	Fluctuation in climate.

Analysis of Gaps -

- 1) Recommended nursery management practices not followed
- 2) No fertilizer management
- 3) Poor water management
- 4) Severe yield losses due to spotted wilt virus
- 5) No integrated pest management followed
- 6) No training and support to tomato crop
- 7) Poor grading practices
- 8) Lack of genuine seed material in public sector and depend more on private sector
- 9) No facility for cold storage & cooling chain
- 10) No processing facilities
- 11) Poor weed management
- 12) Indiscriminate use of insecticides /pesticides
- 13) Severe yield losses due to leaf curl & spotted wilt viru

Crop : Onion

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	Kharif- June- July Rabi – Sept. to Oct. Summer- Jan –Feb.	As recommended	N	--
	2.method	Transplanting – 15*10cm,& 12.5*7.5 cm on flat bed	Ridges & furrows	p	
2	Varieties	N-53, Basvant-780 N -2-4-1.N -257.	Local & N-53	p	Negligence
3	Seed rate per ha	8 to 10 Kg /ha	As recommended	N	--
4	Seed treatment	Thiuram @ 4 gm /Kg seed.	---	F	Lack of awareness
5	Organic manure	10 ton/ha	5-6 to/ha	P	Unavailability
6	Fertilizer kg/ha 1.Basal 2 top dress	50:50:50 50:00:00	10:26:26 15:15:15	p	Lack of awareness
7	Method of fertilizer use Basal	Broadcasting	Broadcasting	N	--
8	Weed management	manually	manually	N	--
9	Water management	As per schedule	As required	N	--
10	Method of harvesting	Manually uprooting	Manually uprooting	N	--
11	Yield	15 to 20 ton/ha.	12 to 15 ton/ha	P	Poor management

Analysis of Gaps -

- 1) Nursery management practices for production seedlings not followed
- 2) More application of N fertilizers leading more vegetative growth and low quality bulb production having low keeping quality
- 3) No application of sulphur, biofertilizers and micronutrients reducing quality and yield of onion.
- 4) Application of excess irrigation water to onion
- 5) Non application of weedicides as per recommendation

Crop : Ginger

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	2 nd fort night of May	As per recommended	N	--
	2.method	Dibbling ,30*10. cm. Raised bed .Ridges & Furrow.	As per recommended	N	.*-
2	Varieties	Mahim , Acc-116. Acc-204,	Mahim	N	--
3	Seed rate per ha	15 Qt/ Ha.	15 Q/Ha.	N	--
4	Seed treatment	Fungicide & Insecticide Trichoderma viridy	Parcial Treatment.	P	Lack of awareness
5	Organic manure	25 ton/ Ha	10 to 15 ton /ha	P	Unavailability
6	Fertilizer kg/ha 1.Basal	00:75:75 60:00:00 60:00:00	25:65:65 46:00:00 00:	P P F	Lack of awareness
7	Method of fertilizer use Basal Top dress	Broadcasting Line placement	Broadcasting Line placement	N	----
8	Weed management	Mechanical & chemical	Mechanical	P	Negligence
9	Water management	As per schedule	As per schedule	N	--
10	Method of harvesting	Manually digging	Manually digging	N	--
11	Yield	15 to 20 ton /ha 30 to 40 ton /ha	10to 15 ton/ ha 15 to 25 ton / ha	P	Selection of variety & pest along with disease

Analysis of Gaps -

- 1) Improper selection of soil and layout
- 2) No availability good quality planting material & high cost of planting material
- 3) No adoption of integrated nutrient management
- 4) Lack of integrated nutrient management
- 5) Poor Water management practices
- 6) Infestation of rhizome fly and root rot
- 7) Poor Plant protection measures undertaken
- 8) Lack of storage, grading value addition and processing

Crop : Turmeric

Sr no	Items of packages	Recommend practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1. Time	2 nd fort night of May	As recommended	N	--
	2method	Dibbling ,30*30. cm. Raised bed .Ridges & Furrow.90*30cm.	As recommended	N	-*
2	Varieties	Rajapuri, waigaon, Krishna, selem. kadappa.	Rajapuri, selem.	N	--
3	Seed rate per ha	25 to30,Qt/ Ha.	As recommended	N	--
4	Seed treatment	Fungicide & Insecticide Trichoderma viridy	Parcial Treatment.	P	Lack of awareness Lack of awareness
			No applied	F	
5	Organic manure	25 ton/ Ha	15 to 20 ton /ha	P	Unavailability
6	Fertilizer kg/ha 1. Basal	00:37:37 63:00:00 62:00:00	45:116:60 19:19:19:	P	Traditional concept.
7	Method of fertilizer use Basal	Broadcasting Line placement	Broadcasting Line placement	N	--
8	Weed management	Mechanical & chemical	Mechanical	P	Neglience
9	Water management	As per schedule	As per schedule	N	--
10	Method of harvesting	Manually digging	Manually digging	N	--
11	Yield	225 ,ton /ha	250,ton / ha	N	--

Analysis of Gaps -

- 1) Improper selection of soil and layout
- 2) Non availability of quality planting material & high cost of planting material
- 3) No adoption of integrated nutrient management
- 4) Lack of integrated nutrient management
- 5) Poor Water management practices
- 6) Infestation of rhizome fly and root rot
- 7) Poor Plant protection measures undertaken
- 8) Lack of storage, grading value addition and processing

Crop : Bajara

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	Jun to July	Jun to July	N	--
	2.method	Sowing –on ridges & furrow .45*15 cm	Traditional – 30*10 cm.	p	Lack of awareness
2	Varieties	ICTP-8203. Hybrid-Rhrbh-8609. Rhrbh-8924.	Hybrids & Improved .	p	Lack of awareness
3	Seed rate per ha	3 to 4 Kg/ ha	3 to 4 Kg/ ha	N	-
4	Seed treatment	Brine solution	-- ---	F F	Lack of awareness
5	Organic manure	10 ton/ha	No application	F	Lack of finance
6	Fertilizer kg/ha 1.Basal	60:30:00	No application	F	Lack of finance
	. Total	60:30:;00			
7	Method of fertilizer use Basal	Sowing with two bowl seed drill	No application	F	Lack of awareness
8	Weed management	Manually	manually	N	--
9	Water management	As per schedule	Rainfed	P	Lack of water
10	Method of harvesting	Manually	manually	N	--
11	Yield	25 to 30 qt/ha	15 to20 qt/ ha.	p	Poor management

Analysis of Gaps

- 1) Sowing of Bajra crop on light to very light soils
- 2) Land preparation without considering natural slope
- 3) Negligence towards In-situ-soil moisture conservation practices
- 4) Improper seed bed preparation leading to low germination
- 5) Non-adoption of recommended plant spacing as per soil types
- 6) No application of organic manures
- 7) No application of basal fertilizers
- 8) No seed inoculation with biofertilizers
- 9) Delay in sowing due to arrival of rains
- 10) No protective irrigation

Crop: Cotton

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Sowing 1.Time	15 Feb – 15 March	15 March to 15 April	P	Late harvest of rabbi crop
	2.method	Dibbling on Ridge and furrow 75X 95 cms 120 X 90 heavy soil	Dibbling on Ridge and furrow 90X 90 cms	N	----
2	Varieties 1. Improved 2. Hybrid	LR 5166 , Varlaxmi, H - 4	LRA 5166 Varlaxmi, H - 4, Ajit 11	N	----
3	Seed rate per ha 1. Improved 2. Hybrid 3.	2.5-3 kg	2.5 kg	P	Error in sowing implement
4	Seed treatment	Carbofeuron 50% @ 100gm / 1 kg	Treated seed used	N	----
5	Organic manure	10 –12 tone /ha	11 tone /ha	N	--
6	Fertilizer kg/ha			P	Non Available credit
	1.Basal	20:50:50	00:00:00		
	2. Top dressing	40:00:00	25:69:69		
	3.Duri.Fiowring	40:00:00	00:00:00		
4. Total	100:50:50	25:69:69			
7	Method of fertilizer use-Basal	Broadcasting,	-	N	-
	Top dress	Ring Method	Ring Method	N	
8	Pest& Disease management	Methyl demotion 8 ml Endosulfan 20 ml/10 lit 4 spraying	3 – 4 spraying Endosulfan	F	Non Available credit
9	Disease managements	Bordo mix 0.6 % & coc 15 gm 10 lit water , thimate soil apply.	--	F	Lack of awareness
10	Weed management	Mechanical and chemical	mechanical	P	Financial problem and awareness
11	Water management	4-5 critical stages by flood & drip	10-12 flooded	N	--
12	Method of harvesting	3-4 Picking	4-5 Picking	N	-
13	Yield	20-22 qt/ha	15q/ha	P	-

Analysis of Gaps - Cotton

- 1) Maximum area under cotton cultivation is in kharif season depends upon monsoon
- 2) Sowing depends on sufficient rainfall, many times sowing is late
- 3) Sowing cotton on light to medium light soils limiting soil moisture
- 4) Low of adoption of improved cultivation practices
- 5) No In situ moisture conservation practices
- 6) Less plant population per hectare
- 7) Protective irrigation facilities are not available
- 8) No application of organic manures
- 9) No application of basal fertilizers as per soil test
- 10) No adoption of integrated pest management
- 11) No application of micro nutrients
- 12) Sowing of Bt. Cotton on light soils
- 13) No seed treatment with bio fertilizers & bio pesticides
- 14) No application of integrated cotton cultivation practices
- 15) Lack of awareness about clean picking and storage
- 16) Lack of grading and admixture of dirt, dust, leaves etc in cotton during storage and marketing
- 17) No group approach in marketing
- 18) No intercropping in cotton
- 19) No crop rotations followed after cotton
- 20) No awareness about organic cultivated cotton practices
- 21) No availability of extra long staple varieties.

Crop : Chiku

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Planting 1.Time	Onset of monsoon June to September	June to September	N	
	2.method	Pit 10 X10 mt	Pit 10 X10 mt	N	
2	Varieties	Kali patti	Kali patti	N	
3	Plants per ha	100	100	N	
4	Planting material	Side graft	Side graft	N	
5	Organic manure	50 kg FYM per plant	10 kg ----	P	Lack of awareness & financial problem
6	Fertilizer gms/plant 1.Basal 2. top	500:250:500 500:250:500	100:50:100 ---	P	Lack of awareness
7	Micronutrients	As per soil health		F	Lack of soil testing & financial problem
8	Pest& Disease management	Chemical and mechanical		F	Lack of awareness
9	Weed management Around plant Between Line	Mechanical and chemical	mechanical	P	negligence
10	Water management	As per schedule	rainfed	P	Unavailability of water
11	Mulching	With grasses	partial	P	negligence
12	Method of harvesting	Manually	Manually	N	
13	Yield	150-200 kg/plant	75-100 kg /plant	P	Poor management

Analysis of Gaps

- 1) No proper planting distance followed in plantation
- 2) No proper pollination management
- 3) No of fertilizer management
- 4) No water management practices followed
- 5) Unavailability of irrigation during summer season
- 6) Negligence towards control of Insect pest

Crop : Custard apple

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	planting 1.Time	June to September	June to September	N	
	2.method	Pit 5 X 5 mt	As recommended	N	
2	Varieties	Local & selection Bala nagar	Local & selection Bala nagar	N	
3	Plants per ha	400	400	N	
4	Planting material	In situ budding Approach graft	Seedling plant	P	Non availability of grafts
5	Organic manure	5 kg FYM per plant	2 kg	F	Lack of manure
6	Fertilizer Gms/plant 1.Basal	125:125:125 125:000:000	50:50:50	P	Lack of awareness & financial problem
	2. top				
7	Micronutrients	As per soil health	Nil	F	Lack of soil testing and financial
8	Pest& Disease management	Chemical and clean garden		F	Lack of awareness
9	Disease management	Chemical and clean garden		F	Lack of awareness
10	Weed management Around plant	Mechanical and chemical	mechanical	P	Labour problem
	Between Line				
11	Water management	As per schedule	Traditionally	P	Un availability of water
13	Method of harvesting	Hand picking	Hand picking	N	
14	Yield	50-100 fruits/plant	15-50 fruits /plant	P	Poor management

Analysis of Gaps -

- 1) No proper planting distance followed in plantation of custard apple
- 2) No proper pollination management
- 3) No bahar treatment in custard apple.
- 4) No of fertilizer management
- 5) No water management practices followed
- 6) Unavailability of irrigation during summer season
- 7) Negligence towards control of mealy bugs affecting quality and rates

Crop: Grape

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Planting Time	January	January	N	--
	method	Graft / budding	As recommended	N	--
2	Varieties	Thomsen seedless Sonacca, Tas A Ganesh, Sharad seedless	As recommended	N	--
3	Plants per ha	2222	2222	N	--
4	Seed treatment	1% fungicide	As recommended	N	--
5	Organic manure	25 ton/ha	15 to 15 ton /ha	P	Unavailability
6	Fertilizer Kg/ha. 1. Basal 2. top	500:250:300 400:250:400	As recommended	N	--
7	Micronutrients	As per soil test	As recommended	N	--
8	Pest & Disease management	IPM	As recommended	N	--
9	Weed management Around plant Between Line	Mechanical & chemical	As recommended	N	--
10	Water management	As per schedule	As per schedule	N	--
11	Intercultural operation-Tanning, Pruning, Banar				--
		As per schedule	As per schedule	N	
12	Method of harvesting	Manually	Manually	N	--
13	yield	20 to 40 ton /ha	20 to 30 ton/ha	P	Fluctuation in climatic condition.

Analysis of Gaps

- 1) Frequent pest & disease incidence
- 2) Unavailability and higher cost of skilled labour
- 3) Lack of local processing units
- 4) Unavailability of Pink berry resistant grape varieties
- 5) Pink berry, water berry, sterility of vines and lack of tissue analysis
- 6) Water scarcity experienced after April pruning operations
- 7) Indiscriminate application of chemical fertilizers and pesticides resulting into higher percentage of residues in fruits
- 8) Increasing infection of powdery mildew, downy mildew and anthracnose leaf spots on grapes vine
- 9) Increasing attack by major grape vine pests like mealy bugs, leaf eating Caterpillar, borer and mites
- 10) Leaf chlorosis, immature cane, uneven maturity of grapes, shot berries is more serious problems

Crop: Tamarind

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	Planting 1.Time	Onset of monsoon June to September	July to September	N	----
	2.method	1 M3 Pit 10 X 10 Mt	As per recommended	N	
2	Varieties	pratistan	Local & Improved	P	Lack of awareness
3	Plants per ha	100	100	N	--
4	Planting material	Grafts/ seedlings.	Grafts seedlings	N	-
5	Organic manure	50 kg FYM per plant	Nil	F	Unavailability
6	Fertilizer Gms/plant 1.Basal	500:250:250	Nil	F	Lack of awareness & Financial problem
7	Micronutrients	As per Soil health	Nil	F	Lack of awareness
8	Pest& Disease management	Chemical and mechanical	Nil	F	Lack of Motivation
9	Weed management around plant between Line	Mechanical and chemical	No	F	Financial problem
10	Water management	As per schedule	rained	P	Shortage of water.
11	Mulching	With grasses	Nil	F	Lack of awareness
12	Method of harvesting	manually	Manually	N	--
13	yield	50 to150 Kg/plant	50 to 70 Kg/plant	P	Poor management

Analysis of Gaps

- 1) No proper planting distance followed in plantation
- 2) No proper pollination management
- 3) No of fertilizer management
- 5) No water management practices followed
- 6) Unavailability of irrigation during summer season
- 7) Negligence towards control of Insect pest

Crop: Pomegranate

Sr no	Items of packages	Recommended practice	Existing practice	Gap	Specific reason for the gap
1	planting 1.Time	Onset of monsoon June to September	July to September	N	--
	2.method	30*30 cm Pit 5 X 5 Mt	As per recommended	N	--
2	Varieties	Ganesh. Bhagva	As recommended	N	--
3	Plants per ha	400	400	N	--
4	Planting material	Air larae	Air larae	N	-
5	Organic manure	10 kg FYM per plant	As recommended	N	--
6	Fertilizer Gms/plant 1.Basal	50:325:250	As recommended	N	--
	2. top	300:000:000			
7	Micronutrients	As per Soil health	Application	N	---
8	Pesi& Disease management	IPM	IPM	N	--
10	Weed management Around plant Between Line	Mechanical and chemical	mechanical	N	--
11	Water management	As per schedule	As recommended	N	
12	mulching	With grasses	Partially	p	Lack of awareness
13	Special Practice	Use of trichoderma vindy	Nil	F	negligence of farmers
14	Method of harvesung	Manually	Manually	N	----
15	yield	100-150 fruits /plant	100-125 fruits /plant	P	Poor management

Analysis of Gaps –

- 1) Improper land selection
- 2) Improper planting distance
- 3) No adoption of recommended varieties
- 4) No clean cultivation practices followed
- 5) Lack of bahar treatment
- 6) Severe yield losses & reducing quality due to oily spot disease
- 7) No fertilizer management
- 8) Losses due to nematode infection
- 9) Lack of pruning techniques
- 10) No water management
- 11) No proper interculturing
- 12) Heavy attack of fruit fly

Processing, Storage and Marketing Gaps-

1. Lack of extension services to the farmers group & KVM for marketing & value addition of agricultural produce;
2. Unavailability of sufficient growers organization of vegetable, fruits & flowers and training to encourage them for marketing, export & value addition;
3. Godown infrastructure, cold storage chain is very limited in every village for cleaning, grading & storage;
4. There is no facility for using godown receipts for pledge loans;
5. Capacity building of co op societies, KVM & growers organization in market intelligence is needed for providing them e-connectivity & market information;
6. Contract farming which promotes backward and forward linkage is still at an infant stage;
7. Unawareness about marketing strategy.
8. There often exists a huge gap between price paid by consumer and that received by farmer which reveals that there are huge marketing margins that are appropriated by middlemen.
9. Limited transport facilities.

4.16 Recommended interventions of the district with detailed action plan with costs:
TOTAL AGRICULTURE (Stream I)

Table 4.24: Detailed action plan with costs

Sr.	Scheme name	Financial Budget					Total Programme
		2007-08	2008-09	2009-10	2010-11	2011-12	
a	Agriculture						
1	Agro- Tourism	000.00	000.00	250.00	200.00	200.00	700.00
2	Agri Exhibition	000.00	000.00	30.00	30.00	40.00	100.00
3	Strengthening of Krishi Vigyan Mandal	000.00	000.00	253.89	316.54	380.34	1269.76
4	Agricultural Mechanization (Urea briquette machines, Improved Seed Drills, Gender friendly tools.)	000.00	000.00	202.57	230.55	320.11	1152.61
5	Establishment of Soil testing laboratories at Taluka Level (10 Nos.)& Enhancement of Soil health	000.00	000.00	50.00	50.00	50.00	250.00
6	Strengthening of RAMETI	000.00	000.00	9.00	9.00	9.00	45.50
7	Strengthening of Seed Processing Unit	000.00	000.00	10.00	10.00	10.00	50.00
8	Establishment of New Seed Processing Unit	000.00	000.00	20.00	20.00	20.00	100.00
9	Development of integrated & Sustainable Farming System	000.00	000.00	50.00	50.00	50.00	250.00
10	Establishment of Bio-Fertilizer & Bio-Pesticide Unit	000.00	000.00	25.00	25.00	25.00	125.00
11	Special Exposure of Foreign Tour	000.00	000.00	50.00	50.00	50.00	250.00
12	Proposal for financial assistance to control Tobacco leaf eating caterpillar and other pest on cotton, soyabean, Tur, & Gram crop	000.00	000.00	25.00	25.00	25.00	75.00
	Total Agriculture	000.00	000.00	2705.00	2705.00	2450.00	7860.74
b	Horticulture						
1	Contract Farming in Horticulture Crops	000.00	000.00	500.00	500.00	564.50	1564.50
2	Vegetable Seed Production	000.00	000.00	10.00	10.00	10.00	30.00
3	Exotic Vegetable Production	000.00	000.00	7.00	7.00	6.00	20.00
4	Maintenance of Green house Subsidy	000.00	000.00	30.00	30.00	40.00	100.00
5	Good Agriculture Pra. for Production of Exportable grapes	000.00	000.00	30.00	30.00	40.00	100.00

6	Good Agriculture Practices for Production of Exportable Pomogranate	000.00	000.00	175.00	175.00	150.00	500.00
7	Good Agriculture Practices for Production of Exportable Onion	000.00	000.00	7.00	7.00	6.00	20.00
8	Innovative Schemme for Spotless banana	000.00	000.00	15.00	15.00	20.00	50.00
9	Import of Strawberry Mother Plant	000.00	000.00	175.00	175.00	150.00	500.0
	Total Horticulture	000.00	000.00	949.00	949.00	986.50	2884.50
c	Water Conservation						
1	Project for reclamation & development of saline soils	000.00	000.00	1000.00	1000.00	1066.00	3066.00
2	Well recharging	000.00	000.00	75.00	75.00	100.00	250.00
3	R.K.V.Y.Based Community Tanks	000.00	000.00	175.00	175.00	150.00	500.00
4	Diversion Bandhara	000.00	000.00	800.00	800.00	762.00	2362.00
	Total Water Conservation	000.00	000.00	2050.00	2050.00	2078.00	6178.00
	TOTAL AGRICULTURE (Stream I)	000.00	000.00	5704.00	5704.00	5515.24	16923.24

TOTAL AGRICULTURE (Stream II)

Strengthening of Existing Schemes (Additional Central Assistance)

Sr.	Tools Used	2007-08	2008-09	2009-10	2010-11	2011-12	Total Programme
a	Agriculture						
1	Cereals Development Programme	27.35	32.00	105.10	118.52	95.80	378.77
2	Oil Seeds Development Programme	51.36	45.12	106.99	174.85	170.76	549.08
3	Pulses Development Programme	30.58	14.24	59.73	87.81	71.34	263.70
4	Sugar cane Development Programme	61.43	83.84	53.00	45.48	81.06	324.81
5	Cotton Development Programme	5.82	8.63	24.15	19.97	19.34	77.91
6	Maize Development Prograamme	5.68	9.92	16.78	20.41	19.80	72.59
7	Oraganic Farming	38.10	25.30	100.40	130.49	91.15	385.44
8	Agro-Polyclinic	2.17	3.95	277.83	276.05	140.00	700.00
9	I.N.M. Demonstrations	0.00	0.00	458.33	44.74	186.94	1050.01
10	Strengthening of Taluka Seed Farms	21.70	8.65	16.30	67.35	28.00	142.00
	Total Agriculture	244.19	231.65	1218.61	1345.67	904.19	3944.31
b	Horticulture						
1	Horticulture	285.75	592.40	1574.23	1469.81	1256.90	5179.09
2	Micro Irrigation	403.27	244.17	436.56	634.91	457.97	2176.88
	Total Horticulture	689.02	836.57	2010.79	104.72	1714.87	7355.97

c	Water Conservation						
I	jalsandharan	3319.87	3677.72	4323.12	3962.28	3814.00	19097.00
	Total Water Conservation	3319.87	3677.72	4323.12	3962.28	3814.00	190973.00
TOTAL AGRIL. DEPT. Stream - II		4253.08	4745.94	7552.53	7412.67	6433.06	30397.28

Total Agriculture

Sr. No.	Stream	2007-08	2008-09	2009-10	2010-11	2011-12	Total outlay for Five years (Rs. in Lakhs)
1	Total Agriculture (Stream I)	000.00	000.00	5704.00	5704.00	5515.24	16923.24
2	Total Agriculture (Stream II)	4253.08	4745.94	7552.53	7412.67	6433.06	30397.28
	Total Agriculture	4253.08	4745.94	13256.53	13116.67	11948.30	47320.52

4.11 Projected outcome and growth during the next plan period:

The projected overall growth rate for agriculture and allied sector is presented in table 4.25 and the crop diversification plan for next five years in Satara District is presented in Table

Table 4.25: Projection of Overall Growth Rate (GVA) in Agriculture and Allied Sector-Satara District

Sr. no	Name of Crop	Yearwise Total Value in Rupees in Lakh						Compound Growth rate (2007-08 to 2011-12)
		2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	
1	Total Cereals	25975	31998	33169	34164	35319	36306	5.88
2	Total Pulses	5330	7236	7993	4796	9304	9909	10.02
3	Total Oil Seeds	12324	18302	19470	20960	22449	23678	11.95
4	Total Cash Crops	22501	54478	53995	54259	54456	54625	13.52
5	Total Fruits & Vegetables	80964	104155	113671	124005	135581	143350	11.26
6	Total Flower	3112	4172	4565	4932	5314	5579	11.22
7	Total Spices	4448	12304	13560	14914	16420	17241	24.73
	Primary Total	154654	232645	246423	258030	278843	290688	11.29

Note ** - Significant at 1 percent level.

Table 4.26: Crop Diversification Plan in Next Five Years- Pune District

Sr. No.	Existing Cropping Pattern 2006-07		Crop Diversification Proposed (Area in Lakh ha.)									
	Crop Group	Area	2007-08		2008-09		2009-10		2010-11		2011-12	
			Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)
1	Cereals	397167	387100	-10067	397930	763	387150	-10017	387550	-9617	384975	-12192
2	Pulses	80700	86000	5300	91600	10900	98550	17850	102600	21900	106350	25650
	Total Food grains	477867	473100	-4767	489530	11663	485700	7833	490150	12283	491325	13458
3	Oilseeds	100000	97300	-2700	100930	930	105680	5680	110625	10625	113650	13650
4	Sugarcane	38700	53800	15100	52000	13300	51000	12300	50000	11300	49000	10300
5	Cotton	2900	3600	700	3800	900	3900	1000	4000	1100	4100	1200
6	Other cash crops	0	0	0	0	0	0	0	0	0	0	0
	Total Cash Crops	141600	154700	13100	156730	15130	160580	18980	164625	23025	166750	25150
7	Fruit crops	31799.7	33148	1348.3	34559	2759.3	36430	4630.3	38296	6496.3	39913	8113.3
8	Vegetable Crops	34197	35159	962	36045	1848	36886	2689	37772	3575	38822	4625
9	Flower Crops	1448.45	1475	26.55	1595	146.55	1710	261.55	1823	374.55	1937	488.55
10	Spices	6891.37	7015	123.63	7260	368.63	7510	618.63	7740	848.63	7950	1058.63
11	Medicinal and Aromatic Plants	50	60	10	70	20	80	30	90	40	100	50
	Total Horticulture Crops	74386.52	76857	2470.48	79529	5142.48	82616	8229.48	85721	11334.5	88722	14335.5
12	Other Crops			0		0		0		0		0
	Grand Total	693853.5	704657	10803.5	725789	31935.5	728896	35042.5	740496	46642.5	746797	52943.5

4.12 Researchable Issues:

From this chapter it is observed that the cropping pattern in Satara district is dominated by low value cereals. It is thus necessary to improve productivity in the agricultural sector by capitalizing on high value agriculture and generating income from allied activities. The state has the advantage of having four agricultural universities which can transfer technology from the research centres to ultimate users through extension education programmes. All the four universities must therefore develop new varieties of crops, supply genuine quality planting material, and improve productivity, profitability and sustainability of farming methods.

It was noted that Satara district has varying topography with hilly tracts receiving heavy rainfall of around 6000 mm and eastern drought prone areas receiving less than 500 mm of rainfall. It is thus necessary to practice contour farming and prevent soil erosion in hilly areas. Watershed should be given top priority in drought prone talukas so that cropping intensity can

be increased. Promoting fodder development programmes in watershed areas must be given priority.

Animal husbandry has further scope in the district. This activity is still practiced in a traditional manner and its scale must be increased through appropriate technology in view of the access that the district has to huge urban markets like Mumbai and Pune.

Poultry farming which supplements the income of farmers must also be further promoted. This activity can gain momentum with the help of contract farming.

As horticulture and floriculture have immense potential in the district, it is important to ensure that suitable post-harvest infrastructure exists so as to be able to access suitable markets and avoid wastage losses.

While there does exist immense potential to accelerate agricultural growth, it is also necessary to develop the industrial sector which is lagging behind in the district. Agro-processing units using appropriate technology have great scope in the district and raw materials for this sector can be provided from the agricultural sector. However, the district lacks managerial competence and lack of professional talent. Further, lack of new technology, slow growth of IT sector, absence of quality control, etc; are factors that are a hindrance to industrial growth. Infrastructure bottlenecks add to the problems which prevent large scale business. Hence it is necessary to improve infrastructure and extension services so as to give a boost to agriculture.

Chapter V

Allied Agricultural Sector

5.1 Introduction-

Dairy farming, poultry farming, sheep, goat, pig rearing etc. play a very important role in the lives of the rural households. These are not only a major source of employment & supplementary income, but also help in enhancing the intake of nutritional food by the rural poor. Historically, dairy, farming has been, and continues to be a popular activity in rural India.

Animal husbandry & dairy development is second major sector which comes after Agri business Dairy farming is a very popular activity among the farmers in Satara district. It is carried out in the co-operative as well as private sector. As per the statistical data, Satara district is rich in animal population. The district has 731573 bovines, 3401389 sheep and 388270 goats. Also 2911381 poultry birds are being reared by the farmers, employment to large number of people. The milk production of the district was 432.56 thousand mt. in 2006-07. About 48 percent of the milk produced is obtained from cross breed cows, 36.63 percent from buffaloes & 10.66 percent from indigenous cows. The major gap in milk production is low yield per animal, miss-management of dairy animal and low productivity of animal. It will be improved by developing exotic blood better training to the farmers about dairy management and importance. Satara district is well known for remarkable fish production also. Sheep & goat rearing activity is generally popular among families living below poverty line & with small/marginal farmers. Sheep rearing activity is more popular among traditional shepherds in the eastern part of district, while the goat rearing activity is more or less evenly spread all over the district. Although, a few piggery units have come up in the district, the activity is yet to gain popularity. Besides dairy, even poultry farming plays an important role and has high potential in the district. About 2911381 poultry birds are being reared by the farmers. Poultry helps in improving the nutritional value of the food (through protein rich eggs & meat) and provides organic manure for agricultural crops. The poultry business helps in employment generation and can be improved by maintaining improved hygiene standards.

The present fish production in the district is 3200 mt and in the view of availability of irrigation dams in the district, reservoir fisheries could be taken up on large scale. The production from these reservoirs can be effectively used for inland aquaculture through pond culture in the marginal areas of reservoirs, cage culture & pen culture within the reservoirs, besides offering sustainable capture.

Sericulture activity is picking up in the district with 741 farmers producing on 820 acre of land from 150 villages and cocoon production is 45 mt. The area will be increased by 350 acre in this project & cocoon production increased by 6 percent growth rate.

5.2 Horticultural Development-

◆ *Scope and Importance:*

Horticulture development has excellent scope in the district. Satara district offers a very conducive climate for growing variety of horticultural and plantation crops. Horticulture activities not only provide additional income to the farmers, but also create employment opportunities in the rural areas. The Horticulture Development is widely progressing in the district. There are 2368 green houses in Maharashtra out of which 928 green houses in Satara district producing Gerbera, Carnation, Capsicum. Floriculture is emerging as a new career path for young farmers and hence Satara district was declared as a floriculture export zone by the Govt. The total area under Horticulture crop is 74386.30 ha. is projected to expand up to 88722 ha with extension of new areas and intensive cultivation with special emphasis for medicinal crop cultivation. Genetically pure planting material will be supplied to farmers. The rejuvenation of old orchards programmes will be operated. The use of plastic in agriculture will be forced, mainly for drip and sprinkler irrigations. The INM & IPM will be implemented and organic farming & value addition will be incorporated in this project. Training programme for farmers will also be incorporated in this project, with post harvest management for perishable commodities being covered. The district also has a very well developed infrastructure for establishment of fruit processing & food based export oriented units.

Table 5.1: Horticultural crops and varieties grown in Satara district

Sr. No	Major Fruit Crop	Varieties
1	Mango	Alphanso, Nilam, Totapuri, Keshar, Pairi
2	Coconut	Pratao, T and D
3	Chiku (Sapota)	Kalipatti
4	Grape	Thomsenseedless, Sanacse, Tas A Ganesh. Sharad Seedless
5	Pomegranate	Ganesh, Bhagva
6	Tamarind	Prathistan
7	Guava	Sardar N-14
8	Anolla	Banareshi, Kanchan, N-5 N7
9	Strawberry	HD 2489 / N 59, N 5189 / panchavati
10	Custard Apple	Local & selection, Baongar

Agro climatic condition in these areas is well suited for cultivation of such crops and different government programs like NHM, Horticulture cultivation under EGS etc. helps for boosting horticultural growth in the district.

A) National Horticultural Mission-

The Mission aims at achieving a holistic growth of horticulture sector through area based regionally differentiated clusters and by undertaking promotional activities in research, technology development, post harvest management and processing, extension and marketing. The objectives of the Mission are to promote the production of horticultural crops, improve the nutritional security and income of the farmers, besides synergizing various horticulture development programs.

▪ **Strategy to Improve the Production:**

- Organization of educational campaigns, training programs for the farmers to increase awareness & knowledge regarding new market strategy, quality production, organic production, technology dissemination, market requirement & export quality food material etc.
- Organize the demonstrations regarding INM, IPM, IDM and use of micro-irrigation etc.
- A district level forum, exclusively dedicated to the implementation of various horticulture development programs could be created. This forum should have representation from among the progressive farmers, government, financial institutions, APEDA, NHB, Agril. Department, SAUs , chambers of comers & industries etc.
- Contract farming is the new emerged beneficial trend for the farmers. Hence, there is a need to bring more & more farmers under the ambit of contract farming with the help of retail chains, corporate & agro exporters etc.
- Under the National Horticulture Mission, extension machinery at the district level should make full use of the same for popularizing the technology for getting more benefit by cultivation new & non-traditional crops like exotic vegetables (colour capsicum, zookeni, red cabbage)
- There is also need to develop post harvest infrastructure including setting up of pre-cooling, cold storage, grading packaging units, marketing and export, food processing and value addition etc. with a view of reducing the post harvest loses.

- Incidentally the funds allocated for these activities under NHM have not been fully utilized. There is a need for having a co-ordinated approach in this regard with active participation of District Agriculture Department , Banks and NGOs.
- Proper and timely subsidy granting system should be started for timely dissemination of Govt. grants to the farmers.
- Strengthen food processing industries.
- Develop sound marketing chain in collaboration with multinational companies, Malls and various food processing industries etc.
- Modernization of APMCS.

▪ **Yield gap Analysis of Major Horticultural Crops**

The reasons for yield gap of major crops in the district compared to state average is presented in Table 5.2.

Table 5.2: Yield gap analysis of major horticultural crops

Sr.No.	Crop	Yield gap reasons
1	Mango	<ul style="list-style-type: none"> ▪ Lack of flower plant protection. More fruit drop ▪ Lack of plantation of proper improved varieties as per the recommendations in specific climatic regions. ▪ Lack of INM, IPM. ▪ Less use of growth regulators ▪ Less impotence towards storage, export and processing
2	Chiku	<ul style="list-style-type: none"> ▪ Not Selection of proper soil type ▪ Lack of INM , & IPM ▪ Less importance towards proper improved varities ▪ Less Importaner towards Storage , export, & Yransporting
3	Grape	<ul style="list-style-type: none"> ▪ Improper land selection ▪ Lack of storages of rootstock for grapes. Low yield ▪ Lack of availability of skilled labor for grape ▪ Lack of canopy management ▪ Lack of proper spraying sprout bunches poor quality low returns ▪ Lack of branded growth promoting promotes ▪ Lack of export Management of the produce
4	Pomegranate	<ul style="list-style-type: none"> ▪ Lack of sanitation in the field, lack of proper disease and pest management. ▪ Oily spot infestation ▪ Lack of recommended spacing.

5	Tamarind	<ul style="list-style-type: none"> ▪ Less importance towards prospered improved Varieties ▪ Less importance towards INM & APM ▪ Less importance towards Processing
6	Guava	<ul style="list-style-type: none"> ▪ Lack of Plantation of proper iamproved Varities as per the recommendations ▪ Less importance towards processing
7	Anolla	<ul style="list-style-type: none"> ▪ Lack of Plantation & Proper Improved Varities ▪ Lack of INM & IPM ▪ Less importance towards Processing
8	Custard Apple	<ul style="list-style-type: none"> ▪ Lack of plantation of improved varieties. ▪ Recommended spacing is not followed very close spacing ▪ Low productivity ▪ Intercultural operation is not in application ▪ Due to high density plantation pest attack is more severe

▪ **Projected increase in Area and production of major horticultural crops**

The projected increase in area and production of major horticultural crops in Satara district is presented in table 5.3 and rejuvenation plan of horticultural crops is presented in table 5.5. Existing total area under horticultural crops is 74336.3 ha. In the eleventh five year plan the target is to bring in an additional area of 14336 hectares which will thus lead to 88722 hectares under horticulture. Most of waste land will be used for the cultivation of horticultural crops till 2012. A crop wise area expansion programme is prefixed as below.

Table 5.3: Area Expansion Plan of Horticultural Crops in Satara district (Area in ha)

Sr. No.	Crops	Existing (2006-07)	2007-08	2008-09	2009-10	2010-11	2011-12
A	Fruit Crops						
1	Grape	428.67	464	499	534	569	604
2	Banana	650.85	750	850	950	1050	1150
3	Mango	15,783.81	16000	16200	16400	16600	16800
4	Mandrine	38.86	39	39	39	39	39
5	Citrus	2.54	3	3	3	3	3
6	Coconut	1,216.60	1250	1300	1350	1375	1400
7	Areca nut	2.27	2	2	2	2	2
8	Cashew	465.15	500	550	600	650	700
9	K.lime	659.04	670	680	690	700	710
10	Pomogranate	2,853.48	3253	3753	4753	5753	6500
11	Guava	991.17	1020	1040	1060	1090	1100
12	Papaya	223.99	250	300	325	350	400
13	Sapota	1,388	1588	1788	1988	2188	2388
14	Ber	824.3	825	825	825	825	825
15	C.Apple	1,503.81	1650	1750	1850	1950	2050
16	Fanas	238.5	240	240	240	240	240
17	Tamarind	1,546.34	1570	1600	1625	1650	1675
18	Ramphal	60.31	60	60	60	60	60
19	Cocum	1.66	2	2	2	2	2
20	W.Apple	100.08	100	100	100	100	100
21	Karwand	1,769.22	1770	1770	1770	1770	1770
22	Strawberry	299.7	300	300	300	310	325
23	Pineapple	0.95	2	3	4	5	5
24	Fig	40.2	50	55	60	65	65
25	Anolla	662	740	800	850	900	950
26	Jamun	48.2	50	50	50	50	50
	Total	31799.7	33148	34559	36430	38296	39913
B	Vegetable Crops						
1	Onion	11559.53	11800	12000	12200	12400	12700
2	Tomato	3633.24	4000	4200	4400	4700	5000
3	Potato	8606.24	8650	8700	8750	8800	8850
4	Sw.Potat	299.08	300	300	300	300	300
5	Brinjal	2585.36	2700	2800	2900	3000	3200
6	Cauliflower	1495.36	1600	1750	1900	2000	2100
7	Cabbage	1078.92	1100	1150	1200	1250	1300
8	Ladyfinger	1130.76	1130	1150	1150	1150	1150
9	C.Beans	450.62	450	450	450	450	450
10	Methi	572.85	600	650	650	675	700
11	Drumstick	228.12	230	250	250	250	250
12	Capsicum	308.95	310	325	350	350	375
13	Carrot	265.9	265	270	275	280	285
14	Cucumber	298.2	300	300	300	300	300
15	R.gourd	188	190	190	195	195	200
16	B.Gourd	172.4	175	175	180	185	190
17	Gourd	72.5	75	75	80	80	85
18	Tondli	21.2	21	22	22	22	22
19	Padwal	12.45	13	13	14	14	15
20	Leafy veg.	1217.08	1250	1275	1300	1325	1350

Total		34196.76	35159	36045	36866	37726	38822
C	Spices Crops						
1	Coriander	1299.36	1300	1350	1400	1400	1425
2	Chilly	2004.34	2005	2025	2050	2075	2100
3	Turmeric	1326.03	1350	1400	1450	1500	1550
4	Ginger	1475.21	1550	1650	1750	1850	1900
5	Garlic	730.2	750	775	800	850	900
5	Other	56.2	60	60	60	65	75
Total		6891.34	7015	7260	7510	7740	7950
D	Flowers						
1	Marigold	987.4	1000	1100	1200	1300	1400
2	Aster	35	35	40	45	50	55
3	Shevanti	20.6	21	22	23	24	25
4	Mogra	3.55	4	4	5	6	7
5	Nishigand	58.3	60	62	64	64	65
6	Rose	51.2	55	57	58	59	60
7	Other	292.4	300	310	315	320	325
Total		1448.45	1475	1595	1710	1823	1937
E	Medicinal Plants	50.00	60.00	70.00	80.00	90.00	100.00
Grand Total		74386.3	76857	79529	82596	85675	88722

Table 5.4: Quality Horticulture Production Plan of Satara district

(Area in ha, Production in mt.)

Crop	Existing Status (2006-07)		2007-08		2008-09		2009-10		2010-11		2011-12		Total	
	A	P	A	P	A	P	A	P	A	P	A	P	A	P
Good Agril. Practices														
Fruits	25000	308722	27000	364500	28000	406000	29300	448290	31000	496032	33000	561906	173300	2585450
Vegetable	30000	464870	32000	528000	33000	577500	34000	629000	35500	692250	36000	720000	200500	3611620
Flowers	1300	6206	1400	7700	1550	10075	1650	11137	1760	12320	1900	14250	9560	61688
Spices	2500	19342	3000	25500	3200	28800	3400	32300	3700	37000	4000	42000	19800	184942
Total	58800	799140	63400	925700	65750	1022375	68350	1120727	71960	1237602	74900	1338156	403160	6443700
Organic Farming														
Fruits	55	679	100	1350	120	1740	150	2295	200	3200	250	4255	875	13519
Vegetable	410	6353	500	8250	600	10500	700	12950	800	15600	900	18000	3910	71653
Flowers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spices	150	1160	250	2125	300	2700	350	3325	400	4000	500	5250	1950	18560
Total	615	8192	850	11725	1020	14940	1200	18570	1400	22800	1650	27505	6735	103732
Integrated Pest Management														
Fruits	0	0	300	4050	500	7250	600	9180	700	11200	800	13616	2900	45296
Vegetable	500	7748	600	9900	600	10500	600	11100	600	11700	600	12000	3500	62948
Flowers	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Spices	0	0	100	850	150	1350	200	1900	250	2500	300	3150	1000	9750
Total	500	7748	1000	14800	1250	19100	1400	22180	1550	25400	1700	28766	7400	117994
Grand Total	59915	815080	65250	952225	68020	1056415	70950	1161477	74910	1285802	78250	1394427	417295	6665426

Table 5.5: Rejuvenation Plan of Horticultural Crops

Area in ha.

Area brought under Rejuvenation (2006-07)		2007-08	2008-09	2009-10	2010-11	2011-12
Mango	0	150	100	100	100	100
Pomogranate	0	0	0	0	100	100
Kagzi Lime	0	5	5	5	5	5
Guava	0	5	5	5	5	5
Total	0	160	110	110	210	210

Polyhouses in the District

Due to its climatic conditions, soil texture, nearest local marketing centers, viz. Mumbai, Pune, Nagpur and Nasik, there exists more potential in floriculture sector in Satara district. The production of any crop under a greenhouse/polyhouse conditions increases by 3-4 times as compared to growing it traditionally. This is due to the fact that there is more carbon dioxide trapped inside the polyhouse for the crops to perform more photosynthesis and hence they grow more. As a result since the quality of the crop enhances, a higher price can be obtained. Therefore to boost productivity and quality, affordable polyhouses are needed. From the point of earning more profit, only such off-season crops should be grown, which fetch better returns. Big hotels in cities are mostly in need of off-season vegetables for which there is also a niche market. In such areas and also in the hill and remote regions where fresh vegetables are required regularly for meeting out the requirements of security forces, the construction of polyhouses is more lucrative and is a must. The crops grown under the polyhouse are safe from unfavorable environment and hailstorm, heavy rains or scorching sunshine, etc. Crops of the polyhouse can be saved from birds and other wild animals. The humidity of polyhouse is not adversely affected by evaporation resulting in less requirement of water. In polyhouse, insects and pests control is also easy and less expensive. By adopting the modern technology of polyhouse, the difference in the demand and supply of off-season vegetables and fruits etc. can be minimized.

Satara district has 928 polyhouses which is the largest number in the state. Hence, there is scope for Hi-tech cultivation of flowers under controlled conditions. The establishment of "Ajinkyatara Farmer's Co-operative phale phule kharedi vikri sangh ltd" in 2001 greatly facilitated the marketing of flowers. The turnover of this co-operative is huge and the risk involved in marketing of flowers is minimized. Farmers are also receiving loans and technical guidance for the cultivation of flowers. The most important thing to note here is that majority owners of polyhouses are coming from lower to middle class and they personally work to increase the production of good quality flowers. Today Ajinkyatara Sangh is collecting and

disposing 2 lacks of flowers/day which are coming from 500 efficient growers to 32 business associates of flowers in different local markets of the country. However, sometimes due to over production there is fall in prices and the profit margin is reduced.

Table 5.6 : Talukawise polyhouse in Satara district

Sr. No.	Taluka	Polyhouse (each unit of 560 sq.m.)	Percentage to total
1	Satara	325	35.02
2	Patan	125	13.47
3	Khatav	125	13.47
4	Koregaon	90	9.70
5	Wai	75	8.08
6	Man	50	5.39
7	Jawali	50	5.39
8	Khandala	30	3.23
9	Phaltan	28	3.02
10	Karad	25	2.69
11	Mahabaleshwar	05	0.54
	Total	928	100.0

5.3 Sericulture Development-

◆ Scope and importance-

The limited availability of land, the limited cash returns, and agriculture being confined to one or two seasons in the year, have made villages to look for supporting rural industries, such as sericulture. Sericulture is an agro-industry, playing an eminent role in the rural economy of India. Silk-fiber is a protein produced from the silk-glands of silkworms. Agriculture and sericulture are adopted simultaneously by the agriculturists in regions where the ecological conditions are favorable. In India, over three million people are employed in various fields of sericulture. It is a cottage industry and provides ample work for the womenfolk in the rural areas in rearing silk worms, while the male members work in the fields. Recently the enforcing of new ideas by research institutions both in mulberry cultivation and silk-worm-handling among Sericulturists, the industry is now practiced as a main profession and as a major cash crop, of the country. Agro climatic conditions of scarcity zone of the district are suitable for mulberry cultivation and silk worm rearing. With a view to give thrust for the sector, a separate Directorate had been established under the Ministry of Textile. The government has planned to expand the area under Mulberry, in a planned manner. Under integrated cropping practices proposed by the state, thrust has been given to mulberry cultivation and silk rearing in the district.

Table: 5.7: Sericulture Plantation during Tenth Five year Plan period-Satara district

Sr. No.	Year	Village	Mulberry Plantation		Varieties		
			Farmer	Area (Acre)	V-1	M-5	S-36
1	2002-03	135	377	416	105	300	11
2	2003-04	94	268	287	132	154.5	0.50
3	2004-05	88	262	290.5	149.5	141	0.00
4	2005-06	95	266	299.5	226	73.5	0.00
5	2006-07	109	399	438.5	418.5	15.5	4.20

Source: DSAO, Satara

Sericulture industry has the potential of providing employment and income generation to the farmers, particularly rural women. India stands second only to China in silk production, which contributes around 85 percent of the global produce, whereas India's contribution is 13 percent. Karnataka stands first in sericulture, second is Andhra Pradesh and then comes Maharashtra on third place in the country and in Satara District. Thousands of farmers in this region are now rearing silkworms and also continuing with their farming. Sericulture-related activity is spread across 438.5 acrea in the district in 2007-07. The sericulture plantation during the tenth five year plan is presented in Table 5.4. During the plan period, area under mulberry plantation was around 439 hectares spread in 109 villages in the district. The highest cultivated variety of mulberry V 1, accounts for about 95 percent of the area, followed by M-5 and lowest area was under S-36 variety of mulberry.

Table 5.8: Supply of CSR, DFLs and Cocoon Production during Tenth Plan period-Satara district

Sr. No.	Year	Area (Acre)	Dfls Supply	Cocoon Production (M.T)	Yield per 100 Dfls(Kg)	DFLs Consumption Per Acre
1	2002-03	416	142392	47670	33.4	342
2	2003-04	287	101619	40066.9	39.4	354
3	2004-05	290.5	67757	33163.95	48.9	233
4	2005-06	299.5	95432	40649.7	42.5	318
5	2006-07	438.5	116686	55840.2	47.8	266

Source: Same as in table 5.1.

Satara district has high potential for the development of Sericulture industry. The Satara district has different agro-ecological regions and sericulture requires irrigated land and therefore

development of this industry is not feasible in hilly area likes Patan, Mahabaleshwar and some part of Jawali Taluka. However, Karad, Phaltan & Koregaon talukas have potential for sericulture apart from some parts of Khandala, Wai, Khatav & Satara. At present sericulture is practiced in 163 villages and 872 farmers are pursuing this activity. The area under mulberry plantation was about 993 acres. The supply of csr, dfls and cocoon production during tenth plan period is presented in table 5.2. It can be seen from the table that during tenth five year plan period, the cocoon production increased significantly by about 17 percent in 2007-08 over base period production of 55840.2 mt in 2006-07.

Table 5.9: Status of Sericulture Cluster in Satara district

Sr. No	Cluster	No. of villages	Old Plantation		New Plantation		Total Plantation	
			Farmer	Area (Acre)	Farmer	Area (Acre)	Farmer	Area (Acre)
1	Karad	30	166	169	73	80	239	249
2	Satara	15	34	36	24	20.5	58	56.5
3	Wwai	14	51	58	22	26	73	84
4	Phaltan	35	194	196	50	57	244	253
5	Khandala	18	62	79	23	29.5	85	108.5
6	Koregaon	27	73	111	20	23.5	93	134.5
7	Khatav	24	47	61	33	46.5	80	107.5
	Total	163	627	710	245	283	872	993

Source: Same as in table 5.1.

The programme under Sericulture Development aims at increasing the production & productivity of cocoon through adoption of improved technology in crop production.

1) Availability and gaps in infrastructure and support services

In Satara district, mulberry cultivation is present in Karad (159 acre), Phaltan (151 acre) Koregaon (68 acre), Khandala (51 acre), Wai (45 acre), Khatav (36 acre) and Satara (29 acre). The Sericulture Department under the Ministry of Textiles, together with the District Industries Centre (DIC), is implementing and coordinating the sericulture development activity in the district. They supply planting material, impart training and provide the required technical support. The Sericulture Department also provides disease-free laying (DFLs) and marketing assistance for the cocoons produced. They have a reeling unit at Wai, which procures cocoons from farmers. They have adequate manpower with technical know-how to impart training.

During the year ended March 2007, the department had supplied 1.21 lakh DFLs, and purchased 35,000 kgs of cocoons, for Rs. 46.58 lakh, (at an average price of Rs. 133 per kg), out of the total cocoon production of 57700 kgs in the above mentioned talukas. The difference of the above represents the sale of cocoons by farmers to third parties directly.

2) Assessment of potential taking into account infrastructure changes for 2008-09

Even though there is good scope to promote the activity, only 550 acres is covered in the district and this activity has not gained popularity perhaps due to the preference of farmers for cash crops. The Department of Sericulture is making efforts by conducting extension services, training, etc at farmers meets, exhibitions etc. The department has a target of increasing the area of mulberry cultivation by additional 350 acre during 2007-08. Some Farmers' Clubs have taken interest in this activity, especially in Karad.

Table 5.10: Productivity gap in average cocoon production

Sr. No.	Taluka	No. of units	Area under Mulberry (ha)	Average Cocoon Production (kg/ha)			GAP in yield (kg/ha)	
				District	State	FLDs	District	State
1	Karad	168	67.6	510	550	377.5	132.5	172.5
2	Phalatan	199	78.4	510	550	510	0	40
3	Khandala	65	31.6	510	550	292.5	217.5	257.5
4	Koregaon	79	44.4	510	550	245	265	305
5	Satara	35	14.4	510	550	230	280	320
6	Wai	53	23.2	510	550	275	235	275
7	Khatav	47	24.4	510	550	227	283	323
	Total	646	284	510	550	360	150	190

The objectives of the sericulture during 11th plan would be to stabilize the existing area under sericulture and bring an additional area of cultivation with High Yielding Varieties, to produce maximum of cocoons, to produce and supply quality Cross Breeds, Disease Free laying through Departmental Grain ages, to increase productivity at the farmer level to 55 Kgs per 100 dfls, to generate employment both directly and indirectly, to implement Economical water management system through Drip Irrigation, to disseminate Scientific Sericulture Practices by promoting modernization and quality up gradation of the industry, and to integrate Non Farm Activities i.e. Reeling and Twisting with weaving and to strengthen linkages between the farm and non farm activities.

Strategies to Improve the Production:

1. Though the present production of cocoons per unit area is more remunerative when compared to the other commercial crops, this may not help for the sustenance of the industry in the long run. Therefore, it is imperative to increase the productivity levels on par with Seri culturally advanced regions.
2. The Agricultural Department has identified certain gaps, which are coming in the way of producing qualitative and quantitative production of cocoons.
3. To encourage post cocoon activity and to bridge the gap between the on farm and non farm sectors to maximum extent, it is proposed to establish automatic reeling unit under private sector.
4. A systematic 3 tier system of seed organization programme has been established to supply quality seed cocoons for production and supply of disease free silkworm eggs to the farmers.
5. The Agricultural Department will provide adequate infrastructure with supporting staff which is available for smooth functioning of seed organization.
6. The Department of Agriculture is advocating new technologies in both Mulberry cultivation and silkworm rearing to the farmers through Technical Service Centers in order to increase cocoon production in the district and to increase productivity per acre.
7. Study tours be organized regularly and extension literature on latest techniques is distributed regularly.
8. Mobile Farmers Training Units are also involving in transfer of new technologies to all Sericulture villages.
9. The main focus will be to increase the productivity and thereby the income per unit area. In order to increase the productivity of leaf yield, major thrust has been given to increase the area under high yielding varieties of mulberry saplings with wider spacing.
10. Marketing facility to the cocoons produced by the farmers is provided through regulated Cocoon Markets and Notified Markets. To ensure a reasonable price to the farmers, cocoon testing procedure was introduced in all the Cocoon Markets which is found to be more beneficial to the farmers.

Table 5.11: Propose Physical and Financial Targets for Sericulture for XI Plan –Satara district

(Rs. in lakh)

Sr. No	Items	2007-08		2008-09		2009-10		2010-11		2011-12		Total	
		Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
	Stream I												
1	Infrastructure for training for staff	0	0.00	0	0.00	1	18.00	1	0.18	0	0.18	2	54.00
2	Infrastructure for training for block level farmers	0	0.00	0	0.00	2	35.00	2	35.00	2	32.00	6	102.00
3	Consultancy centers	0	0.00	0	0.00	4	7.00	4	7.00	3	6.00	10	20.00
4	Cocoon purchase centers	0	0.00	0	0.00	1	9.00	1	9.00	1	0.00	3	28.00
5	Starting new reeling centers	0	0.00	0	0.00	1	13.00	1	13.00	1	14.00	3	40.00
6	Subsidy for construction of rearing houses	0	0.00	0	0.00	400	1.00	400	1.00	200	0.50	1000	250.00
	Total (Stream I)		0.00		0.00		157.00		157.00		180.00		494.00

Stream II													
1	Mulberry plantation cuttings supply Rs. 1500 / acre	437 Acre	6.55	326 Acre	4.89	213 Acre	3.20	274 Acre	4.11	300 Acre	4.50	1550	23.25
2	Training for farmers Rs. 2000 / farmer	24 farmer	0.48	111 farmer	2.22	626 farmer	12.52	489 farmer	9.78	300 farmer	6.00	1550 farmer	31.00
3	Eggs (Dfls) supply Rs. 3 / Dfls.	0.54 Lakh	1.63	3.67 Lakh	11.00	8.06 Lakh	24.17	8.94 Lakh	26.80	10.20 Lakh	30.60	31.40 Lakh	94.20
4	Cocoon purchase avg. cost / kg. Rs. 125/-	76 M.T.	94.96	158 M.T.	197.29	339 M.T.	424.04	476 M.T.	594.71	558 M.T.	698.13	1607 M.T.	2009.13
5	Farmers study tour Rs. 2000 / farmer	56 farmer	1.12	44 armer	0.88	94 farmer	1.88	206 farmer	4.12	150 farmer	3.00	550 farmer	11.00
6	Reeling unit	1 Unit	13.34	0	19.35	1	18.66	0	10.65	0	15.00	2 Unit	77.00
7	Demonstration farm	1 Unit	3.56	0	5.21	0	6.44	0	4.79	0	5.00	1 Unit	25.00
8	publicity		0.62		2.25		0.00		0.00		0.00		2.87
Total (Stream II)			122.26		243.09		490.91		654.96		762.23		2273.45
TOTAL Sericulture			122.26		243.09		647.91		811.96		942.23		2767.45

5.4 Animal Husbandry:

Scope and Importance-

Dairy farming, Sheep, Goat, Pig rearing etc. play a very important role in the lives of the rural people. These are not only a major source of employment and supplementary income, but helps in enhancing the intake of nutritional food by the rural poor. Animal wealth in Satara has increased manifold and the animal husbandry practices have changed to a great extent following the introduction of newer technologies particularly for crossbreeding and up gradation of indigenous breeds. Animal husbandry is a one of the allied business of the agriculture in Satara and there is great potential for animal husbandry in Satara district. The taluka-wise livestock population is indicated in Table 5.12.

Table 5.12: Taluka-wise Livestock Population in Satara district 2003

Sr. No	Taluka	Area under fodder crops (ha)	Cattle (Nos)	Buffaloes (Nos)	Sheep (Nos)	Goats (Nos)	Total Livestock	Poultry (Nos)	
								Broiler	Layer
1	Jaoli	1340	20741	18219	2003	8777	49740	37518	83639
2	Karad	5105	40763	101951	19239	51228	213181	37770	594468
3	khandala	2626	18861	6169	40285	19247	84562	59745	136957
4	Khatav	2363	39086	52816	30077	62842	184821	96287	159718
5	Koregaon	2425	31757	25557	21511	26234	105059	46561	157531
6	Mahableshwar	2037	5493	2668	13	928	9102	0	20012
7	Man	3200	36784	19921	81063	68466	206234	4000	219484
8	Patan	12473	35409	64400	3587	36307	139703	6950	20833
9	Phaltan	7605	69809	18526	220798	82933	392066	54400	238252
10	Satara	3913	34465	40584	8398	27245	110690	40136	229818
11	Wai	1373	27814	17780	10328	17543	73465	126600	132508
	Total	44460	360980	368591	437302	401750	1568623	509967	1993220

Source: District Dy. Commissioner Animal Husbandry, Satara.

Poultry Development

Eggs and meat are an important source of animal protein in human diet. Poultry farming can be carried out on a commercial level as well as a backyard activity. The sector also provides employment to the rural masses. The fear of avian flu had taken a heavy toll of the industry all over the country. However, the revival has begun, and this activity provides scope for employment and income generation to the farmers in the district. In Satara district, the population of the poultry birds was 19.93 lakh (as per 2003 Census). There is potential for this

activity in Patan, Phaltan, Karad, Khatav and Man blocks. The egg production data for 2006-07 indicates that 2062.12 lakh eggs were produced. As per the Census 2001, the population of poultry birds in Satara District is 27.97 lakh. The egg production data for 2003-04 indicates that 2068.41 lakh eggs were produced (i.e. desi 1475.73 lakh eggs and improved poultry produced 586.39lakh eggs). Contract farming by companies like Saguna, Baramati Agro, Venkateshwara Hatcheries and Japfa, has started in a small way in Khandala, Phaltan, Khatav Talukas of the district. There are 115 Poultry Cooperative Societies, out of which, only one at Phaltan, assisted by NCDC, is functional and falls within the 'A' category of Audit Classification. Remaining 114 are reportedly in 'C' category and are defunct and in losses, due to managerial problems, lack of modernization, lack of sufficient finance and marketing constraints. At present, there is no hatchery in the district and day-old chicks are made available from the hatcheries located in nearby districts of Pune, Sangli and Kolhapur.

Sheep, Goat and Piggery Development

Sheep and Goat rearing is a traditional activity in Satara district, carried out mainly by small and marginal farmers and landless laborers. Due to semi-arid and dry climatic conditions, the activity is concentrated in Khandala, Khatav, Phaltan and Man Talukas. There is also concentration of shepherd population in these blocks. The activity generates additional income for the farmers. The population of Sheep, Goats and Pigs in the district, as per the Livestock Census 2003 (Provisional), was 3.35 lakh, 3.53 lakh and 11,048 respectively. Total production of wool in the district was 182.31 mt in 2003-04.

The Maharashtra Sheep and Goat Development Corporation have its office at Dhivehi, which provides quality animals and technical guidance. The sheep breeding centre at Dhivehi supplies crossbred/ improved rams to the beneficiaries. There are 12 authorized slaughter houses in the district. Markets dealing in livestock are organized at ten places in the district, at regular intervals, once a week on different days. The headquarters of Nimbkar Agriculture Research Institute (NARI) is also located at Phaltan. The institute is working for popularizing Sheep and Goat rearing through research and other activities.

Dairy Development

Dairy is one of the most important allied activities carried out in Satara district. Though the activity has been spread over the entire district, it is more intensively practiced in Phaltan, Karad, Satara, Patan, Koregaon and Wai Talukas. The milk production in the district was 432.56 thousand mt during 2006-07, working out to an estimated per capita availability of 345.84

gms/day. The per capita availability is higher than the State average of 169 gms and recommended level of 250 gms per day. CB cows, indigenous cows and buffaloes accounted for 36.63 per cent, 10.66 per cent and 48.35 percent of district milk production, respectively. Thus, the district is important from both CB cow and Buffalo milk production point of view. The district accounted for 5.91% of total State milk production and 17% of Pune Region milk production. Though the milk production is high from per capita availability point of view, the markets of nearby cities like Pune, Mumbai and other urban centers provide an excellent potential for milk and milk products. At present, approx. 80,000 liters of milk is sent to Mumbai and 55,000 Liters to Miraj every day. This district can develop as a 'hub' for supplying milk to nearby cities like Pune, Mumbai etc. Corporate may also be associated in development of dairy sector.

As per 2003 Livestock Census, there were 3,73,392 cows out of which 60,276 breed able indigenous, 313116 breed able crossbred cows and 3,58,181 buffaloes in the district. There is one milk processing and four chilling plants in the Government sector in the district, with capacity of 2.30 lakh and 1.00 lakh liters per day respectively. However, the capacity utilization has fallen due to increase in the number of private players in the market. There are 10 milk procuring and processing co-operative units in the district. and registered private milk procuring Institutes are 11 and unregistered private milk procuring institutes are 5 of which 8 are functioning and had collected an average of 1.78 lakh Ipd during 2004-05.

Three dairy cooperatives, viz., Koyana, Satara and Ajinkya Sahakari Doodh Utpadan & Prakriya Sangh have their own milk processing plants with a capacity of 2.20 lakh Ipd. They are processing about 1.25 lakh Ipd. There are ten registered and three unregistered (one not functioning) private milk plants, with the handling capacity of 5.20 lakh Ipd and 0.25 lakh Ipd respectively. The capacity presently being utilized by them is 69 per cent (3.668 lakh Ipd and 0.109 lakh Ipd) under registered and unregistered units respectively. There are 61 Veterinary Dispensaries (VDs), including two mobile VDs, at Satara and Patan, classified as Grade-I VDs, manned by degree holders, 113 Veterinary Aid Centers (V ACs) . Classified as Grade-II, manned by diploma holders or livestock supervisors, 15 AI sub centers (4 Grade-I and 11 Grade-II), one polyclinic and two mini polyclinics.

All the 190 units have facilities for AI. The Animal Husbandry Department has plans to establish new VDs, to upgrade the V ACs, provide medicines, vaccination etc., for which budgetary allocations have been made to the extent of Rs.60.24 lakh during 2006-07. The weekly livestock markets are organized at Satara, Karad, Phaltan, Koregaon, Nagthane, Pachvad, Anevadi, Pusegaon, Aundh, Shirval, Mayani, Gondhavle and Mhasvad. There are a

good number of milk routes. Adequate transport facilities in terms of all- weather roads are available. Based on the assumption of one veterinary graduate centre for every 5000 adult cattle unit, the requirement works out to 167 graduate centers, against which there are only 67 graduate centers, leaving a gap of 100 centers. The gap could be bridged over a period of time, taking veterinary services available from cooperative and private milk union. Similarly, based on the assumption of one AI centre for every 1,000 breed able animals (50 per cent of the number in case of buffaloes), the requirement works out to 269 centers based on 2003 census, as against the present number of 192, leaving a gap of 77 centers. The gap could be bridged over a period of time, after accounting for centers available in cooperative and private sectors.

Table 5.13: Taluka wise Existing of Veterinary Institutions

Sr.	Taluka	GPs	Institutions (Nos)									No. of GPs without any Vet. Instit.
			VH	VD	MVC	PVC	AIC	KVS sub centre	Diagnostic Labs	PEC	Total	
1	Satara	210	1	8	1	-	25	-	1	-	26	184
2	Patan	343	-	6	1	-	19	-	-	-	20	323
3	Jawali	151	-	3	-	-	15	-	-	-	15	136
4	M.shwar	111	-	2	-	-	11	-	-	-	11	100
5	Karad	220	1	10	-	-	32	-	1	-	32	188
6	Khandala	70	-	5	-	-	8	-	-	-	8	62
7	Phaltan	125	1	4	-	-	14	-	1	-	14	111
8	Koregaon	139	1	5	-	-	18	-	1	-	18	121
9	Khatav	141	1	9	-	-	19	-	1	-	19	122
10	Wai	119	1	3	-	-	17	-	1	-	17	102
11	Man	105	-	5	-	-	13	-	-	-	13	92
	Total	1734	6	60	2	-	191	-	6	-	193	1541

Source: Animal Husbandry Department, Satara.

Strategy to Improve the Production:

- Organize the training program for farmers to educate nutritional management, quality milk production, care and management of breeding bull, milking cow etc.
- Encourage the farmers for organic and healthy milk production.
- Innovative dairy activities like establishment of breeding farms, automatic community milking centers etc. should also be encouraged and linked to bank finance.

- Dairy farming through tie-up with co-operative need to expand with corporate and private dairies.
- Organize the educational and training programmes for the farmers to identify and control of different poultry diseases.
- Bank can play a vital role by providing credit to the veterinary graduates for setting up of Agri clinic and Agri business centres.
- Rearing of crossbreed female calves in co-ordination with milk unions and Animal Husbandry Department may be taken up as an economic activity under various poverty alleviation programmes.
- The availability of veterinary centres providing health care and AI facilities is inadequate. Veterinary graduates may be encouraged to set up health care units under ACABC scheme.
- Encourage the farmer for preparation of own quality poultry feed to minimize the production cost.
- Banks should encourage disbursement of poultry loans for broiler farming through contract farming.
- Similarly allied activities like setting up feed plants, livestock health care services, infrastructure development, retail marketing outlet for broiler marketing etc. should also be vigorously financed.
- Agriculture science graduates should be encouraged to set up enterprises, especially for providing veterinary and other support services.
- Effort should also be made to popularize goat/sheep farming enterprise among the women self help groups.
- There is need to promote stall fed goat rearing as viable economic activity outside Govt. sponsored programme.
- Bank may consider financing a few slaughter houses abattoirs in the district with a view to improving the marketability of the available livestock.

Table 5.14 Production Plan of Livestock during the Next Five Years-Satara district

Name of commodity	Baseline (2006-07)			2007-08			2008-09		
	Nos	Prod.in M.Tons	Product-ty Per year kg./ No.	Nos	Prod.in M.Tons	Product-ty Per year kg./ No.	Nos.	Prod.in M.Tons	Productivity Per year kg./ No.
Milk									
1) Crossbreed-Cow	66171	198513	3000	72788	218364	3000	80066	240198	3000
2) Indigenous-Cow	33333	29999	900	30000	27000	900	2700	24300	900
3) Buffalo	144778	195450	1350	146225	197403	1350	147687	199377	1350
Total		423962			442767			463875	
Eggs	1993000	2062 Lakh	103	2112580	2176Lakh	103	2175957	2241 Lakh	103
Broiler	509967	3780	1.3	540495	4007	1.3	572925	4247	1.3
Meat									
1) Cattle Beef	30000	3720	124	31800	3843	124	33708	4180	124
2) Buffalo Beef	35850	4804	134	38001	5092	134	40281	5398	134
3) Sheep & Goat	230591	2882	12.5	244426	3050	12.5	259092	3233	12.5
Total		11406			12085			12811	
		2009-10			2010-11			2011-12	
Milk									
1) Crossbreed-cow	88072	273023	3100	96878	310012	3200	100000	330000	3300
2) Indigenous-Cow	24300	21870	900	21870	19683	900	15000	13500	900
3) Buffalo	149000	208600	1400	150000	217500	1450	150000	225000	1500
Total		503493			547195			568500	
Eggs	2306514	2491 Lakh	108	2444904	2640 Lakh	108	2591598	2798 Lakh	108
Broiler	607300	4502	1.3	643738	4772	1.3	682362	5058	1.3
Meat									
1) Cattle Beef	35730	4431	124	37874	4697	124	40146	4979	124
2) Buffalo Beef	42698	5722	134	45260	6065	134	47975	6429	134
3) Sheep & Goat	274638	3427	12.5	291116	3633	12.5	308582	3851	12.5
Total		13580			14395			15259	

Source: District Dy. Commissioner Animal Husbandry, Satara.

Table 5.15: Proposed Physical and Financial Programmes of Animal Husbandry Department- Satara district

Phy- Number, Financial Rs. in lakh

Programme	2007-08	2008-09	2009-10	2010-11	2011-12	Total
Animal Husbandry						
Improving A.I. Delivery system	0.00	15.63	400.00	400.00	384.37	1200.00
Establishment of Hatcheries at I.P.D. Block	0.00	0.00	70.00	70.00	68.00	208.00
Strengthening the distribution network of government Hatcheries by involving SHG./ producer association	0.00	0.00	13.00	13.00	14.00	40.00
Establishment of small Ruminants market yard	0.00	0.00	20.00	20.00	20.00	60.00
Breed village scheme for sheep and goat	0.00	0.00	16.00	16.00	16.00	48.00
Strengthening modernization of existing veterinary Hospitals Dispensaries	0.00	0.00	140.00	140.00	144.00	424.00
Research projects from KNP Vet.Science						
Popularization of Azolla cultivation technology at doorstep of rural and Triable masses (BPL)	0.00	0.00	154.85	42.60	42.60	240.05
Grassland development including grass reserves	0.00	0.00	5.50	0.00	0.00	5.50
Sustainable rural livelihood security for farmers of satara district of maharashtra through diversafied turkey farming	0.00	0.00	67.42	4.31	4.345	76.075
Sustainable rural livelihood security of women of satara Districts of maharashtra through low input rural Poultry farming technology	0.00	0.00	122.43	85.54	85.62	293.59
Socio-economic Upliftment of triable and below poverty line farmers through Scientific dairy farming	0.00	0.00	79.88	35.10	28.18	143.16
Total Animal Husbandry Stream I	0.00	15.63	1089.08	826.55	807.12	2738.38
Fodder development programme	0.50	1.00	2.50	5.00	3.00	12.00
Scientific Tackling of Infertility in Dairy Animals	0.00	0.00	32.00	64.00	32.00	128.00
Demonstration of Scientific calf rearing	0.00	0.00	35.00	70.00	35.00	140.00
Up gradation existing mini-polyclinics veterinary dispensaries	8.00	15.00	24.00	49.00	32.00	128.00
Certified fodder seed marketing subsidy	0.00	0.00	32.00	64.00	32.00	128.00
Total Animal Husbandry Stream II	8.50	16.00	125.50	252.00	134.00	536.00

Dairy						
Revival of non functional DCSs.	0.00	0.00	600.00	600.00	587.19	1787.19
Formation of SHGs & Shetkari Mandals	0.00	0.00	175.00	175.00	180.482	530.482
Strengthening of Existing DCSs	0.00	0.00	1100.00	1100.00	1278.12	3478.12
Clean Milk Production Promotion Scheme	0.00	0.00	500.00	500.00	542.10	1542.10
Artificial Insemination Facility	0.00	0.00	250.00	250.00	312.50	812.50
Improving Green Fodder Supply to DCSs Members	0.00	0.00	11.00	11.00	13.00	35.00
Extension & Training Centers	0.00	0.00	75.00	75.00	94.76	244.76
Plant & Machineries	0.00	0.00	200.00	200.00	226.74	626.74
Civil Construction	0.00	0.00	60.00	60.00	74.32	194.32
Total Dairy Stream I	0.00	0.00	2971.00	2971.00	3309.21	9251.21
Dairies	96.00	0.00	0.00	0.00	0.00	96.00
Chilling Plants	127.00	0.00	0.00	0.00	0.00	127.00
Dist. Dairy Deve. Office	5.00	0.00	0.00	0.00	0.00	5.00
Bulk cooler 1000 Ltrs. Cap	210.00	140.00	70.00	70.00	49.00	539.00
2000 Ltr. Cap.	90.00	72.00	90.00	90.00	45.00	387.00
Electronic Weight & Testing	190.00	81.00	60.00	44.00	40.00	415.00
S.S. Cans	40.00	40.00	33.00	23.00	21.00	157.00
S.S. Kettleles	12.00	12.00	10.00	7.00	7.00	48.00
Milk Procurement Centre	26.00	22.00	20.00	12.00	13.00	93.00
Farmer Training	50.00	48.00	48.00	42.00	22.00	210.00
Secretary Training	5.00	4.00	3.00	4.00	4.00	20.00
Farmer Edu. Trip	82.00	79.00	69.00	69.00	58.00	357.00
Total Dairy Stream II	933.00	498.00	403.00	361.00	259.00	2454.00
Animal Husbandry and Dairy						
Stream I	0.00	15.63	4060.08	3797.55	4116.33	11989.59
Stream II	941.50	514.00	528.50	613.00	393.00	2990.00
Total	941.50	529.63	4588.58	4410.55	4509.33	14979.59

5.5 Fishery Development-

Scope and importance-

Fisheries in India, though very under-developed, contribute annually about Rs. 10 crores to the national income. Rich in proteins, vitamins and mineral salts, fish is a valuable protective food. It forms an important constituent of the diet over considerable areas. The development of fisheries is, therefore, one of the most promising means of improving the diet of the people. Fisheries sector occupies a very important place in the socio-economic development of the country. It has been recognized as a powerful income and employment generator as it stimulates growth of a number of subsidiary industries. Most importantly, it is the source of livelihood for a large section of economically backward population of the country. The main challenges facing fisheries development in the country includes accurate data on assessment of fishery resources and their potential in terms of fish production, development of sustainable technologies for fin and shell fish culture, yield optimization, harvest and post-harvest operations, landing and berthing facilities for fishing vessels and welfare of fishermen.

Fishery is an important farm based activity capable of supporting farm families by utilizing available resources with few modifications in existing structures and adoption of recommended technologies. Due to satisfactory rains received during last two years in the district all the storage structures are having good water storage. This can be utilized for fish farming. Under National Horticulture Mission and Maharashtra Rural Employment Guarantee Scheme, the farmers are constructing farm pond for storing water during requirement. These ponds can be utilized for fish rearing.

Fisheries Development:

▪ Length of Rivers in District	:	676 Kms.
▪ Water spread Area Favorable for Fisheries	:	14457 Ha.
▪ Fish Production in 2005-06	:	3200 MT

Source- District Fishery Development Officer, Satara

In Satara district, there are 972 tanks/reservoirs (Govt. - 56, ZP - 901 and Pvt. 15), with an area of 14367.29 ha, which offers considerable scope for inland fishery. Area to the extent of around 1000 ha is yet to be brought under cultivation. There is a seed production centre at Dhom in Wai Taluka and a fish seed rearing/ nurturing center, each at Rajewadi in Man and Yeralwadi in Khatav talukas, which are both closed. At Kanher (in Satara taluka), one fish seed

farm centre is being developed. In order to meet the increasing demand for seeds, this centre is likely to be completed within a year or two. Satara district has a river length of 676 km, which also offers considerable scope for freshwater fishery. The fish production in the district is about 3900 MT. The potential, however, is not fully tapped. The fish production from rivers is negligible. The saline land in Karad and Phaltan talukas offers scope for development of fish ponds and increase in fish production. The reservoirs coming up as a result of various irrigation projects also offer scope for fishery.

The source wise water spread area in the Satara district is presented in Table 5.12. It can be seen from the table that Zilla Parishad and Grampanchayat account for most of the tanks in the district. The projections for fish production, seed to be stocked and hatchery requirement for XI plan is presented in Table 5.16.

Table 5.16: Source wise Water Spread Area (WSA) in the Satara District

Taluka	Grama Panchayat Tanks		Department Tanks		Reservoirs		Rivers	
	< 40 ha		> 40 ha		No	W.S.A (ha)	No	km
	No	W.S.A (ha)	No	W.S.A(ha)				
Satara	15	33	5	127	1	1123	3	152
Wai	22	29	3	54	1	1394	1	30
M.shwar	0	0	0	0	0	0	0	0
Koregaon	115	348	5	132	0	0	2	64
Phaltan	74	398	9	379	0	0	2	48
Khatav	154	462	9	415	1	546	1	34
Man	200	669	11	503	1	812	1	45
Karad	52	158	5	132	0	0	5	168
Patan	15	23	4	63	1	6485	4	135
Jawali	6	14	0	0	0	0	0	0
Khandala	60	107	5	101	0	0	0	0
Total	713	2241	56	1906	5	10360	19	676

Source- District Fishery Development officer, Satara.

Table 5.17: Fisheries Information

Sr.	Taluka	Details of Fisheries Units																
		Inland Ponds						Rivers					Reservoirs					
		Nos. Units	Species cultured	Average yield per ha	Expected yield per ha	Gap in Yield (kg)	Reasons for gap in yield	Boat & Net Units	Species Harvested	Average Catch/boat	Gap in catch per boat (kg)	Reasons for gap in yield	Nos.	No. of boat and net units	Species Harvested per boat unit (kg)	Average catch per boat in kg.	Expected catch per boat (kg)	Gap in yield catch per boat
1	Solara	20	0	255	500	245	Lack of culture. Knowledge poor. Financial condition of farmer man & cannot fulfill the optimum stocking of fish.	-	-	-	-	1	11	Eel fish, coolfish	7500	6000	2500	Traditional method of fishing, lack of financial condition, Lack of infrastructure.
2	Wari	25	0	245	500	255		-	-	-	-	1	25	Tilapia glass	4500	6000	1500	
3	Mahwar	0	0	0	0	0		-	-	-	-	0	0	0	0	0	0	
4	Kirgaon	120	0	260	500	240		-	-	-	-	0	0	Fish, Shingada	0	0	0	
5	Phalan	83	0	240	500	260		-	-	-	-	0	0	Fish, Shingada	0	0	0	
6	Etatav	163	0	245	500	255		-	-	-	-	1	0	Fish, Shingada	0	0	0	
7	Man	211	0	255	500	245		-	-	-	-	1	0	Fish, Shingada	0	0	0	
8	Karad	57	0	250	500	250		-	-	-	-	0	2	Fish, Shingada	3000	6000	3000	
9	Pavan	19	0	250	500	250		-	-	-	-	1	30	Fish, Shingada	2500	6000	3500	
10	Jawali	6	0	250	500	240		-	-	-	-	0	114	Fish, Shingada	2000	6000	4000	
11	Khandala	65	0	220	500	240		-	-	-	-	0	64	Fish, Shingada	2500	6000	3500	
	Total	769	0	250	500	250	-	-	-	-	5	246		3000	6000	3000		

The financial targets and achievements during X Plan for fisheries development in the district is presented in Table 5.14. The progress made by the district against the target in case of establishment of fish seed farm, fish farming in impounded water, fishery requisite, FFDA and development of fishery cooperative during the year 2002-03 to 2006-07.

Table 5.18: Financial Targets and Achievements during X Plan for Fisheries Development in the Satara district

Schemes	2002-03		2003-04		2004-05		2005-06		2006-07	
	Target	Achievements	Target	Achievements	Target	Achievements	Target	Achievements	Target	Achievements
Establishment of fish seed production center	2.18	2.18	2.00	2.18	3.55	3.55	2.40	2.40	4.00	2.40
Stocking of fish seed in impounded water	0.34	0.34	0.95	0.34	1.12	1.12	1.70	1.70	2.11	1.70
Fish Farmer Development Agency	0.20	0.20	0.00	0.20	0.60	0.60	0.35	0.35	0.60	0.35
Subsidy for supply of fisheries requisites	3.00	3.00	0.12	3.00	2.02	2.02	2.54	2.54	2.48	2.54
Strengthening of fisheries Co-operatives	0.175	0.175	0.00	0.175	0.00	0.00	0.10	0.10	0.10	0.10
Total	5.895	5.895	3.07	5.895	7.29	7.29	7.09	7.09	9.29	7.09

Source: - District Fishery Development Officer, Satara

Table 5.19: Projections for Fish Production, Seed to be Stocked and Hatchery Requirement for XI Plan-Satara district

a) Fish Production (in Tonnes)				
Year	Production at different yields from different areas			Total
	@2000kg/hect for 500hect	@500kg/hect for 2000hect	@100kg/hectare. 6000 ha	
Present	1800	1200	1200	3200
2007-08	800	1200	1300	3300
2008-09	900	1300	1300	3500
2009-10	1000	1300	1400	3700
2010-11	1000	1400	1400	3900
2011-12	1200	1400	1400	4000
b) Seed to be stocked advance fingerlings 50 mm size in lakhs				
Present	21	28	27	76
2007-08	21	28	27	76
2008-09	21	28	27	76
2009-10	21	28	27	76
2010-11	21	28	27	76
2011-12	21	28	27	76
Hatchery required (Assumption 0.6 ha of hatchery can produce 20 Lakh fingerling and 40 Lakh fingerlings required per ha)				
Present	1 Hatchery & 2 Nursery			32.06
2007-08	--	100	100	200
2008-09	1 Nursery unit	100	100	200
2009-10	1 Nursery unit	100	100	200
2010-11	--	100	100	200
2011-12	--	100	100	200

Table 5.20: Projected Outlay for Fisheries Development during XI Plan

(Rs.in lakh)

A	Ongoing Schemes	Annual Expenditure incurred	Proposed Outlay											
			2007-08		2008-09		2009-10		2010-11		2011-12		Total	
		2006-07	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
	Stream I													
1	Reservoir Development	-	0	0.00	0	0.00	5550	45.00	5550	4900	1600	40.00	16000	130.00
2	Subsidy for mechanized Craft (Rs.10,000/-each)	-	0	0.00	0	0.00	60	6.00	60	6.00	80	8.00	200	20.00
3	Establishment of Training Centre-1 proposed	-	0	0.00	0	0.00	2	30.00	1	30.00	2	40.00	5	100.00
4	Subsidy on fish Preservation, Transport & Marketing													
	1) Ice Factories	-	0	0.00	0	0.00	3	30.00	3	30.00	4	40.00	10	100.00
	2) Cold Storages	-	0	0.00	0	0.00	1	60.00	1	60.00	2	80.00	4	200.00
	3) Transport - Vehicles	-	0	0.00	0	0.00	30	60.00	30	60.00	40	80.00	100	200.00
5	Establishment of Mini Wholesale Market	-	0	0.00	0	0.00	1	60.00	1	60.00	2	80.00	4	200.00
	Total (Stream I)			0.00		0.00		291.00		291.00		368.00		950.00

Stream II				2007-08		2008-09		2009-10		2010-11		2011-12		Total		
1	Establishment of fish Seed Production Centre+ Rearing Unit	a) Fish Seed centre + Rearing Unit	No.1+ 4	-	4.00	1	50.00	1	50.00	1	50.00	1	50.00	1+4	254.00	
		b) Fish seed Production	Lakhs fry	32.06		200		200		200		200		1000		
2	Fish farming in Impounded Water	a) Fish Seed Stocking	Lakhs fingerlings	11.79	3.71	76 +12	16.00	76 +12	16.00	76 +12	16.00	76 +12	16.00	380+60 Fish seed + prawn seed	80.00	
		b) Fish Production	M.T.	3200		3300		3500		3700		3900		4000	18400	
3	Fish farmers Development Agency	a) Water Spread Area covered	Ha.	61		100		100		100		100		500		
		b) Pond	No.	19	0.60	20	7.20	20	7.20	20	7.20	20	7.20	100	36.00	
		c) Fish Production	M.T.	63		300		300		300		300		300	1500	
		d) Training	No.	50		110		110		110		110		110	550	
4	Assistance for supply of Fishery Requisites	a) Nylon Net Twines	Kgs.	3000		3500		4000		4500		5000		22500		
		b) non mechanised boat	No.	13	4.00	20	9.75	20	10.00	20	11.455	20	12.50	20	13.75	100
5	Development of fisheries co.op. Societies	a) Fish co.op. Societies	No.	1	0.10	2	0.20	2	0.20	2	0.20	2	0.20	10	1.00	
Total (Stream II)					12.41		83.15		84.40		85.85		86.90		428.45	
Total Fishery (Stream I+ II)							83.15		84.40		376.85		377.90		1378.45	

▪ **Subsidy/ schemes for fishery sector-**

The Fisheries Department of the State Government provides training and technical support to fish farmers in the district. There are adequate ice factories and cold storage units. There are 50 fishermen cooperative societies, with a membership of 1615. Subsidy under the centrally sponsored scheme for development of inland fisheries and aquaculture is available to individuals, SHGs, women groups, cooperative societies etc. Various subsidy schemes have been introduced by GOI for giving a boost to the development of fisheries sector. These schemes are being implemented through MPEDA and the departments concerned of the state government. A brief description of these schemes is given in the Table 5.15.

Table 5.21: Various subsidy schemes for the development of fisheries sector

Sr	Program	Subsidy
1	Construction of new ponds	Rs. 2.00 lakh/ha in plain areas. Subsidy@ 20% with maximum ceiling of Rs.40,000/ha, for all farmers, except SC,ST Rs.50,000/ha(25%). Rs. 3.00 lakh/ha in hill states/districts & NE region. Subsidy @ 20% with maximum ceiling of Rs.60,000/ha, for all farmers, except SC,ST Rs.75,000/ha(25%).
2.	Renovation of ponds and tanks	Rs.60,000/ha Subsidy@ 20% with maximum ceiling of Rs.12,000/ha, for all farmers, except SC,ST Rs.15,000/ha(25%).
3	I year input subsidy	Rs.30,000/ha Subsidy@ 20% with maximum ceiling of Rs.6,000/ha, for all farmers, except SC,ST Rs.7,500/ha(25%).
4	Integrated fish farming	Rs.80,000/ha Subsidy@ 20% with maximum ceiling of Rs.16,000/ha, for all farmers, except SC,ST Rs.20,000/ha(25%).
5	Aerators/ Pumps	Rs. 50,000/unit of 2 lhp aerators one 5 hp diesel pump. Subsidy@ 25% with maximum ceiling of Rs.12,500/for each set of aerators pump for all categories of farmers having production of 3000 kg/ha/year. A maximum of 2 lhp aerators /one 5 hp diesel pump for one ha water area is admissible.
6	Freshwater fish seed hatchery	Rs. 8.00 lakh for a fish seed hatchery with 10 million capacity for the plain areas and Rs. 12.00 lakh with the same capacity areas for hill states/districts & NE region. Subsidy @ 10% with maximum ceiling of Rs.80,000/in the plain areas and Rs.1.20 lakh in the hilly areas to entrepreneurs only.
7	Fish seed units	Unit cost is Rs.25.00 for building, machinery and equipment. These will be set up in private sectors. Subsidy @ 20% with maximum ceiling of Rs.5.00 lakh.
8	Setting up of integrated units, including hatcheries for ornamental fish.	Unit cost is Rs.15 which includes hatchery of 5-10 million (fry) capacity. Subsidy @ 10% with maximum ceiling of Rs.1.50 lakh to all categories of fish farmers.

Source- Potential Linked Credit Plan 2008-09

The Fisheries Department faces shortage of manpower. Satara and Karad are two main fish markets in the district. They need to be modernized and upgraded by the Department of Fisheries. The marketing arrangements like transport-vans, cold storage and the physical conditions of markets need improvement. The Fishermen Cooperative Societies, which are very weak, need to be strengthened. Their membership and credit absorption capacity needs to be increased, with special efforts by the Department, the fishermen and the bankers.

On Going Schemes:

1) Establishment of fish Seed Production Centre

In Satara district, fish seed production is situated near Dhom reservoir in Wai Taluka consisting 14.5 ha. total area and 5.22 water Spread area. The Construction of farm in the year 1986-87 and fish seed production started in the year 1988-89. In the year 1991-92 the operation of Chinese hatchery unit started to meet the demand of carp seed. At present most of the water distribution canals distribution chamber, gates of the chamber, pipeline structure has been damaged and requires renovation. Most of the ponds have been accumulated with silt and the desolation of the ponds is very necessary. There fore the strengthening, renovation & maintenance of the farm is necessary. For the year 2008-09 token provision of Rs.10 lakh proposed.

2) Yearalwadi & Rajewadi rearing Unit

Both the existing rearing units require different types of maintenance. At Yearlarwadi Tal – Khatav require renovation of office, godown. pipelines, supply of electricity etc. Rajewadi rearing unit require residential facility, pipeline, office building, electricity, storage room, packing shed, conditioning unit. For the two rearing units Rs.20 lakhs outlay is proposed. As per the availability of proposed funds it will be easy to increase the fish & prawn seed rearing capacity of the unit.

3) Koyna & Kanher rearing Unit-

Govt. land available near Koyna & Kanher reservoirs. Office, godown & residential facility required. Construction of nursery ponds, rearing ponds, filter chamber, pipeline, water supply system, electricity is essential. The token outlay is Rs.10 lakh each is demanded in the year 2008-09 for additional works in the next 4 years is proposed & as shown in the table. For establishment of fish seed production center and rearing units Rs.50 lakh provision is demanded as shown in table.

4) Fish farming in impounded water -

In Satara district there are 5 reservoirs, 972 Govt. tanks & Z.P. percolation tank, & private tanks having about 15000 ha water spread area. Besides this, there are 10 major perennial rivers having length of about 676 kms which is available for capture fishery. Therefore, maximum potential is available in the district for fish farming. To increase the fisheries production, there is need to stock available water bodies with the Indian Major Carp fish seed in optimum levels.

Annual requirement of fish & prawn seed is about 125 lakh & 30 lakh respectively. Stocking of seed should be done at least for 3 years successively, then & then only fish Production of the district will increase remarkably. For the first year of stocking the funds required are Rs.70.00 lakhs including packing & transportation charges.

5) Fish Farmers Development Agency (FFDA)-

As mentioned earlier, the Fish Production in the district is about 3000 MT. The potential however is not fully tapped. The fish production from the rivers is negligible. The saline land in Karad & Phaltan Tahsil offers wide scope for development of fish & prawn farming. The FFDA provides subsidy for development of fresh water aquaculture. The funds for FFDA scheme received by state Govt.(25%) & Central Govt.(75%) . Therefore the outlay & additional fund requirement for 2008-09 is not shown in the table.

6) Assistance for Supply of fishery Requisite –

As per statistical survey, the present active fishermen are around 2000. In that the members of Cooperative Societies are considered as active fishermen. But the fishermen from the weaker section i.e. Katkari, Gosavi, Darveshi etc. are fishing in rivers, creeks and other water bodies. The economical condition of these fishermen is very poor. They need fishing equipment twine, nets, boats, crafts, etc. Supply of Nylon twine Nets on 100% Subsidy basis can be distributed through district office directly to the weaker section fishermen to improve the financial and social condition. This will help to increase the district fish production as well as upliftment of BPL families to APL level.

- a) Subsidy on nylon twine / net: - For the year 2007-08 the requirement of nylon twine / Net is proposed to be 5000 kg and in Rs.6.00 lakh.
- b) Subsidy on non mech. boat - for the year 2008-09, 40 non. mech. boats are proposed which require 1.20 lakh Rupees.
- 2) Development of Fisheries Co.op :-In the year 2008-09 the managerial subsidy & share capital for two Co.op. Societies. It requires Rs.0.20 lakh only.

New Schemes:

1. Reservoirs Development:-

In Satara District there are 5 reservoirs comprising 8000 hectares of water spread area. For the development of reservoirs there is need to develop infrastructure & support services such as landing centers, sheds & approach road etc. Because of vast area & uneven topographical conditions underwater it is difficult to harvest the fish. The fishermen population lives in the interiors along the banks of reservoirs. To exploit the maximum fish it is necessary to stock the reservoir with optimum stocking of prawn & fish seed.

These reservoirs must be stocked with its optimum capacity of 40 lakh prawn & fish seed. An outlay of Rs.22 lakh is required for three successive years.). In the district for infrastructure development and supporting services 15 landing centers along banks of reservoirs with sheds and approach road is proposed. It requires Rs.60 lakhs for five years approx. For the first year (2008-09) total outlay required is Rs.12 lakh.

2. Subsidy for Mechanised Crafts :-

Water bodies in the district are divided in three catagaries i.e. 1) Small (below 20 ha.) 2) Medium (20 to 200 ha) & 3) large (above 200 ha.) **Fish is migratory** .In medium & large water bodies the fishermen has to move in backwaters of the reservoirs & tanks for fishing early. It is necessary to mechanise their traditional crafts which will facilitate the fisher folk to reach the fishing grounds as early as possible & come back to the landing centers by keeping the quality of fish. In next five years about 100 traditional boats will be mechanized & will be subsidised @ Rs.10,000/- per boat. Therefore the total outlay proposed for 2008-09 is Rs. 2.00 lakh for 20 Crafts.

3. Establishment of Training Centre:-

Due to lack of technical knowledge, the fisher folk of the district are lagging behind compare to other state & districts. There is wide scope of capture & culture fisheries in the district.

The assessment of the potential of fresh water prawn farming has been significantly established to utilize saline affected unproductive land for prawn culture as well as a mechanism to reclaim land which could be used again for agricultural purposes.

Approximately more than 4000 ha land has been identified & providing scope for prawn & fish farming. Therefore the training center at district level is proposed at Kanher, tahsil Satara with all necessary equipment. (Building, training halls, computers, sitting arrangements, laboratory and other training equipments) The Govt. land is available at kanher. This will useful

to develop the technical knowledge of the traditional fishermen and to implement lab to land programmer. For the year 2008-09 Rs.60.00 lakh outlay is proposed for construction of training center, and establishment expenditure. Also Rs.2.50 lakh is proposed for stipend and other expenses for trainees.

4. Subsidy for fish Preservation, Transport & Marketing :-

Fish is nutritious, highly perishable commodity. After harvesting, rigor mortis starts immediately. Therefore it should be transported immediately in a chilled condition to the market. To maintain the quality, it requires cold chain from harvesting site to the consumer. Fish is a high value commodity. Keeping this in view there is a need to develop preservation, transport and marketing system.

In the district for fish preservation it is proposed to have 5 ice factories & 2 cold storages in next 5 years. For first year (2008-09) it requires Rs.60.00 lakhs of outlay for installation of ice factories & cold storages .For transporting fish 50 vehicles to be distributed on subsidy basis at the rate of Rs.2.00 lakh per vehicle approximately.. For that the total requirement of funds in the year 08-09 is Rs.20.00 lakhs and it is demanded from DPDC as shown in the table.

5.4 Watershed Development:

Watershed conservation is widely recognized as a major strategy for rural development throughout the developing world. In India, the apparent success of participatory approaches to watershed development resulted in a decentralization of project planning, implementation, and management to local communities at the village scale. Comprehensive Watershed Development Programme is being implemented since 1983 which is now followed by Jal Sandharan Programme through out the Maharashtra State since 1996 onwards. In Satara district, according to the G.S.D.A watersheds, total 1361 micro watersheds are identified and a watershed atlas is prepared at District level. Out of those 1221 watersheds, District Watershed Committee had selected 1074 Watersheds for executing Watershed Development Programme. Jal Sandharan Committee is headed under the District Collector, as a chairperson and District Superintending Agriculture Officer as a secretary of the committee in which district head of the Forestry, Social forestry, minor irrigation departments, G.S.D.A., deputy collector (EGS), project director (DRDA) are the members. Watershed Development Programme is executed and monitored through all these departments collectively and gets reviewed in the District Committee.

Objectives of the Watershed Development Programme

1. Prevention of Land degradation in the watershed areas.
2. Improvement of land capability and moisture regime in the watershed areas.
3. Promotion of land use to match land capability.
4. Prevention of soil and water from watershed catchments to reduce siltation of reservoirs.

Intensive Watershed Development Programme is being implemented through different but related agencies collectively and through different State and Centrally sponsored programmes (schemes).

Centrally sponsored programmes

1. National Watershed Development Programme.
2. Western Ghat Development Program
3. River valley Project
4. Hariyali (New DPAP)

State sponsored programmes

1. Intensive Watershed Development Programme.

Centrally sponsored programmes are being implemented under each five year programme.

According to the Govt. Instruction and guidelines, the Perspective Plan is now prepared considering the all 1356 micro watersheds in the district and were reviewed by the concerned departments. The total availability of the works, works completed up till now and balance works and amount required to complete the all watershed is about Rs 88625 lacs. As per the Perspective Plan and total physical availability of works, projected cost is about Rs. 118958 lacs whereas the amount spent on the works up to March 07 is Rs. 30333 lacs and to complete watersheds still amount of Rs. 88625 lacs. is required. To complete the all watersheds in within the five year plan, year wise phase programme commencing with 2007-08 to 2011-12 is tabulated as under.

With an aim to increase the production of crops in rainfed areas and to prevent the deterioration of natural resources, the government of Maharashtra started implementing watershed development programmes (WDPs) extensively much before the introduction of centrally sponsored National Watershed Development Project for Rainfed Areas (NWDPR). No doubt, as a result of concerted effort, area treated through WDPs has increased substantially in the state. All eleven talukas have significant area available for watershed development and balance area to be treated for the district is 71 percent of balance area available for watershed treatment. This indicates the poor progress in watershed development in Satara district till date.

All talukas have reported unsatisfactory progress. The Plan to bring the entire available under watershed during 11th Plan period is indicated below in Table 5.17.

Table 5.22 : Area Available for Watershed Development and Plan

Takula	Geographical Area (ha)	Area not Suitable for watershed (ha)	Area available for w/w development (ha)	Area treated so far (ha)	Balance Area (ha)	2007-08	2008-09	2009-10	2010-11	2011-12
Satara	87953	0	87953	25100	62853	9681	16136	16136	11219	9681
Koregaon	94840	0	94840	33081	61759	9096	14494	14494	12795	10880
Khatav	136457	1190	135267	33851	101416	17452	24086	24086	20023	15769
Karad	104211	0	104211	43297	60914	7955	15576	15576	12461	9346
Patan	140364	3540	136824	38569	98255	14164	23607	23067	18886	18531
Wai	61909	2300	59609	12748	46861	6402	10669	10669	10535	8586
Jaoli	86895	6460	80435	22504	57931	10264	13774	13774	11019	9100
M.Shwar	22190	0	22190	7628	14562	2323	3372	3372	3172	2323
Khandala	53608	900	52708	19363	33345	5164	7086	8606	6885	5604
Phaltan	119029	0	119029	29460	89569	15277	20962	20962	18770	13598
Man	150787	1600	149187	35802	113385	18111	26851	26851	22461	19111
District	1058243	15990	1042253	301403	740850	115889	176613	177593	148226	122529

Source: DSAO, Satara

5.7 Social Forestry Development

Scope and Importance

Forests are one of the major renewable sources of our State. They play an important role in maintaining the ecological balance of nature. They include harmonious cycling of water resources, storage of soil & moisture, moderating influence of floods, control over air, water and noise pollution moderation of temperature, better rainfall distribution, providing decentralized rural employment and food supply to disadvantageous section of population. Due to continued degradation and destruction of the forests in our State in the past, the evil effects in the form of soil erosion, floods, increased run-off, loss of genetic diversity etc. are manifested. The loss of forest cover is causing great concern to ecology in general and environment in particular. Forest, being the precious natural renewable resource, a sustainable management of this resource is most essential. Over the last twenty years, large-scale planting of Eucalyptus, as a fast growing exotic, has occurred in India, as part of a drive to reforest the subcontinent, and create an adequate supply of fuel and timber for rural communities under the aegis of 'social forestry'. Initially in response to the international community's consternation regarding deforestation, social forestry was, in its early days, largely a product of development aid Government of

Maharashtra decided to implement Wasteland Development Programme on large scale over an area of 1.35 million ha vide its Resolution dated 3/6/1987, in which the F.D.C.M.Ltd. was also involved as line agency with Forest Deptt. and Social Forestry.

Only 12% of total area of Satara district is covered by forests, and it is necessary to cover additional 3458 sq km area under forests, to have the required forest cover of 33%. The land available for the purpose is more than 1.77 lakh ha, comprising 5308 ha common area/community land and 1.72 lakh ha private wasteland. Forest Development Corporation, Maharashtra (FDCM), in association with the Social Forestry Department of the Government, is implementing the schemes for development of social forestry. Under the centrally sponsored Integrated Wasteland Development Programmes 12427 ha in 20 village of Karad. 5000 ha each in Wai and Satara under Hariyali and 2000 ha in Koregaon under DPAP watershed development programme are in operation. In addition the Social Forestry Department has covered 15538 ha under planting on community and private land and also covered 122 km of roadside planting.

The central nursery at Satara produces around 2 to 2.5 lakh saplings/seedlings of various species every year. Kharav and Patan talukas have a central nursery each. There are nurseries in Wai, Phaltan, Koregaon, Khandala and Karad talukas. In addition, 26 private nurseries registered with the agriculture department are providing requisite quantity of planting material. Other inputs like fertilizers, pesticides etc. are available in required quantity, in the district. Social Forestry Department of the Govt. of Maharashtra is creating awareness amongst the rural population about importance of plantation and growing trees. A few voluntary agencies and NGOs, like Prerana Pratishthan, are active in this regard. Market is available for forest produce like timber, firewood, bamboo etc. AARTI, Phaltan conducts training programmes on growing and treating of bamboo as a commercial activity.

Schemes for Forestry Development in the District:

1) National Bamboo Mission - Bamboo, traditionally considered as the "poor mans timber" in India is under consideration as a major export item for a global market. Bamboo provides high yields, has lots of uses and has the potential to provide employment for millions **and thus stem rural workers fight to India teeming cities**. Bamboo is providing shelter security, livelihood security, ecological security and food security.

The National Bamboo mission will be a centrally sponsored scheme in which the contribution of the central Government will be 100%. The scheme will be implemented by Directorate of Horticulture in Maharashtra state. Key elements of the mission are (a) Research

and development for sustainable development and new bamboo Agri-forestry techniques for technology generation (b) establishment of nurseries to raise bamboo seedlings(c) raising high yielding bamboo plantation on commercial basis in forest and non-forest areas (d) Rejuvenation of senile neglected bamboo plantation (e) Pest and disease management of bamboo(f) handicraft, bamboo marketing and exports (g) Capacity building and Human Resource Development of farmers (h) field functionaries and others (i) New marketing strategy for Bamboo and establishment of bamboo markets, Bamboo bazaar and retail outlets (j)Meticulous monitoring, evaluation and reporting, database generation, capitalization and analysis

Bamboo should become a tool not only in poverty elimination but also in prosperity accumulation.

Strategies to increase area under forest-

- Absence of systematic survey of private wastelands has been the limiting factor for assessing the exact potential. As such, a systematic survey needs to be carried out
- Farmers may be educated on environmental as well commercial benefits from forestry schemes. More incentives may be offered in the form of seedlings, extension services and monetary rewards for survival of plants in private wastelands.
- The restrictions and cumbersome procedures to obtain permission from the Govt. for felling of trees on private lands and transportation of timber and fuel wood may be relaxed to a certain extent, to encourage tree plantation for commercial purposes.
- The strategies that the district administration has followed have actively involved the village communities in protection and management of the forest wealth. Thus, besides the institutions of Panchayats. An interesting and encouraging experiment has been creation of by Panchayats /Joint Forest Management Committees which consist entirely of the district. The Protected Areas for the forest.
- There is need to create awareness among the farmers with regards to the benefits of taking up the plantation of forest and other species on their wasteland. Hence, the Agriculture Department of the state Government may focus this aspect.
- Investment in bio-technology, processing infrastructure, transportation etc. need to be encouraged, especially for Tree Born Oilseeds.
- Present laws make it very difficult to reap the benefits from the forest trees. This discourages farmers from taking up this activity. Hence, there is a need to revisit the existing laws and make it farmer friendly for encouraging investment in he sector.
- A suitable policy should be developed to map and lease out degraded forest land and waste land in t he hands of Govt. to farmers for encouraging tree plantation.

- The plantation of forest species as also the tree born oilseeds, are heavily dependent on the economies of scale. Therefore, a plantation campaign should be launched for the district as a whole, by the government in association with NGOs, Farmers associations, Cooperatives, SHGs banks etc. Any scattered and isolated efforts may not yield the desired results.

• **Action Plan**

The action plan for social forestry for XI plan is presented in Table 5.17.

Table 5.23: Action Plan for Social Forestry for XI Plan

(Rs. in lakh)

Particulars	Total Programme		2007-08		2008-09		2009-10		2010-11		2011-12	
	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Scheme I												
Social Forestry Infrastructure Development												
1) Van Purchases	6	44.00	0	0.00	0	0.00	2	15.00	2	15.00	2	14.00
2) Divisional Building	0	50.00	0	0.00	0	0.00		0.16		0.16		0.18
3) Training Centre Hall	3	40.00	0	0.00	0	0.00	1	13.00	1	13.00	1	14.00
4) Other Taluka level Offices	5	30.00	0	0.00	0	0.00	2	10.00	2	10.00	2	10.00
5) LCD Projector	4	5.00	0	0.00	0	0.00	1	1.00	1	1.00	2	2.00
6) Fax / Xerox Machine	4	4.00	0	0.00	0	0.00	1	1.00	1	1.00	2	2.00
7) Office Furniture	0	6.00	0	0.00	0	0.00		2.00		2.00		2.00
8) Computer Purchases	0	2.00	0	0.00	0	0.00		0.75		0.75		0.50
9) Other Miscelinius	0	20.00	0	0.00	0	0.00		7.00		7.00		6.00
Total		200.06		0.00		0.00		67.75		67.75		68.50
Scheme II												
Nursery Development												
1) 'Small (Polythilin bag) plants	5	20.85	1	2.60	1	2.50	1	5.30	1	5.80	1	4.65
2) Highted Plant	2.5	89.83	0.10	1.57	0.10	1.73	1	34.09	1	37.44	0.30	15.00
3) 'Farmer's (Kisan) Nursery	37	17.67	10	4.84	7	3.33	9	4.34	6	2.83	5	2.33
Social Forestry												
1) 'Plantation on social Land	2249	358.90	354	6.77	15	2.74	938	174.23	842	156.46	100	18.70
2) 'Plantation on CTC / loose holder /CNB	1194	119.49		0.00		0.00	354	35.49	512	51.20	328	32.80
3) 'Plantation on Road Side	250	250.00		0.00		0.00	84	84.27	100	100.36	66	66.27
'Harit Sena Shala'	250	6.25		0.00		0.00	100	2.50	100	2.50	50	1.25
Total		863.89		15.78		10.30		340.22		356.59		141.00
Total S. Forestry (Stream I+ II)		1063.89		15.78		10.30		405.97		422.34		209.50

5.8 Agro-based Rural Development Programme:

The Rural Agro-Based Industrial Development Programme is charged with the responsibility of researching into and developing small-scale manufacturing (usually food processing techniques) using locally manufactured equipments. It is evident that the Agro-Industrial Development programme has achieved some degrees of successes especially in village Agri processing, Palm oil processing among others. The concern of this plan is to develop strategies of small scale /agro industrial development. The challenges, prospects and opportunities of the small –scale industrial development will also be highlighted.

A. Apiculture-

Apiculture is one of the emerging important subsidiary occupations sponsored by KVIC. Till today honey collection from forest area is livelihood activity in hilly areas of Pune district. Scientific rearing of apiculture has a very wide scope in increasing agricultural production up to 30 per cent by activating pollination process. Agro climatic conditions of Satara district especially Mahabaleshwar taluka are suitable for commercial implementation of this enterprise. KVIC organizes different scientific training programme of commercial apiculture for the rural unemployed youth. *Apis Mellifera* is a new species having more disease resistance capacity than the existing local species (Satari). Apiculture is eco-friendly enterprise which does not compete with any other enterprise and hence, it has wide scope in Pune district.

Activities organized by KVIC

1. Training-

Scientific training of honey bee rearing for 10 days is being organized by KVIC. During the training, Rs. 500/- stipend is also supplied to participating person.

2. Demonstrations-

Technical demonstrations of honey bee rearing are organized by KVIC across the district.

3. Educational tour-

Intrastate and interstate educational tours are being organized by the KVIC to encourage the people and popularize commercial honey bee rearing activity among the rural people.

Sericulture

Sericulture is one of the most important trustworthy agro based subsidiary enterprise leading sound economic gain to the farmer. Agro climatic conditions of scarcity zone of the district are suitable for mulberry cultivation and silk worm rearing. With a view to give thrust for the sector, a separate Directorate had been established under the ministry of textile. Now Govt. had planned to expand the area under Mulberry, in a planned manner. Under integrated cropping practices proposed by the state, thrust has been given to mulberry cultivation and silk rearing in the district.

Table 5.24: Action Plans for K.V.I Programmes during XI Plan.

Programmes	No. of Beneficiary Units	Target										Total	
		2007-08		2008-09		2009-10		2010-11		2011-12		Phy.	Fin
		Phy.	Fin	Phy.	Fin	Phy.	Fin	Phy.	Fin	Phy.	Fin		
Stream-II													
Bee Keeping Training	150		0.00	10	0.49	50	3.50	50	3.51	40	2.50	150	10.00
Bee Breeder Training Programme	50		0.00		0.00	20	2.40	20	2.60	10	1.50	50	6.50
Training for capacity Building	25		0.00		0.00	2	1.00	2	1.00	1	0.50	5	2.50
Distribution of Bee Boxes	1245		0.35	352	3.52	347	3.47	326	3.26	336	3.36	1245	13.96
Total			0.35		4.01		10.37		10.37		7.86		32.96
Stream- I													
Training Infrastructure		0	0.00	0	0.00	1	20.00	0	0.00	0	0.00		20.00
Total		0	0.00	0	0.00	1	20.00	0	0.00	0	0.00		20.00
Khadi & Village- I			0.00		0.00		0.00		0.00		0.00		20.00
Khadi & Village - II			0.35		4.01		10.37		10.37		7.86		32.96
TOTAL (Stream I+ II)			0.35		4.01		30.37		10.37		7.86		52.96

5.9 Food Processing Units:

It is a well known fact that the processing of agricultural and horticultural produce improves quality and life of the products, besides fetching a higher price by value addition in it. Value addition is one of the two fronts in increasing net income of the farmer. Hence, agro based industries assume great importance in providing assured return to the farmers. Table 5.18 to 5.30 presents the taluka-wise information on agro-processing facilities available in and outside the district but serving the need of the district.

Table 5.25 : Information on Agro-processing facilities available in and outside the district but serving the need of the district, Satara

Sr. No	Name of the block	Location of the processing unit	Name	Commodities processed	Type of processing	In use
1	M/s Koyana Agro Industries Ltd.	Plot No. A/14/15/16 M.I.D.C. Patan	-----	Pickles Honey	Agro processing	Yes
2	M/s Passion Food Industries,	B-109, Wai	-----	Jam, Ketchup, Swas, Seauch	Agro processing	Yes
3	M/s Mahabaleswar Madhotpadak Society, Madhusagar	Mahad Road Mahabaleswar		Jelly Sweets, Honey	Agro processing	Yes
4	M/s Mapro Foods	Plot No.3, T.P.No.3 Pachgani	Mayur Vora	Jam, Jelly Sweets, Fruity, Honey	Agro processing	Yes
5	M/s Nisarg Bio Tech Pvt. Ltd.	J-2/1, Addl. M.I.D.C Satara	Jalindar Shirang Shinde	Food Supplyments	Agro processing	Yes
6	M/s Urvi Agro Ventures Pvt. Ltd.	C-20, Old M.I.D.C. Satara	Pradeep Rangnath Kulkarni	Dehyollration process of Vegetables and Fruits	Agro processing	Yes
7	M/s Mala Food Product	25/1A, Bhose Tal-M'shwar	P.A.Mala	Honey, Jelly Sweet, Fruit Melties, Jam	Agro processing	Yes
8	M/s Panny Jelly Sweets	247, Bhose Tal-M'swar	N.S. Kasurde	Jelly Jam Honey, Ketchup, Syrup, Pickles	Agro processing	Yes
9	M/s A1 Jelly Sweets	199, Dandeghar Tal-M'swar	D.M.Kalmbe	Honey, Jelly Sweets	Agro processing	Yes

10	M/s Madhur Jelly Sweets & Choklet	119, Godwali Tal-M'swar	S.R.Shinde	Jelly Sweets	Agro processing	Yes
11	M/s Sahyadri Honey Packaging	22/2, Godwali Tal-M'swar	N.R.Malusare	Honey, Gulkand Fruit Products	Agro processing	Yes
12	M/s Siddhi Griha Udoug	116, Godwali	Mohini Mangesh Pawar	Honey, Gulkand, Pickls	Agro processing	Yes
13	M/s Trimurti Foods	8, Gureghar	P.B.	Gulkand, Jelly	Agro processing	Yes
		Tal-M'swar	Dhobe	Sweets		
14	M/s Agarkar Fruit Canning	Mahad Road Mahabaleshwar	W.R Agarkar	Honey, Jam	Agro processing	Yes
15	M/s Shripati Narsyya & Sons	451, Sabane Rd M'shwar	M.S.Yadav	Honey	Agro processing	Yes
16	M/s Suprim Fruit Product	147, Nakinda Tal-M'swar	A. L. Nalband	Honey, Jelly Sweets	Agro processing	Yes
17	M/s Samson Products	Pachgani	A. M. Waikar	Jelly Cruses, Syrup	Agro processing	Yes
18	M/s Sahadri Jelly Sweets	494 B, Shivajinagar Pachgani	Urmila V. Shah	Jelly Sweets	Agro processing	Yes
19	M/s Fevorate Jelly Sweets	14A, II No.11, Pachgani	V.B. Lokhande	Jelly Sweets	Agro processing	Yes
20	M/s Madhur Food Products	Pachgani	H. N. Takwale	Honey Gulkand Pickles	Agro processing	Yes
21	M/s Sahyadri Krishak Seva Saha. S. Ltd.	117, Devalimura Tal M'shwar		Jelly Sweets	Agro processing	Yes
22	M/s Chordiya Food Products	Sangvi Tal. Khandala	P.H. Chordiya	Canning Pro., Curry Paste, Ketchup Pickles	Agro processing	Yes
23	M/s Niyan Enterprises	Sangvi Tal. Khandala	S. M. Chordiya	Canning Pro., Curry Paste, Ketchup Pickles	Agro processing	Yes
24	M/s Agree Food Reacharch. Fond	Sangvi Tal. Khandala	P. H. Chordiya	Tomato Ketchup	Agro processing	Yes
25	M/s Sur Food Products	Sangvi Tal. Khandala	Smt. S. R. Kothari	Choonda Murbanba	Agro processing	Yes

26	M/s Rokdoba Enterprises	Sangvi Tal. Khandala	Smt. J. S. Bhandari	• Pickles	Agro processing	Yes
27	M/s Asuwara Pickles & Spices Industries	New M. I.D.C Satara	S. R. Vyaware	Pickles	Agro processing	Yes

Source –SREP, Satara

Table 5.26: Agro Processing Unit in the District (including Sugar, Milk, Silk, etc. related to Agriculture only) –
Type of Agro Processing Unit : Fruits & Vegetable Processing & Sugar Factory

Sr.	Taluka	No of processing Units (Fruit & Veg., Veg. + sugar + sericulture)	Per Day Capacity (tonnes)	Produce Processed by Agro- processing Units during 2006-07	Proposed Planning									
					2007-08		2008-09		2009-10		2010-11		2011-12	
					No. of Units	Agril Produce Processed tonnes/year	No.of Units	Agril Produce Processed tonnes/year	No.of Units	Agril Produce Processed tonnes/year	No.of Units	Agril Produce Processed tonnes/year	No.of Units	Agril Produce Processed tonnes/year
1	Satara	4 + 1+0	0.5	Pickles	2	150	2	300	4	500	4	500	4	500
		5		Dhydrate Products										
2	Khandala	5+0+0=5	1	Pickles	0	0	1	100	1	100	1	100	1	100
				Ketchup Muramba										
3	Mshwar	16+0+0	0.5	Pickles,	0	0	2	100	1	50	2	100	1	50
		16		Honey,Jelly Jam,Gulkand										
4	Wai	1+1+ 2 Reelig unit	0.3	Jam,Swas	0	0	4	400	4	400	4	400	4	400
		4		Ketchup										
			10 Kg of cacoon	1642 Kg Raw silk Produced										
5	Koregaon	1+1+0=2	0.2	Sarbat	5	200	5	200	5	200	5	200	5	200
6	Khatav	0	0		0	0	1	100	1	100	1	100	1	100
7	Karad	1+3+0=4	0.5	1642 Kg Raw silk Produced	0	0	1	100	2	200	2	200	4	400
8	Patan	1+1+0=2	1	Pickles,Jelly Jam	0	0	1	100	1	100	0	0	1	100
9	Jawli	1+1+0=2	1	Jam,Chips	0	0	1	50	1	100	1	100	1	100
10	Phaltan	1+2+0=3	2	MangoPulp	1	100	2	200	2	200	2	200	2	200
11	Man	0	0	0	1	100	1	100	1	100	1	150	1	150
	Total	32+10+1=43			9	550	21	1750	23	2050	23	2050	25	2300

Development of Rural Industries:

Besides adding the value, processing of agricultural and horticultural produce improves quality and shelf life of the products. Value addition increases the net income of the farmer by reducing cost of production. Therefore, agro based industries play a major role in providing assured return to the farmers. There are 2447 small scale industrial units in the district, with an investment of Rs. 11829 lakh, providing employment to 22130 persons (see Table 5.27).

Table 5.27: Product wise number of SSI Units in the Satara District

Sr. No.	Category of Industry	Nos.	Investment (Rs. In lakh)	Employment
1	Manufacturing of food Product	117	1246	566
2	Manufacturing of Textile	21	589	208
3	Manufacturing Wearing apparel Dressing & Dyeing of Fur	25	41	75
4	Traning & Dressing of Leather, Mfg. luggage hand Bags Sandle Harness & Footwear	50	110	100
5	Manufacturing of Wood products Plating Material Except Furniture	150	280	300
6	Manufacturing of paper Products	11	26	54
7	Manufacturing of Publishing Printing And Reproduction of Recorded Media	28	66	230
8	Manufacturing of chemical & Chemical Products	49	377	577
9	Manufacturing of Rubber & Plastic Products	84	775	820
10	Manufacturing of other Non Metallic Mineral Products	89	707	925
11	Manufacturing of Basic Metals	155	270	451
12	Manufacturing of Fabricated Metal Products Except Machinery & Equipment	126	649	950
13	Manufacturing of Machnery & Equipments	70	203	450
14	Manufacturing of Electrical Machinery & Apparatus	96	400	179
15	Manufacturing of Radio television Communication Equipment and Appratus	20	35	45
16	Manufacturing of Medical	15	802	76
17	Manufacturing of Motor Vehicles Trailers & Semi Trailers	32	427	188
18	Manufacturing of Furniture	40	38	120
19	Maintenance & Repair of Motor Vehicles & Motor	99	123	165
20	Computer Reated Activities	71	90	476
21	Other Business Activities	1045	4209	14655
22	Othwer Service Activities	54	366	520
	TOTAL	2447	11829	22130

Table 5.28 : Progress during X Plan under District Industrial Centre-Satara district

Programme	2003-03		2003-04		2004-05		2005-06		2006-07	
	T	A	T	A	T	A	T	A	T	A
Seed Money Scheme	40	28	49	31	40	10	40	12	27	16
DIC Loan Scheme	6	5	6	4	10	6	10	6	6	6
PMRY	1050	1107	960	994	1455	1483	1443	1465	153 0	15 40
EDTP	178	208	320	242	289	295	289	190	300	30 0
TOTAL	1274	1348	1335	1271	1794	1794	1782	1673	186 3	18 62

Note: T-Target, A- Achievements

Table 5.29: Action Plan of DIC for XI Plan (Rs.in lakh).

Programme	2007-08		2008-09		2009-10		2010-11		2011-12		TOTAL	
	Phy	Fin	Phy.	Fin	Phy.	Fin	Phy.	Fin	Phy	Fin	Phy.	Fin
Agro Processing Entrepreneurship	0	0.00	0	0.00	500	25.00	500	25.00	500	25.00	1500	75.00
Co-op Industrial estate	0	0.00	0	0.00	8	600.00	7	600.00	7	560.00	22	1760.0
Agro-park Incentive Scheme	0	0.00	0	0.00	5	300.00	5	300.00	6	360.00	16	960.00
Capital For Agro processing units	0	0.00	0	0.00	75	1500.0	75	1500.0	70	1400.0	220	4400.0
Scheme For Quality Standards	0	0.00	0	0.00	75	150.00	75	150.00	54	108.00	204	408.00
Agro Inform. technology centre	0	0.00	0	0.00	6	30.00	6	30.00	6	30.00	18	90.00
Food testing Laboratory	0	0.00	0	0.00	7	200.00	7	200.00	6	200.00	20	600.00
Export Promotion Scheme For Agro Units	0	0.00	0	0.00	50	500.00	50	500.00	40	400.00	140	1400.0
Total Stream I		0.00		0.00		3305.0		3305.0		3083.0		9693.0
SMS Scheme	9	8.20	16	15.30	32	31.80	30	30.00	50	50.00	135	135.30
DIC Loan Scheme	4	1.58	5	1.80	5	2.22	12	4.70	15	6.00	41	16.30
EDTP	46	1.40	2160	64.70	2500	75.00	2000	60.30	3194	100.0	10230	301.40
Total Stream II		11.18		81.80		109.02		95.00		156.00		453.00
TOTAL DIC (Stream I+ II)		11.18		81.80		3414.02		3400.00		3239.0		10146.0

5.11 Agriculture Marketing-

An efficient agriculture marketing system is indispensable for the overall development of the district/state/country's economy. It requires a healthy environment, smooth channels for the transfer of produce, physical infrastructure to support marketing of the produce, easy cash support to widely scattered community of producers and also promotes a sense of market orientation among the farmers. The absence of rural road connectivity and other infrastructure, combined with improper management, lack of marketing intelligence has resulted in a system that is unfavorable to the farmers. The adverse impact of all these is more pronounced in the case of the small and marginal farmers who constitute about 70 % of the entire farming community.

Table 5.30: Basic Marketing Infrastructure for Agriculture Produce (Post Harvest Management)

Capacity in tones

Sr. No.	Taluka	Storage Structures						Markets (Numbers)	
		Rural Godowns		Cold storage		Onion Storage		Main market	Sub market
		Nos.	Capacity	Nos.	Capacity	Nos.	Capacity		
1	Satara	0	0	4	11000 mt.	0	0	1	4
2	Koregaon	0	0	1	50 mt.	2	50 mt.	1	2
3	Khatav	0	0	0	0	52	1150 mt.	1	2
4	Karad	0	0	0	0	0	0	1	2
5	Patan	0	0	0	0	0	0	1	3
6	Wai	0	0	0	0	0	0	1	3
7	Jaoli	0	0	0	0	0	0	1	0
8	M.Shwar	0	0	0	0	0	0	0	2
9	Khandala	0	0	0	0	16	500 mt.	1	2
10	Phaltan	0	0	0	0	61	1600 mt.	1	3
11	Man	0	0	0	0	53	1400 mt.	1	2
	Total	0	0	5	11050 mt.	174	4700 mt.	10	25

The basic marketing infrastructure for agriculture produce (Post Harvest Management) is presented in table 5.30. It can be seen from the table that there are no rural godown structures in any taluka of the district, however, Satara has four and Koregaon has one cold storage of 1000 mt and 50 mt capacity, respectively. Khandala, Man, Phaltan, Khatav and Koregaon talukas has onion storage structure of total capacity of 4700 mt spread in 174 storages.

5.12 Agriculture Credit:

Credit is one of the critical non-land inputs, has two-dimensions from the viewpoint of its contribution to the argumentation of agricultural growth viz., availability of credit (the quantum) and the distribution of credit. With the increasing application of modern technology in agriculture, the requirement of agricultural credit has assumed significant importance. Credit plays a crucial role in oiling the wheels of agricultural production. The strategy based on intensive use of improved seeds, insecticides, pesticides, irrigation etc. and taking allied activities, which are capital intensive. Lack of adequate credit has been acknowledged as one of the most inhibiting serious factor in modernization of traditional agriculture and as the key element behind the vicious circle of poverty and low productivity.

In the Satara district co-operative banks, scheduled commercial banks and RRBs has been followed for purveying credit to agricultural sector. The policy of agricultural credit is guided mainly by the considerations of ensuring adequate and timely availability of credit at reasonable rates through the expansion of institutional framework, its outreach and scale as also by way of directed lending. Over time, spectacular progress has been achieved in terms of the scale and outreach of institutional framework for agricultural credit. In the period of 11th plan Agriculture Department of Satara district has followed policy of reducing credit by the private money lenders and promoting to banks and financial institutions for the institutional financing for the district Agricultural sector. The district has 118 credit institutions, 95 Primary Agricultural Credit Cooperative Societies, 13 Cooperatives, and 10 commercial banks.

Table 5.31: Details of credit institutions in the Satara district

Sr. No.	Name of Taluka	No. of Institutions					Total
		Commercial Banks Branches	RRBs Branches	Cooperative Branches	PACS Branches	Others Branches	
1	Satara	-	1		149		150
2	Koregaon	-	0		89		89
3	Khatav	-	0		99		99
4	Karad	20	0	32	136	220	408
5	Patan	-	0		101		101
6	Wai	-	0		59		59
7	Jaoli	-	0		48		48
8	M.Shwar	-	0		9		9
9	Khandala	-	0		51		51
10	Phaltan	-	0		127		127
11	Man	-	0		72		72
	Total	20	1	32	940	220	1213

Source: Lead bank, DDR Office, Satara

The sector wise flow of ground level credit under Agriculture and allied sector is presented in Table 5.32, sub-sector wise details of ground level credit disbursements under agriculture and allied activities by all agencies is presented in Table 5.33 and loan disbursement for investment credit during XI Five Year Plan is presented in Table 5.34.

Table 5.32: Sector wise flow of ground level credit under Agriculture and allied sector

Taluka	Loan disbursed in 2007-08							
	Coop. Banks		Commercial Banks		RRBs		TOTAL	
	No. of loans	Amount	No. of loans	Amount	No. of loans	Amount	No. of loans	Amount
Satara	17260	25959	8970	12288.5	3	2.5	26233	10329
Koregaon								5268
Khataav								1034
Karad								9372
Patan								1529
Wai								2038
Jaoli								908
M.Shwar								135
Khandala								2480
Phaltan								3622
Man								1535
	17260	25959	8970	12288.5	3	2.5	26233	38250

Table 5.33: Sub-sector wise details of ground level credit disbursements under agriculture and allied activities by all agencies-Satara district (Rs. in Lakh)

Sr	Particulars Agency/ Activity	2004-05			2005-06			2006-07		
		CBs	CO-OPs	Total	CBs	CO-OPs	Total	CBs	CO-OPs	Total
I	Crop loans	5153.51	14095.32	19248.83	4715.40	20504.19	25219.59	6006.63	20524.82	26531.45
II	Term loans									
a	M.I.	815.93	380.25	1196.18	1170.04	500.18	1670.22	977.18	695.66	1672.84
b	LD	184.54	58.05	242.59	320.71	258.96	579.67	459.80	226.66	686.46
c	FM	654.96	95.42	750.38	1402.01	262.24	1664.25	2278.98	408.43	2687.41
d	P&H	775.50	807.65	1583.15	1505.24	466.81	1972.05	1977.15	669.73	2646.88
e	DD	870.10	432.11	1302.21	945.28	750.25	1695.53	1021.96	193.68	1215.64
f	Poultry	39.92	1.20	41.12	153.00	20.28	173.28	28.21	0.22	28.43
g	S/G/P	177.83	22.50	200.33	249.59	77.68	327.27	191.44	17.01	208.45
h	Fisheries	5.40	7.30	12.70	20.43	2.94	23.37	10.17	2.62	12.79
i	F/WLD	18.92	12.17	31.09	78.58	205.01	283.59	41.15	355.22	396.37
j	SMY	147.53	41.85	189.38	573.18	12.10	585.28	502.15	72.30	574.45
k	BG	1.54	17.63	19.17	2.06	35.70	37.76	0.64	28.06	28.70
l	Sericulture	28.33	3.84	32.17	809.89	19.30	829.19	12.58	56.88	69.46
m	Others	708.98	8.08	717.06	876.03	4.92	880.95	2577.52	6.81	2584.33
	Sub-total-II	4429.48	1888.05	6317.53	8106.04	2616.37	10722.41	10078.93	2733.28	12812.21
	of which under IRDP/SGSY			0.00			0.00	160.65	17.24	177.89
	Grand Total (I+II)	9582.99	15983.37	25566.36	12821.44	23120.56	35942.00	16085.56	23258.10	39343.66

Source- Potential Linked Credit Plan 2008-09.

Table 5.34 : Loan Disbursement for investment credit during XI Five Year Plan

(Rs. In lakhs)

Sr. No.	Taluka	No. of farm families	No. of member of PACS	No. of loany farmers	Loan disbursed during 2006-07	Loan distribution target in next five years				
						2007-08	2008-09	2009-10	2010-11	2011-12
1	Satara	65087	144	23585		7800	8496	10195	12234	14680
2	Koregaon	56701	89	18622		4087	4904	5884	7600	8472
3	Khatav	45755	99	12730	38250	2130	2556	3067	3680	4416
4	Karad	82791	136	28289		9698	11637	13964	16756	20107
5	Patan	41691	101	15465		2865	3438	4125	4950	5940
6	Wai	31134	59	12793		3107	3728	4473	5367	6440
7	Jaoli	21716	48	7188		1479	1774	2128	2553	3063
8	M.Shwar	2380	9	967		1518	1821	2158	2622	3164
9	Khandala	24249	51	8474		11665	13998	16797	21560	24187
10	Phaltan	59281	127	17068		1957	2348	2817	3380	4056
11	Man	50583	72	12843		6381	7657	9188	11025	13230
	District Total	481368	935	134439	38250	52687	62357	74796	91727	107755

5.13 Special Programmes and the Projects on Going in the District-

A) Dairy development schemes-

Sr. No	Name of the scheme	Implementing authority
1	Improving AI delivery system	District Deputy commissioner and District Animal Husbandry Officer, ZP
2	Establishment of small Ruminants market yard	District Deputy commissioner
3	Breed village scheme for Sheep and Goat	District Deputy commissioner and District Animal Husbandry Officer, ZP
4	Modernization of existing veterinary Hospitals	District Deputy commissioner
5	Establishment of small Ruminants slaughter house	District Deputy commissioner
6	Establishment of poultry dressing plant	District Deputy commissioner
7	certified Fodder Seed Marketing Subsidy	District Deputy commissioner
8	Scientific Tackling of Infertility in Dairy Animals	District Deputy commissioner
9	Demonstration of Scientific Calf Rearing	District Deputy commissioner
10	Upgradation of existing Mini polyclinic, Veterinary Dispensaries	District Deputy commissioner

Source- District Dairy Development Officer, Satara.

B) Programmes of Social Forestry-

1. Western Ghat Development Programme
2. Plantation on selected Watershed Programme.
3. Development of nurseries.

C) Sericulture development programmes-

Sericulture development programmes includes following aspects-

1. Supply of high yielding varieties.
2. Construction of rearing house.
3. Supply of disinfectant material.
4. Chawaky rearing centers.
5. Farmers training.
6. Sericulture polyclinics.
7. Support for improved cottage basin reeling units.

D) Apiculture Programmes-

1. Farmers Trainings.
2. Demonstrations.
3. Field visits.

E) Fishery Development Programmes-

1. Reservoir development
2. Establishment of training centre.
3. Supply of cold storage facility, transport facilities etc.
4. Establishment of mini wholesale markets.

5.14 CONSTRAINTS ANALYSIS:

Productivity gap analysis of major crops-

Adoption gap of Horticultural crops-

Tomato:

S.N.	Identified Gaps in Technology adoption by Farmers
1	Recommended nursery management practices not followed
2	No fertilizer management
3	Poor water management
4	Severe yield losses due to spotted wilt virus
5	No integrated pest management followed
6	No training and support to tomato crop
7	Poor grading practices
8	Lack of genuine seed material in public sector and depend more on private sector
9	No facility for cold storage & cooling chain
10	No processing facilities
11	Poor weed management
12	Indiscriminate use of insecticides /pesticides
13	Severe yield losses due to leaf curl & spotted wilt virus

Vegetables: Onion:

S.No.	Identified Gaps in Technology adoption by Farmers
1	Nursery management practices for production seedlings not followed
2	More application of N fertilizers leading more vegetative growth and low quality bulb production having low keeping quality
3	No application of sulphur, bio-fertilizers and micronutrients reducing quality and yield of onion.
4	Application of excess irrigation water to onion
5	Non application of weedicides as per recommendations
6	Adoption of onion varieties having low keeping quality
7	Proper curing period in field for onion after harvest is not observed
8	Poor post harvest management for onion
9	Less onion storage capacity of onion
10	No proper grading of onion

11	Low returns to onion grower in existing marketing system
12	No processing is followed
13	High cost of onion production and low returns

Mango:

S.N.	Identified Gaps in technology Adoption
1	Close planting of mango orchard
2	Low fertilizer application
3	Low application of organic matter
4	Poor water management in mango orchard
5	Low interculturing in mango
6	Poor and improper plant protection in mango
7	Lack of preventive plant protection before flowering
8	No grading and packaging
9	No processing in mango

Pomegranate:

S.N.	Identified Gaps in technology Adoption
1	Improper land selection
2	Improper planting distance
3	No adoption of recommended varieties
4	No clean cultivation practices followed
5	Lack of bahar treatment
6	Severe yield losses & reducing quality due to oily spot disease
7	No fertilizer management
8	Losses due to nematode infection
9	Lack of pruning techniques
10	No water management
11	No proper interculturing
12	Heavy attack of fruit fly

Grapes

S.N.	Identified Gaps in technology Adoption
1	Frequent pest & disease incidence
2	Unavailability and higher cost of skilled labour
3	Lack of local processing units
4	Pink berry, water berry, sterility of vines and lack of tissue analysis
5	Unavailability of Pink berry resistant grape varieties
6	Water scarcity experienced after April pruning operations
7	Indiscriminate application of chemical fertilizers and pesticides resulting into higher percentage of residues in fruits
8	Increasing infection of powdery mildew, downy mildew and anthracnose leaf spots on grapes vine
9	Increasing attack by major grape vine pests like mealy bugs ,leaf eating caterpillar, borer and mites
10	Leaf chlorosis, immature cane, uneven maturity of grapes, shot berries are more serious problems

Adoption Gap in Food Processing:

S.N.	Identified Gaps in Technology adoption
1	15 -20 percent post harvest losses due to lack of proper handling fruits & vegetables.
2	No pack houses on farms for proper packaging
3	No facilities for grading
4	Low prices due to lack of sorting of fruits and vegetables
5	No storage facilities for storage fruits and vegetables for short period
6	No possible to maintain quality standards for export marketing
7	No possible to maintain EUREP gaps specifications

Livestock:

Adoption gap Livestock management-The major identified gaps in technology adoption are listed below:

Cows- Cross Breeds

S.N.	Identified Gaps in Technology Adoption
1	Repeat breeding due to malnutrition, inbreeding, infections.
2	Reducing trend of productivity due to indiscriminate and poor quality Artificial Insemination service
3	No clean milk production
4	Poor housing management for milk cattle
5	Ecto and endo parasite infection
6	Inadequate forage production and its availability
7	No balanced ration and feed supplement
8	No sufficient dry fodder
9	Frequent sickness in lactation

Buffaloes:

S.N.	Identified Gaps in Technology Adoption
1	Long intercalving period due to inadequate care and nutrition management in pregnancy and after lactation period
2	Deterioration of genetic status due to use of N.D natural service
3	Low conception rate in buffaloes due to salient heat, imbalance ration.
4	Mortality in buffalo calves due to improper care of calves
5	Decreasing production due to improper feed and fodder management, lack of concentrate, minerals, vitamins in diet

Goat / sheep:

S.N.	Identified Gaps in Technology Adoption
1	Slow weight gain and low productive due to indiscriminate breeding practices
2	Non-availability of graded bucks for natural service,
3	Lack of concentrates, vitamins and minerals
4	Warm land due to free grazing, negligence towards animals
5	Foot & mouth disease & foot rot disease due to lack of preventive vaccination and

	hygiene management practices
6	Low income in Goat enterprise due to Kid mortality due to mineral deficiencies

Adoption gap in Sericulture-

The major identified gaps in technology adoption are listed below.

S.N.	Identified Gaps in Technology adoption Sericulture
1	Low yield due to lack of technical know how being non traditional Crop in the district
2	Low yield due to under utilization of mulberry leaves for feeding the recommended silkworm larvae.
3	Low production, low quality and low rates due to non adoption of recommended sterilization and sanitation practices in cocoon rearing
4	Scope for intensification of area under mulberry plantation and cocoon rearing enterprise
5	Promoting for diversification of area under mulberry plantation

Fisheries:

Fishing is an important farm based activity capable of supporting farm families by utilizing available resources with few modifications in existing structures and adoption of recommended technology. Due to satisfactory rains received during last two years in the district all the storage structures are having good water storage. This can be utilized for fish farming. Under National Horticulture Mission and Maharashtra Rural Employment Guarantee Scheme, the farmers are constructing farm ponds for storing water during requirement. During initial periods fish can be reared economically.

Adoption gap-

S. N.	Constraints in Fish Farming
1	No technical knowledge of fish farming
2	Non-utilization of available water bodies for fish
3	Poor management of existing fish farms farming.
4	Unavailability of fisher lings
5	No technical information regarding pond construction

Processing storage and Marketing gaps-

- A couple of companies are functioning in the district. They have to increase their involvement in contract farming arrangements for procuring their raw material.
- The district has 110/1 regulated Agricultural Produce Marketing Committees, which have created an infrastructure of 35 sub market yards. A variety of agricultural commodities like Jawar, Bajara, Maize, Rice ,Wheat, Gram, Tur, Onion, Garlic, Chilly, Potato, Cotton, Groundnut, Castor, etc. are traded in bulk in these markets. These market yards provide very limited facilities for storage of produce.
- Besides a number of private godowns and cold storage need to set up by the private entrepreneurs thereby creating additional storage facilities.
- Timely availability of market information is a critical factor for enabling the farmers to realize a certain and best price for their produce. Establishment of Commodity Exchange across the country has led to expansion of the markets for agricultural commodities also. These exchanges can play a very important role in helping the farmers in marketing their produce.
- There is need to accelerate the implementation of Maha Agri Net project of the State Government, under which 10000 Internet Kiosks are proposed to be established in rural areas for providing all the relevant information to the farmers.

5.35 Recommended interventions of the district with detailed action plan-

Allied Agriculture Sector: Stream I

Sr. No.	Stream	Financial Budget (Rs. in lakh)					
		2007-08	2008-09	2009-10	2010-11	2011-12	Total
A	Dairy						
	Strengthening of Co-op Dairy Sangh						
1	Revival of Non Functional DCSs	0.00	0.00	600.00	600.00	587.19	1787.19
2	Formation of SHGs & Shetkari Mandal	0.00	0.00	175.00	175.00	180.482	530.482
3	Strengthening of Existing DCSs	0.00	0.00	1100.00	1100.00	1278.12	3478.12
4	Clean Milk production Promotion Scheme	0.00	0.00	500.00	500.00	542.10	1542.10
5	Artificial Insemination Facility	0.00	0.00	250.00	250.00	312.50	812.50
6	Improving Green Fodder Supply to DCSs Members	0.00	0.00	11.00	11.00	13.00	35.00
7	Extension & Training Center	0.00	0.00	75.00	75.00	94.76	244.76
8	Plant & Machineries	0.00	0.00	200.00	200.00	226.74	626.74
9	Civil Construction	0.00	0.00	60.00	60.00	74.32	194.32
	Total Dairy	0.00	0.00	2971.00	2971.00	3309.21	9251.21
B	Animal Husbandry						
1	Improving A.I. Delivery system	0.00	15.63	400.00	400.00	384.37	1200.00
2	Establishment of Hatcheries at I.P.D. Block	0.00	0.00	70.00	70.00	68.00	208.00
3	Strengthening the distribution network of government Hatcheries by involving SHG,/ producer association	0.00	0.00	13.00	13.00	14.00	40.00

4	Establishment of small Ruminants market yard	0.00	0.00	20.00	20.00	20.00	60.00
5	Breed village scheme for sheep and goat	0.00	0.00	16.00	16.00	16.00	48.00
6	Strengthening modernization of existing veterinary Hospitals Dispensaries	0.00	0.00	140.00	140.00	144.00	424.00
7	Popularization of Azolla cultiavation technology at doorstep of rural and Triable masses (BPL)	0.00	0.00	154.85	42.60	42.60	240.05
8	Grassland development includinggrass reserves	0.00	0.00	5.50	0.00	0.00	5.50
9	Sustainable rural livelihood security for farmers of satara district of maharashtra through diversufied turkey farming	0.00	0.00	67.42	4.31	4.345	76.075
10	Sustainable rural livelihood security of women of satara Districts of maharashtra through low input rural Poultry farming technology	0.00	0.00	122.43	85.54	85.62	293.59
11	Socio-economic Upliftment of triable and below poverty line farmers through Scientific dairy farming	0.00	0.00	79.88	35.10	28.18	143.16
	Total Animal Husbandry	0.00	15.63	1089.08	826.55	807.12	2738.38
C	DIC						
1	Agro Processing Entrepreneurship	0.00	0.00	25.00	25.00	25.00	75.00
2	Development of Co-op Industrial estate	0.00	0.00	600.00	600.00	560.00	1760.00
3	Agro-park Incentive Scheme	0.00	0.00	300.00	300.00	360.00	960.00
4	Capital For Agro processing units	0.00	0.00	1500.00	1500.00	1400.00	4400.00
5	Scheme For Quality Standards	0.00	0.00	150.00	150.00	108.00	408.00
6	Agro Inform. technology centre	0.00	0.00	30.00	30.00	30.00	90.00
7	Food testing Laboratory	0.00	0.00	200.00	200.00	200.00	600.00
8	Export Promotion Scheme For Agro Units	0.00	0.00	500.00	500.00	400.00	1400.00
	Total District Center	0.00	0.00	3305.00	3305.00	3083.00	9693.00

D	Fishery						
1	Reservoir Development	0.00	0.00	45.00	45.00	40.00	130.00
2	Subsidy for mechanized Craft (Rs.10,000/-each)	0.00	0.00	6.00	6.00	8.00	20.00
3	Establishment of Training Centre-1 proposed	0.00	0.00	30.00	30.00	40.00	100.00
4	Subsidy on fish Preservation, Transport & Marketing						
	1) Ice Factories	0.00	0.00	30.00	30.00	40.00	100.00
	2) Cold Storages	0.00	0.00	60.00	60.00	80.00	200.00
	3) Transport - Vehicles	0.00	0.00	60.00	60.00	80.00	200.00
5	Establishment of Mini Wholesale Market	0.00	0.00	60.00	60.00	80.00	200.00
	Total Fishery	0.00	0.00	291.00	291.00	368.00	950.00
E	Social Forestry						
1	Social Forestry Infrastructure development						
	1) Van Purchases	0.00	0.00	15.00	15.00	14.00	44.00
	2) Divisional Building	0.00	0.00	16.00	16.00	18.00	50.00
	3) Training Centre Hall	0.00	0.00	13.00	13.00	14.00	40.00
	4) Other Taluka level Offices	0.00	0.00	10.00	10.00	10.00	30.00
	5) LCD Projector	0.00	0.00	1.00	1.00	2.00	4.00
	6) Fax / Xerox Machine	0.00	0.00	1.00	1.00	2.00	4.00
	7) Office Furniture	0.00	0.00	2.00	2.00	2.00	6.00
	8) Computer Purchases	0.00	0.00	0.75	0.75	0.50	2.00
	9) Other Miscelinius	0.00	0.00	7.00	7.00	6.00	20.00
	Total Social Forestry	0.00	0.00	65.75	65.75	68.50	200.00
F	Sericulture						
1	Infra. stru. for training for staff.	0.00	0.00	18.00	18.00	18.00	54.00
2	Infra. stru. for training for block level farmers	0.00	0.00	35.00	35.00	32.00	102.00
3	Consultancy centers	0.00	0.00	7.00	7.00	6.00	20.00
4	Cocoon purchase centers	0.00	0.00	9.00	9.00	10.00	28.00
5	Starting new reeling centers	0.00	0.00	13.00	13.00	14.00	40.00
6	Subsidy for construction of rearing houses	0.00	0.00	75.00	75.00	100.00	250.00
	Total Sericulture	0.00	0.00	157.00	157.00	180.00	494.00

G	Co-operative & Marketing						
1	Development of New Marketing Infrastr. Facilities	0.00	0.00	1000.00	1000.00	1041.00	3041.00
2	New Proposed Kharedi Vikri Marketing Society	0.00	0.00	75.00	75.00	58.00	208.00
3	New Proposed Agro-processing Units	0.00	0.00	150.00	150.00	205.00	505.00
4	costruction of Onion Storage Structure	0.00	3.00	4.00	4.00	3.00	14.00
5	Repairs of Pack house Godown	0.00	0.00	7.00	7.00	6.00	20.00
	Total Co-Operative & Marketing	0.00	3.00	1236.00	1236.00	1313.00	3788.00
H	Khadi & Village Industry						
	Infra Structure of Training Center	0.00	0.00	20.00	0.00	0.00	20.00
	Total Khadi & Village Industry	0.00	0.00	20.00	0.00	0.00	20.00
	ALLIED SECTOR TOTAL (STREAM-I)	0.00	18.63	14838.83	14556.30	14644.07	44057.83

Allied Agriculture Sector : Stream II

Sr. No.	Stream	Financial Budget					Total
		2007-08	2008-09	2009-10	2010-11	2011-12	
A	Dairy Department						
1	Dairies	96.00	0.00	0.00	0.00	0.00	96.00
2	Chilling Plants	127.00	0.00	0.00	0.00	0.00	127.00
3	Dist. Dairy Deve. Office	5.00	0.00	0.00	0.00	0.00	5.00
4	Bulk cooler 1000 Ltrs. Cap	210.00	140.00	70.00	70.00	49.00	539.00
5	2000 Ltr. Cap.	90.00	72.00	90.00	90.00	45.00	387.00
6	Electronic Weight & Testing	190.00	81.00	60.00	44.00	40.00	415.00
7	S.S. Cans	40.00	40.00	33.00	23.00	21.00	157.00
8	S.S. Kettles	12.00	12.00	10.00	7.00	7.00	48.00
9	Milk Procurement Centre	26.00	22.00	20.00	12.00	13.00	93.00
10	Farmer Training	50.00	48.00	48.00	42.00	22.00	210.00
11	Secretary Training	5.00	4.00	3.00	4.00	4.00	20.00
12	Farmer Educationa Trip	82.00	79.00	69.00	69.00	58.00	357.00
	Total	933.00	498.00	403.00	361.00	259.00	2454.00

B	Animal Husbandry						
1	Fodder development programme	0.50	1.00	2.50	5.00	3.00	12.00
2	Scientific Tackling of Infertility in Dairy Animals	0.00	0.00	32.00	64.00	32.00	128.00
3	Demonstration of Scientific calf rearing	0.00	0.00	35.00	70.00	35.00	140.00
4	Up gradation existing mini-polyclinics veterinary dispensaries	8.00	15.00	24.00	49.00	32.00	128.00
5	Certified fodder seed marketing subsidy	0.00	0.00	32.00	64.00	32.00	128.00
	Total	8.50	16.00	125.50	252.00	134.00	536.00
C	Sericulture						
1	Mulberry plantation cuttings supply Rs. 1500 / acre	6.55	4.89	3.20	4.11	4.50	23.25
2	Training for farmers Rs. 2000 / farmer	0.48	2.22	12.52	9.78	6.00	31.00
3	Eggs (Dfls) supply Rs. 3 / Dfls.	1.63	11.00	24.17	26.80	30.60	94.20
4	Cocoon purchase avg. cost / kg. Rs. 125/-	94.96	197.29	424.04	594.71	698.13	2009.13
5	Farmers study tour Rs. 2000 / farmer	1.12	0.88	1.88	4.12	3.00	11.00
6	Reeling unit	13.34	19.35	18.66	10.65	15.00	77.00
7	Demonstration farm	3.56	5.21	6.44	4.79	5.00	25.00
8	publicity	0.62	2.25	0.00	0.00	0.00	2.87
	Total	122.26	243.09	490.91	654.96	762.23	2273.45
D	Fishery						
1	Establishment of fish Seed Production Centre+ Rearing Unit- a) Fish Seed centre + Rearing Unit, b) Fish seed Production	50.00	51.00	51.00	51.00	51.00	254.00
2	Fish farming in Impounded Water - a) Fish Seed Stocking, b) Fish Production	16.00	16.00	16.00	16.00	16.00	80.00

3	Fish farmers Develop. Agency- a) Water Spread Area covered, b) Pond, c) Fish Production, and d) Training	7.20	7.20	7.20	7.20	7.20	36.00
4	Assistance for supply of Fishery Requisites - a) Nylon Net Twines , b) non mechanized boat	9.75	10.00	11.45	12.50	13.75	57.45
5	Development of fisheries Co.op. Societies - a) Fish Co.op. Societies	0.20	0.20	0.20	0.20	0.20	1.00
	Total Fishery	83.15	84.40	85.85	86.90	88.15	428.45
E	Social Forestry						
	1) 'Small (Polythin bag) plants	2.60	2.50	5.30	5.80	4.65	20.85
	2) 'Highted Plant	1.57	1.73	34.09	37.44	15.00	89.83
	3) 'Farmer's (Kisan) Nursery	4.84	3.33	4.34	2.83	2.33	17.67
	Social Forestry						
	1) 'Plantation on social Land	6.77	2.74	174.23	156.46	18.70	358.90
	2) 'Plantation on CTC / loose holder /CNB	0.00	0.00	35.49	51.20	32.80	119.49
	3) 'Plantation on Road Side	0.00	0.00	84.27	100.36	66.27	250.90
	'Harit Sena Shala'	0.00	0.00	2.50	2.50	1.25	6.25
	Total	15.78	10.30	340.22	356.59	141.00	863.89
F	Co-operative and Marketing						
1	Implementation of Co-operative Marketing Schemes	0.00	367.75	388.00	54.00	11.75	821.50
	Total	0.00	367.75	388.00	54.00	11.75	821.50
G	District Industry Centre						
1	Seed Money Scheme	8.20	15.30	31.80	30.00	50.00	135.30
2	DIC Loan Scheme	1.58	1.80	2.22	4.70	6.00	16.30
3	Employment Development Training Programme	1.40	64.70	75.00	60.30	100.00	301.40
	Total	11.18	81.80	109.02	95.00	156.00	453.00

H	Khadi and Village Industry						
1	Bee Keeping Training	0.00	0.49	3.50	3.51	2.50	10.00
2	Bee Breeder Training Programme	0.00	0.00	2.40	2.60	1.50	6.50
3	Training for capacity Building	0.00	0.00	1.00	1.00	0.50	2.50
4	Distribution of Bee Boxes	0.35	3.52	3.47	3.26	3.36	13.96
	Total	0.35	4.01	10.37	10.37	7.86	32.96
	ALLIED SECTOR- TOTAL STREAM II	1174.22	1305.35	1952.87	1870.82	1559.99	7863.25

Allied Agriculture Sector: Stream I & II

Sr. No.	Stream	2007-08	2008-09	2009-10	2010-11	2011-12	Total outlay for Five years (Rs. in Lakhs)
1	Total Allied Sector (Stream I)	0.00	18.63	9134.83	8852.30	9128.83	27134.59
2	Total Allied Sector (Stream II)	1174.22	1305.35	1952.87	1870.82	1559.99	7863.25
	Total Allied Sector	1174.22	1323.98	11087.70	10723.12	10688.82	34997.84

5.16 Projected outcome and growth during the next plan period-

Table 5. 36: Projection of Overall Growth Rate (GVA) in Agriculture Allied Sector of Satara district

Sr. No	Crop	Yearwise Total Value in Rupees in Lakh						Net Growth Rate (%)
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	
Secondary								
II	Animal Husbandry							
1	Milk	25359	53345	60303	67971	76607	82432	22.49
2	Meat Products	3318	8149	9004	9544	10117	10725	16.58
3	Poultry Products	3967	5855	6276	7185	7615	8070	17.61
	Total A.H.	32644	67349	75583	84700	94339	101227	21.39
III	Fishery	1480	2480	2629	2787	2954	3131	13.17
IV	Sericulture							
	Cocoon production	70	115	246	404	546	701	61.8
	Silk Yarn production & average cost Rs. 1000/- kg	40.72	82.8	218.8	394.7	616.9	841.5	88.23
	Production of cloth meters (50g / meter)	203.6	368	875.5	1435.5	2056.4	2805	70.97
	Total	314.32	565.8	1340.3	2234.2	3219.3	4347.5	71.41
V	Khadi & Village Industry	17.76	17.81	19.31	20.76	22.26	23.76	6.48
	Total Secondary	34456.08	70412.61	79571.61	89741.96	100534.56	108729.26	21.91

Chapter VI

District Plan

6.1 Introduction:

Economic reforms initiated since 1991 have put the Indian economy on a higher growth trajectory. Annual growth rate in the total Gross Domestic Product (GDP) has accelerated from below 6 per cent during the initial years of reforms to more than 8 per cent in recent years. The Planning Commission in its approach paper to the Eleventh Five-Year-plan has stated that 9 per cent growth rate in GDP would be feasible during the Eleventh Plan period. However, the agricultural sector which accounted for more than 30 per cent of total GDP at the beginning of reforms, failed to maintain its pre-reform growth. On the contrary, it witnessed a sharp deceleration in growth after the mid-1990s. This happened despite the fact that agricultural productivity in most of the states was quite low as it were, and the potential for the growth of agriculture was high.

The GDP of agriculture increased annually at more than 3 per cent during the 1980s. Since the Ninth Five-Year Plan (1996 to 2001-02), India has been targeting a growth rate of more than 4 per cent in agriculture, but the actual achievement has been much below the target. More than 50 per cent of the workforce of the country still depends upon agriculture for its livelihood. Slow growth in Agriculture and allied sectors can lead to acute stress in the economy because the population dependent upon this sector is still very large. A major cause behind the slow growth in agriculture is the consistent decrease in investments in the sector by the state governments. While public and private investments are increasing manifold in sectors such as infrastructure, similar investments are not forthcoming in Agriculture and allied sectors, leading to distress in the community of farmers, especially that of the small and marginal segment. Hence the need for incentivising states that increase their investments in the Agriculture and allied sectors has been felt to achieve 4% growth rate of agriculture in the 11th Plan period, which is a target fixed by the government. Therefore to achieve this target an appropriate planning of area specific cropping patterns, proper crop management techniques, sound marketing facilities, good export technology and its awareness are the most essential targets before Indian Agriculture. For that the Government has embarked on a district planning process in order to give direction to its support and facilitation of agricultural economic development.

The present District Plan is prepared with an objective to achieve an overall growth rate for agriculture and allied sector of 13.65 percent during the 11th Plan period (2007-08 to 2011 to 2012). More specifically, the 11th Plan aims at achieving a growth rate of 11.29 per cent per annum in agricultural sector and a growth rate of 21.91 per cent in the allied sector. This growth rate was targeted after conducting a SWOT analysis and observing the potential that exists in the district. Discussions have been held with all departments in the agriculture and allied sector at district level. There were informal discussions at taluka level, village level and with ATMA officials to understand the needs of the district which will help to stimulate growth. Based on the outcome of this exercise, innovative schemes have been devised in this plan. This plan reflects the completion of the situation assessment phase of the planning process. It covers:

- An initial review of existing resource-based information, leading to preliminary conclusions on resource based opportunities and implications for strategy and policy.
- An initial industry analysis of the key agricultural sectors within the district.
- A consultation process with a broad range of interested parties who are involved directly or indirectly in commercial activity, in agricultural enterprises for small farmers and in support of rural livelihoods.

Thus the present comprehensive district agriculture plan aims at solving major constraints faced by the agricultural sector in the district and attempts to capitalize on the potential of agriculture with the help of new innovative schemes suggested under stream I.

6.2 Growth Drivers:

A number of initiatives have been taken with regard to the support of emerging farmers in both the commercial and traditional areas in an attempt to promote and improve levels of management and production. Some of these include:

1. Soil and water management and resting demonstrations aimed at improving production and reducing degradation.
2. Livestock Improvement Scheme through conditional, supplementary funding of participating communities.
3. Wool Production Development (Rams and Shearing Sheds)
4. Field crops, Fruit, vegetables and floriculture.
5. Soil health
6. Fertilizer testing laboratories
7. Insecticide residue testing laboratories.
8. Sericulture development

9. Fishery development.
10. Social forestry development.
11. Village cottage industry development, etc.

6.3 Innovative Schemes:

Strategy for achieving five year plan projections:

A) Agriculture Department

- Strengthening of Krishi Vigyan Mandal (Kvm)
- Organization of Agriculture Exhibition
- Establishing Contract Farming
- Development of Agro-tourism
- Reclamation of ill-drained Soil
- Agriculture Mechanization
- Establishment of Soil Testing Lab at Taluka Level
- Strengthening of Rameti

B) Dairy Department

- Revival of non functional DCSs
- Formation of SHGs & Shetkari Mandal
- Strengthening of existing DCSs
- Clean milk production promotion schemes
- Artificial Insemination Facility
- Improving green fodder supply to DCSs members
- Extension & Training Center
- Plant Machinery
- Civil Construction

C) Animal Husbandry Department

- Improving A.I. Delivering System
- Establishment of Hatcheries at block level
- Strengthening Distribution network of Govt. Hatcheries by involving producer association

- Establishment of small ruminant market yard
- Breed village of Sheep/Goat
- Strengthening modernization of existing Vet. Hospital

D) Sericulture Department

- Infrastructure for training staff
- Infrastructure for training for farmers
- Consultancy Centers
- Cocoon purchase center
- Starting New reeling Center
- Subsidy for construction of rearing houses

E) Fishery Department

- Reservoirs Development for Fish
- Establishment of Training Centre
- Subsidy for Mechanized Crafts
- Subsidy for Fish Preservation, Transport & Marketing

F) District Industry Centre

- Agro processing Entrepreneurship
- Development of Cooperative industrial Estate
- Agro park incentive Scheme
- Capital for Agro-Processing unit
- Scheme for Quality standards
- Agro information Technology Center
- Food testing Lab
- Export promotion schemes for Agro units

6.4 Vision of the Next Plan

The envisaged vision for the 11th Plan is as follows:

- To increase cereals production from 413500 M.T to - 496500 Mt. i.e.3.78%
- To increase Pulses production from 43400 MT.. to - 60400 Mt. i.e.7.41 %
- To increase Oilseed production from 108700 M.T to- 175500 Mt i.e.9.28 %
- To increase Sugarcane production from 2938700 M.T. to 4459000 MT. i.e. 6.52 %

- To increase Flowers production from 6914 M.T to 10948 Mt. i.e. 10.31 %
- To increase Vegetable production from 529905 M.T. to 790240 Mt. i.e. 8.24%
- To increase Spices production from 53317 M.T to 79752 Mt. i.e. 8.73 %
- To increase Fruits production from 392684 M.T. to 678015 Mt. i.e. 10.88 %
- To increase Milk Production from 423962 M.T to 568500 M.T. i.e. 6.41 %
- To increase Eggs Production from 2062 Lakhs. to 2798 Lakhs. i.e. 6.43 %
- To increase Meat, Beef & Broiler Prod. from 15186 M.T. to 20317 Mt. i.e. 6.05 %
- To increase Fish Production from 3200 MT. to 4000 MT. i.e. 4.89 %
- To increase Caccoon Production from 56 M.T to 561 M.T. i.e. 61.10 %
- To increase Honey Production from 17.76 M.T. to 23.76 M.T. i.e. 5.73 %

6.5 District Plan:

As mentioned earlier, the RKVY scheme aims at strengthening the agricultural sector through innovative and ongoing schemes. In table 6.1, the sector-wise outlay under Stream I and Stream II is presented.

Table 6.1 Sector-Wise Outlay for 11th Plan:

Sr No.	Department	Agriculture and Allied Sectors (Stream I and Stream II)					
		Financial Budget (Rs. in lakh)					
		2007-08	2008-09	2009-10	2010-11	2011-12	Total
1	Agriculture	244.19	231.65	3923.61	4050.67	3354.93	11805.05
2	Horticulture	689.02	836.57	2959.79	3053.72	2701.37	10240.47
3	Jal Sandharan	3319.87	3677.72	6373.12	6012.28	5892.00	25274.99
4	Animal Husbandry	8.50	31.63	1214.58	1078.55	941.12	3274.38
5	Dairy	933.00	498.00	3374.00	3332.00	3568.21	11705.21
6	Fishery	83.15	84.40	376.85	377.90	456.15	1378.45
7	Minor Irrigation	0.00	0.00	0.00	0.00	0.00	0.00
8	Sericulture	122.26	243.09	647.91	811.96	942.23	2767.45
9	Social Forestry	15.78	10.30	405.97	422.34	209.50	1063.89
10	Co-operative & Marketing	0.00	370.75	1624.00	1290.00	1324.75	4609.50
11	District Industries Center	11.18	81.80	3414.02	3400.00	3239.00	10146.00
12	Khadi & Village Industry	0.35	4.01	30.37	10.37	7.86	52.96
Grand Total Budget		5427.30	6069.92	24344.22	23839.79	22637.12	82318.35

6.6 Conclusion:

The proposed plan aims at an overall growth rate of 13.65 percent in the agricultural and allied sector. Besides achieving this growth rate, the plan will also lead to improvement in infrastructure in all sectors. This will give a major boost for sustained development of the agricultural and allied sector.

Table 6.2: Area, Production and Productivity Trend of Main Crops in the District

(A= Area - 00 ha., P=Production - 00 MT, Y=Productivity - Kg/ha.)

No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Kharif Season																			
Cereals																			
1	Kharip Paddy	42767	654	1529	43600	703	1612	44000	727	1652	44600	755	1693	45400	788	1735	45900	816	1778
2	Kharif Jowar	60500	681	1094	56500	912	1615	56800	940	1655	56800	963	1696	57100	992	1738	57500	1024	1781
3	Bajara	82400	494	600	84000	524	624	82000	525	640	80000	525	656	78000	524	672	75000	518	689
4	Ragi/ Nachani	7200	51	751	7200	73	1015	7000	73	1040	6800	72	1066	6500	71	1093	6300	71	1120
5	Maize	8500	70	1100	6400	79	1229	7800	98	1260	8000	103	1292	9500	126	1324	10000	136	1357
6	Other Cereals	1400	4	285	1400	15	1038	1350	14	1064	1300	14	1091	1250	14	1118	1200	14	1146
	Kh. Cereals	202767	2080		199100	2306		198950	2377		197500	2432		197750	2515		195900	2579	
Pulses																			
7	Redgram	5800	31	519	5700	21	364	6500	24	373	7500	29	382	8000	31	392	9000	36	402
8	Green Gram	5800	27	469	7400	48	650	7600	51	666	8000	55	683	8300	58	700	8500	61	718
9	Black Gram	4800	22	455	5200	35	675	5800	40	692	6300	45	709	6500	47	727	7000	52	745
10	Other Pulses	36700	135	369	37600	99	264	39000	106	271	42000	117	278	44000	125	285	45000	131	292
	Total Kh. Pulses	53100	215		55900	203		58900	221		63800	246		66800	261		69500	280	
	Total Kh. Foodgrains	255867	2295		255000	2509		257850	2598		261300	2678		264550	2776		265400	2859	
Oilseeds																			
11	Groundnut	58300	536	913	56500	692	1224	57000	715	1255	58500	752	1286	60000	791	1318	61500	831	1351
12	Sessamun	500	1	300	500	1	260	550	1	267	580	2	274	600	2	281	700	2	288
13	Niger	2700	6	233	2600	5	208	2900	6	213	3100	7	218	3300	7	223	3400	8	229
14	Sunflower	1800	17	333	1200	11	884	1400	13	906	1600	15	929	1800	17	952	2000	20	976
15	Soyabean	30400	463	1520	28600	521	1820	30000	560	1866	32000	612	1913	34500	677	1961	35000	704	2010
	Total Kh. Oilseeds	93700	1023		89400	1230		91850	1295		95780	1388		100200	1494		102600	1565	
16	Cotton	2900	56	190	3600	74	207	3800	80	212	3900	84	217	4000	89	222	4100	93	228
17	Sugarcane	38700	29387	77	53800	44654	83	52000	44200	85	51000	44370	87	50000	44500	89	49000	44590	91
	Total Cash Crops	41600	29443		57400	44698		55800	44247		54900	44420		54000	44552		53100	44645	
Vegetables																			
18	Vegetables	17745	274972	1549	17907	293316	1638	18095	312681	1728	18274	333317	1824	18434	354899	1925	18614	378896	2035
19	Spices	5280	40850	773	5375	44218	822	5563	48476	871	5755	53080	922	5930	58192	981	6090	61093	1003
20	Flowers	913	4355	477	930	4675	502	1005	5269	524	1078	5908	548	1150	6577	572	1221	6901	565
	Total Kh. Vegetable	23938	320177		24212	342209		24663	366426		25107	392305		25514	419668		25925	446890	
	Total Kharif Season	415105	3522938		426012	390646		430163	414566		437087	440791		444264	468490		447025	495959	

Sr. No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Rabi Season																			
Cereals																			
22	Rabbi Jowar	145900	1463	1002	138300	1430	1034	137500	1458	1060	137000	1489	1087	136000	1515	1114	134100	1531	1142
23	Wheat	40000	625	1552	42400	796	1878	44000	847	1925	45000	888	1973	46000	930	2022	47000	974	2073
24	Maize	4800	99	2150	4800	107	2236	4900	112	2292	5000	117	2349	5100	123	2408	5200	128	2468
25	Other Cereals	3000	37	1607	800	18	2288	780	18	2345	750	18	2404	700	17	2464	675	17	2526
Total Rabi Cereals		193700	2224		186300	2351		187180	2435		187750	2512		187800	2585		186975	2650	
Pulses																			
26	Gram	26700	212	796	29200	230	788	31000	250	808	33000	273	828	34000	289	849	35000	305	870
27	Other Pulses	900	7	734	900	8	915	1700	16	938	1750	17	961	1800	17	985	1850	19	1010
Total Rabi Pulses		27600	219		30100	238		32700	266		34750	290		35800	306		36850	324	
Total Rabi Foodgrains		221300	2443		216400	2589		219880	2701		222500	2802		223600	2891		223825	2974	
Oilseeds																			
28	Sunflower	700	3	503	300	2	725	550	4	743	700	5	762	850	6	781	1000	8	801
29	Safflower	2700	10	387	3500	18	525	3800	20	538	3950	22	551	4100	23	565	4250	25	579
30	Other Oilseeds	0	0	0	600	4	600	630	4	615	650	4	630	675	4	646	700	5	62
Total Rabi Oilseeds		3400	13		4400	24		4980	28		5300	31		5625	33		5950	38	
Vegetables																			
31	Vegetables	16452	254936	1549	17252	282692	1638	17950	310187	1728	18592	339191	1824	19292	371418	1925	20208	411344	2035
32	spices	1611	12464	733	1640	13492	822	1697	14787	871	1755	16187	922	1810	17762	981	1860	18659	1003
33	Flowers	535	2553	477	545	2740	502	590	3093	524	632	3464	548	673	3849	572	716	4047	565
Total Rabi Vegetables		18598	269953		19437	298924		20237	328067		20979	358842		21775	393029		22784	434050	
Total Rabi Season		243298	272409		240237	301537		245097	330796		248779	361675		251000	395953		252559	437062	

Sr. No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Summer Season																			
Cereals																			
35	Maize	700	24	3390	1700	37	2163	1800	40	2217	1900	43	2272	2000	47	2329	2100	50	2387
Total Summer Cereals		700	24		1700	37		1800	40		1900	43		2000	47		2100	50	
Pulses																			
36																			
Total Summer Pulses		0	0		0	0		0	0		0	0		0	0		0	0	
Total Summer Foodgrains		700	24		1700	37		1800	40		1900	43		2000	47		2100	50	
Oilseeds																			
38	Groundnut	2900	51	1735	3500	95	2708	4100	114	2776	4600	131	2845	4800	140	2916	5100	152	2989
Total Summer Oilseeds		2900	51		3500	95		4100	114		4600	131		4800	140		5100	152	
Vegetables																			
40																			
Total Summer Veg.		0	0		0	0		0	0		0	0		0	0		0	0	
Total Summer Season		3600	75		5200	132		5900	154		6500	174		6800	187		7200	202	
Total Fruit Crops		31800	392684	1234	33148	437513	1320	34559	487604	1410	36340	547494	1506	38296	611767	1597	39913	678015	1698
Total Medicinal Crops		50			60			70			80			90			100		
Gross Cropped Area		693853	1018106	1234	704657	1129828		715789	1233120		728786	1E+06		740450	1E+06		746797	1611238	

ABSTRACT

Sr. No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Total Cereals		397167	4328		387100	4694		387930	4852		387150	4987		387550	5147		384975	5279	
Total Pulses		80700	434		86000	441		91600	487		98550	536		102600	567		106350	604	
Total Foodgrain		477867	4762		473100	5135		479530	5339		485700	5523		490150	5714		491325	5883	
Total Oilseed		100000	1087		97300	1349		100930	1437		105680	1550		110625	1667		113650	1755	
Total Vegetables		42536	590130		43649	641133		44900	694493		46086	751147		47289	812697		48709	880940	
Total Fruit Crops		31800	392684		33148	437513		34559	487604		36340	547494		38296	611767		39913	678015	
Total Cash Crops		41600	29443		57400	44698		55800	44247		54900	44420		54000	44552		53100	44645	
Total Medicinal Crops		50			60			70			80			90			100		
Gross Cropped Area		693853	1018106		704657	1129828		715789	1233120		728786	1E+06		740450	1E+06		746797	1611238	

Note: A-Area, P- Production, Y- Productivity, K/R/S-Kharif/Rabi/Summer
Source: DASO, Satara

Table 6.3: Percentage of Area and Production to gross cropped area and trend of Main Crops in the District

Sr.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	% to K/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
Kharif Season																			
Cereals																			
1	Khharif Paddy	42767	10.30	6.16	43600	10.23	6.19	44000	10.23	6.15	44600	10.20	6.12	45400	10.22	6.13	45900	10.27	6.15
2	Khharif Jowar	60500	14.57	8.72	56500	13.26	8.02	56800	13.20	7.94	56800	13.00	7.79	57100	12.85	7.71	57500	12.86	7.70
3	Bajara	82400	19.85	11.88	84000	19.72	11.92	82000	19.06	11.46	80000	18.30	10.98	78000	17.56	10.53	75000	16.78	10.04
4	Ragi / Nachani	7200	1.73	1.04	7200	1.69	1.02	7000	1.63	0.98	6800	1.56	0.93	6500	1.46	0.88	6300	1.41	0.84
5	Maize	8500	2.05	1.23	6400	1.50	0.91	7800	1.81	1.09	8000	1.83	1.10	9500	2.14	1.28	10000	2.24	1.34
6	Other Cereals	1400	0.34	0.20	1400	0.33	0.20	1350	0.31	0.19	1300	0.30	0.18	1250	0.28	0.17	1200	0.27	0.16
	Total Kh. Cereals	202767	48.85	29.22	199100	46.74	28.25	198950	46.25	27.79	197500	45.19	27.10	197750	44.51	26.71	195900	43.82	26.23
Pulses																			
7	Redgram	5800	1.40	0.84	5700	1.34	0.81	6500	1.51	0.91	7500	1.72	1.03	8000	1.80	1.08	9000	2.01	1.21
8	Green Gram	5800	1.40	0.84	7400	1.74	1.05	7600	1.77	1.06	8000	1.83	1.10	8300	1.87	1.12	8500	1.90	1.14
9	Black Gram	4800	1.16	0.69	5200	1.22	0.74	5800	1.35	0.81	6300	1.44	0.86	6500	1.46	0.88	7000	1.57	0.94
10	Other Pulses	36700	8.84	5.29	37600	8.83	5.34	39000	9.07	5.45	42000	9.61	5.76	44000	9.90	5.94	45000	10.07	6.03
	Total Kh. Pulses	53100	12.79	7.65	55900	13.12	7.93	58900	13.69	8.23	63800	14.60	8.75	66800	15.04	9.02	69500	15.55	9.31
	Total Kh. Foodgrains	255867	61.64	36.88	255000	59.86	36.19	257850	59.94	36.02	261300	59.78	35.85	264550	59.55	35.73	265400	59.37	35.54
Oilseeds																			
11	Groundnut	58300	14.04	8.40	56500	13.26	8.02	57000	13.25	7.96	58500	13.38	8.03	60000	13.51	8.10	61500	13.76	8.24
12	Sessamun	500	0.12	0.07	500	0.12	0.07	550	0.13	0.08	580	0.13	0.08	600	0.14	0.08	700	0.16	0.09
13	Niger	2700	0.65	0.39	2600	0.61	0.37	2900	0.67	0.41	3100	0.71	0.43	3300	0.74	0.45	3400	0.76	0.46
14	Sunflower	1800	0.43	0.26	1200	0.28	0.17	1400	0.33	0.20	1600	0.37	0.22	1800	0.41	0.24	2000	0.45	0.27
15	Soyabean	30400	7.32	4.38	28600	6.71	4.06	30000	6.97	4.19	32000	7.32	4.39	34500	7.77	4.66	35000	7.83	4.69
	T. Kh. Oilseeds	93700	22.57	13.50	89400	20.99	12.69	91850	21.35	12.83	95780	21.91	13.14	100200	22.55	13.53	102600	22.95	13.74
16	Cotton	2900	0.70	0.42	3600	0.85	0.51	3800	0.88	0.53	3900	0.89	0.54	4000	0.90	0.54	4100	0.92	0.55
17	Sugarcane	38700	9.32	5.58	53800	12.63	7.63	52000	12.09	7.26	51000	11.67	7.00	50000	11.25	6.75	49000	10.96	6.56
	Total Cash Crops	41600	10.02	6.00	57400	13.47	8.15	55800	12.97	7.80	54900	12.56	7.53	54000	12.15	7.29	53100	11.88	7.11
Vegetables																			
18	Vegetables	17745	4.27	2.56	17907	4.20	2.54	18095	4.21	2.53	18274	4.18	2.51	18434	4.15	2.49	18614	4.16	2.49
19	spices	5280	1.27	0.76	5375	1.26	0.76	5563	1.29	0.78	5755	1.32	0.79	5930	1.33	0.80	6090	1.36	0.82
20	Flowers	913	0.22	0.13	930	0.22	0.13	1005	0.23	0.14	1078	0.25	0.15	1150	0.26	0.16	1221	0.27	0.16
	Total Kh. Vegetable	23938	5.77	3.45	24212	5.68	3.44	24663	5.73	3.45	25107	5.74	3.45	25514	5.74	3.45	25925	5.80	3.47
	Khharif Season	415105	100.00	59.83	426012	100.00	60.46	430163	100.00	60.10	437087	100.00	59.97	444264	100.00	60.00	447025	100.00	59.86

Sr. No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Rabi Season																		
	Cereals																		
22	Rabbi Jowar	145900	59.97	21.03	138300	57.57	19.63	137500	56.10	19.21	137000	55.07	18.80	136000	54.18	18.37	134100	53.10	17.96
23	Wheat	40000	16.44	5.76	42400	17.65	6.02	44000	17.95	6.15	45000	18.09	6.17	46000	18.33	6.21	47000	18.61	6.29
24	Maize	4800	1.97	0.69	4800	2.00	0.68	4900	2.00	0.68	5000	2.01	0.69	5100	2.03	0.69	5200	2.06	0.70
25	Other Cereals	3000	1.23	0.43	800	0.33	0.11	780	0.32	0.11	750	0.30	0.10	700	0.28	0.09	675	0.27	0.09
	Total Rabi Cereals	193700	79.61	27.92	186300	77.55	26.44	187180	76.37	26.15	187750	75.47	25.76	187800	74.82	25.36	186975	74.03	25.04
	Pulses																		
26	Gram	26700	10.97	3.85	29200	12.15	4.14	31000	12.65	4.33	33000	13.26	4.53	34000	13.55	4.59	35000	13.86	4.69
27	Other Pulses	900	0.37	0.13	900	0.37	0.13	1700	0.69	0.24	1750	0.70	0.24	1800	0.72	0.24	1850	0.73	0.25
	Total Rabi Pulses	27600	11.34	3.98	30100	12.53	4.27	32700	13.34	4.57	34750	13.97	4.77	35800	14.26	4.83	36850	14.59	4.93
	Total Rabi Foodgrains	221300	90.96	31.89	216400	90.08	30.71	219880	89.71	30.72	222500	89.44	30.53	223600	89.08	30.20	223825	88.62	29.97
	Oilseeds																		
28	Sunflower	700	0.29	0.10	300	0.12	0.04	550	0.22	0.08	700	0.28	0.10	850	0.34	0.11	1000	0.40	0.13
29	Safflower	2700	1.11	0.39	3500	1.46	0.50	3800	1.55	0.53	3950	1.59	0.54	4100	1.63	0.55	4250	1.68	0.57
30	Other Oilseeds	0	0.00	0.00	600	0.25	0.09	630	0.26	0.09	650	0.26	0.09	675	0.27	0.09	700	0.28	0.09
	Total Rabi Oilseeds	3400	1.40	0.49	4400	1.83	0.62	4980	2.03	0.70	5300	2.13	0.73	5625	2.24	0.76	5950	2.36	0.80
	Vegetables																		
31	Vegetables	16452	6.76	2.37	17252	7.18	2.45	17950	7.32	2.51	18592	7.47	2.55	19292	7.69	2.61	20208	8.00	2.71
32	spices	1611	0.66	0.23	1640	0.68	0.23	1697	0.69	0.24	1755	0.71	0.24	1810	0.72	0.24	1860	0.74	0.25
33	Flowers	535	0.22	0.08	545	0.23	0.08	590	0.24	0.08	632	0.25	0.09	673	0.27	0.09	716	0.28	0.10
	Total Rabi Vegetables	18598	7.64	2.68	19437	8.09	2.76	20237	8.26	2.83	20979	8.43	2.88	21775	8.68	2.94	22784	9.02	3.05
	Total Rabi Season	243298	100.00	35.06	240237	100.00	34.09	245097	100.00	34.24	248779	100.00	34.14	251000	100.00	33.90	252559	100.00	33.82

Sr. No.	Name of Crop	Normal 2004-05 to 2006-07			2007-08 (Projected)			2008-09(Projected)			2009-10 (Projected)			2010-11 (Projected)			2011-12 (Projected)		
		A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA	A	% toK/R/S	%to GCA
1	2	3	4	5	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
	Summer Season																		
	Cereals																		
35	Maize	700	19.44	0.10	1700	32.69	0.24	1800	30.51	0.25	1900	29.23	0.26	2000	29.41	0.27	2100	29.17	0.28
	Total Summer Cereals	700	19.44	0.10	1700	32.69	0.24	1800	30.51	0.25	1900	29.23	0.26	2000	29.41	0.27	2100	29.17	0.28
	Pulses																		
36	Pulses		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
	Total Summer Pulses	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
	Total Summer Foodgrains	700	19.44	0.10	1700	32.69	0.24	1800	30.51	0.25	1900	29.23	0.26	2000	29.41	0.27	2100	29.17	0.28
	Oilseeds																		
38	Groundnut	2900	80.56	0.42	3500	67.31	0.50	4100	69.49	0.57	4600	70.77	0.63	4800	70.59	0.65	5100	70.83	0.68
	Total Summer Oilseeds	2900	80.56	0.42	3500	67.31	0.50	4100	69.49	0.57	4600	70.77	0.63	4800	70.59	0.65	5100	70.83	0.68
	Vegetables																		
40	Vegetables		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00		0.00	0.00
	Total Summer Vegetables	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00	0	0.00	0.00
	Total Summer Season	3600	100.00	0.52	5200	100.00	0.74	5900	100.00	0.82	6500	100.00	0.89	6800	100.00	0.92	7200	100.00	0.96
	Total Fruit Crops	31800		4.58	33148		4.70	34559		4.83	36340		4.99	38296		5.17	39913		5.34
	Total Medicinal Crops	50		0.01	60		0.01	70		0.01	80		0.01	90		0.01	100		0.01
	Gross Cropped Area	693853		100.00	704657		100.00	715789		100.00	728786		100.00	740450		100.00	746797		100.00

Table 6.4 : Production targets for Horticultural crops- Satara district

Sr.No.	Existing Cropping Pattern (2006-07)			2007-08			2008-09			2009-10			2010-11			2011-12			
	Crops	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
A.	FRUIT CROPS																		
1	Grape	428.67	14648	34170	464	16648	35879	499	18799	37672	534	21123	39556	569	23633	41534	604	26341	43611
2	Banana	650.85	54736	84100	750	66229	88305	850	78812	92720	950	92488	97356	1050	107335	102224	1150	123436	107335
3	Mango	15783.81	157838	10000	16000	168000	10500	16200	178605	11025	16400	189851	11576	16600	201774	12155	16800	214415	12763
4	Mandrine	38.86	1321	34000	39	1392	35700	39	1457	37485	39	1530	39359	39	1606	41327	39	1686	43394
5	Citrus	2.54	76	30000	3	95	31500	3	84	33075	3	88	34729	3	93	36465	3	97	38288
6	Coconut	1216.6	25549	21000	1250	27563	22050	1300	30098	23153	1350	32819	24310	1375	35098	25526	1400	37526	26802
7	Areca nut	2.27	5	2100	2	4	2205	2	5	2315	2	6	2431	2	6	2553	2	6	2680
8	Cashew	465.15	455	979	500	514	1028	550	594	1079	600	680	1133	650	773	1190	700	875	1249
9	K.lime	659.04	6590	10000	670	7035	10500	680	7497	11025	690	7988	11576	700	8509	12155	710	9062	12763
10	Pomogran	2853.48	35669	12500	3253	42692	13125	3753	51720	13781	4753	68776	14470	5753	87411	15194	6500	103701	15954
11	Guava	991.17	7929	8000	1020	8568	8400	1040	9173	8820	1060	9817	9261	1090	10599	9724	1100	11231	10210
12	Papaya	223.99	7840	35000	250	9188	36750	300	11576	38588	325	13168	40517	350	14890	42543	400	17868	44670
13	Sapota	1388	16656	12000	1588	20009	12600	1788	23655	13230	1988	27616	13892	2188	31914	14586	2388	36573	15315
14	Ber	824.3	12365	15000	825	12994	15750	825	13643	16538	825	14326	17364	825	15042	18233	825	15794	19144
15	C.Apple	1503.81	6015	4000	1650	6930	4200	1750	7718	4410	1850	8566	4631	1950	9481	4862	2050	10466	5105
16	Fanas	238.5	5963	25000	240	6300	26250	240	6615	27563	240	6946	28941	240	7293	30388	240	7658	31907
17	Tamarind	1546.34	15463	10000	1570	16485	10500	1600	17640	11025	1625	18811	11576	1650	20056	12155	1675	21378	12763
18	Ramphal	60.31	302	5000	60	315	5250	60	331	5513	60	347	5788	60	365	6078	60	383	6381
19	Cocum	1.66	17	10000	2	21	10500	2	22	11025	2	23	11576	2	24	12155	2	26	12763
20	W.Apple	100.08	1001	10000	100	1050	10500	100	1103	11025	100	1158	11576	100	1216	12155	100	1276	12763
21	Karwand	1769.22	1415	800	1770	1487	840	1770	1561	882	1770	1639	926	1770	1721	972	1770	1807	1021
22	Strawbery	299.7	3746	12500	300	3938	13125	300	4134	13781	300	4341	14470	310	4710	15194	325	5185	15954
23	Pineapple	0.95	5	5000	2	1	5250	3	17	5513	4	23	5788	5	30	6078	5	32	6381
24	Fig	40.2	241	6000	50	315	6300	55	364	6615	60	417	6946	65	474	7293	65	498	7658
25	Anola	662	16550	25000	740	19425	26250	800	22050	27563	850	24600	28941	900	27349	30388	950	30312	31907
26	Jamun	48.2	289	6000	50	315	6300	50	331	6615	50	347	6946	50	365	7293	50	383	7658
	Total	31799.7	392684		33148	437513		34559	487604		36430	547494		38296	611767		39913	678015	

Sr. No.	Existing Cropping Pattern (2006-07)			2007-08			2008-09			2009-10			2010-11			2011-12			
	Crops	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
B	VEGETABLES																		
1	Onion	11559.53	219631	19000	11800	235410	19950	12000	251370	20948	12200	268337	21995	12400	286373	23095	12700	307967	24249
2	Tomato	3633.24	72665	20000	4000	84000	21000	4200	92610	22050	4400	101871	23153	4700	114258	24310	5000	127628	25526
3	Potato	8606.24	52498	6100	8650	55403	6405	8700	58510	6725	8750	61788	7062	8800	65248	7415	8850	68900	7785
4	Sw.Potat	299.08	1495	5000	300	1575	5250	300	1654	5513	300	1736	5788	300	1823	6078	300	1914	6381
5	Brinjal	2585.36	64634	25000	2700	70875	26250	2800	77175	27563	2900	83928	28941	3000	91163	30388	3200	102103	31907
6	Cauliflower	1495.36	29907	20000	1600	33600	21000	1750	38588	22050	1900	43990	23153	2000	48620	24310	2100	53604	25526
7	Cabbage	1078.92	26973	25000	1100	28875	26250	1150	31697	27563	1200	34729	28941	1250	37985	30388	1300	41479	31907
8	Lady.Finge	1130.76	13569	12000	1130	14238	12600	1150	15215	13230	1150	15975	13892	1150	16774	14586	1150	17613	15315
9	C.Beans	450.62	2253	5000	450	2363	5250	450	2481	5513	450	2605	5788	450	2735	6078	450	2872	6381
10	Methi	572.85	5729	10000	600	6300	10500	650	7166	11025	650	7525	11576	675	8205	12155	700	8934	12763
11	Drumstik	228.12	2281	10000	230	2415	10500	250	2756	11025	250	2894	11576	250	3039	12155	250	3191	12763
12	Capscicum	308.95	3707	12000	310	3906	12600	325	4300	13230	350	4862	13892	350	5105	14586	375	5743	15315
13	Carrot	265.9	1330	5000	265	1391	5250	270	1488	5513	275	1592	5788	280	1702	6078	285	1819	6381
14	Cucumbe	298.2	4473	15000	300	4725	15750	300	4961	16538	300	5209	17364	300	5470	18233	300	5743	19144
15	R.gourd	188	3760	20000	190	3990	21000	190	4190	22050	195	4515	23153	195	4740	24310	200	5105	25526
16	B.Gourd	172.4	3448	20000	175	3675	21000	175	3859	22050	180	4167	23153	185	4497	24310	190	4850	25526
17	Gourd	72.5	2900	40000	75	3150	42000	75	3308	44100	80	3704	46305	80	3890	48620	85	4339	51051
18	Tondli	21.2	85	4000	21	88	4200	22	97	4410	22	102	4631	22	107	4862	22	112	5105
19	Padwal	12.45	311	25000	13	341	26250	13	358	27563	14	405	28941	14	425	30388	15	479	31907
20	Leafy veg.	1217.08	18256	15000	1250	19688	15750	1275	21085	16538	1300	22574	17364	1325	24158	18233	1350	25845	19144
Total		34196.76	529905		35159	576008		36045	622868		36866	672508		37726	726317		38822	790240	

Sr. No.	Existing Cropping Pattern (2006-07)				2007-08			2008-09			2009-10			2010-11			2011-12		
	Crops	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
C	Flowers																		
1	Merigold	987.4	3950	4000	1000	4200	4200	1100	4851	4410	1200	5557	4631	1300	6321	4862	1400	6637	4200
2	Aster	35	245	7000	35	257	7350	40	309	7718	45	365	8103	50	425	8509	55	447	7350
3	Shevanti	20.6	144	7000	21	154	7350	22	170	7718	23	186	8103	24	204	8509	25	214	7350
4	Mogra	3.55	18	5000	4	21	5250	4	2	5513	5	29	5788	6	36	6078	7	38	5250
5	Nishigand	58.3	583	10000	60	630	10500	62	684	11025	64	741	11576	64	778	12155	65	817	10500
6	Rose	51.2	512	10000	55	578	10500	57	628	11025	58	671	11576	59	717	12155	60	753	10500
7	Other	292.4	1462	5000	300	1575	5250	310	1709	5513	315	1823	5788	320	1945	6078	325	2042	5250
	Total	1448.45	6914		1475	7415		1595	8353		1710	9372		1823	10426		1937	10948	
D	Spices Crops																		
1	Coriande	1299.36	1299	1000	1300	1365	1050	1350	1488	1103	1400	1621	1158	1400	1702	1216	1425	1787	1050
2	Chilly	2004.34	12026	6000	2005	12632	6300	2025	13395	6615	2050	14239	6946	2075	15133	7293	2100	15890	6300
3	Turmeric	1326.03	7293	5500	1350	7796	5775	1400	8489	6064	1450	9232	6367	1500	10028	685	1550	10529	5775
4	Ginger	1475.21	25846	17520	1550	28514	18396	1650	31871	19316	1750	35493	20282	1850	39397	21296	1900	41367	18396
5	Garlic	730.2	6572	9000	750	7088	9450	775	7690	9923	800	8335	10419	850	9299	10940	900	9764	9450
5	Other	56.2	281	5000	60	315	5250	60	331	5513	60	347	5788	65	395	6078	75	415	5250
	Total	6891.34	53317		7015	57710		7260	63264		7510	69267		7740	75954		7950	79752	
E	Spices	50.00			60.00			70.00			80.00			90.00			100.00		

ABSTRACT

A	Total Fruits	31799.7	392684		33148	437513		34559	487604		36430	547494		38296	611767		39913	678015	
B	Total Vegetables	34196.76	529905		35159	576008		36045	622868		36866	672508		37726	726317		38822	790240	
C	Total Flowers	1448.45	6914		1475	7415		1595	8353		1710	9372		1823	10426		1937	10948	
D	Total Spices	6891.34	53317		7015	57710		7260	63264		7510	69267		7740	75954		7950	79752	
E	Total Spices	50			60			70			80			90			100		
	Total	74386.3	982820		76857	1078646		79529	1182089		82596	1298641		85675	1424464		88722	1558955	

Table 6.5: IPM Demonstrations in Next Five Years.

(Phy. - Area covered in ha, Fin. - Rs. In lakh)

Sr. No.	Name of crop	Average Area ha.	Present Area Protected through IPM in ha	IMP Demonstrations In 2006-07		IPM Projection										Financial outlay					
				No. of Demos conducted	Area covered ha.	2007-08		2008-09		2009-10		2010-11		2011-12		07-08	08-09	09-10	10-11	11-12	Total
						No. of Demo	Area Covered Ha.	No. of Demo	Area Covered Ha.	No. of Demo	Area Covered Ha.	No. of Demo	Area Covered Ha.	No. of Demo	Area Covered Ha.	Fin	Fin	Fin	Fin	Fin	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1	Oil seed	100000	1500	199	199	77	77	150	150	175	175	225	225	275	275	0.77	1.5	1.75	2.25	2.75	9.02
2	Pulses	80700	1020	76	76	36	36	150	150	250	250	350	350	450	450	0.28	1.12	1.88	2.62	3.38	9.28
3	S.cane	38700	2520	0	0	0	0	200	200	300	300	400	400	500	500	0	2	3	4	5	14
4	Cotton	2900	210	1	50	90	90	100	100	110	110	120	120	120	120	0.81	0.9	0.99	1.08	1.08	4.86
	TOTAL	222300	5250	276	325	203	203	600	600	835	835	1095	1095	1345	1345	1.86	5.52	7.62	9.95	12.21	37.16
	Horticulture																				
1	Vegetable	34,196.76	2,130	1,480	1,480	350	350	200	200	200	200	200	200	200	200	3.57	2	2	2	2	11.57
2	Pomogranate	2,740.73	350	200	200	0	0	100	100	100	100	100	100	100	100	0	1	1	1	1	4
3	Grape	428.67	250	50	50	0	0	50	50	50	50	50	50	50	50	0	0.5	0.5	0.5	0.5	2
	TOTAL	37,366.16	2,730	1,730	1,730	350	350	350	350	350	350	350	350	350	350	3.57	3.5	3.5	3.5	3.5	17.57
	Grand Total	259666.2	7980	2006	2055	553	553	950	950	1185	1185	1445	1445	1695	1695	5.43	9.02	11.12	13.45	15.71	54.73

Source: DSAO, Satara.

Table 6.6: INM Demonstrations in Next Five Years.

Phy Area covered in ha) (Fin – Rs. In lakh)

Name of Block /District	Name of crop	Average Area per demo (ha)	Present Area under INM (ha)	INM Demonstrations In 2006-07		INM Demonstrations Projection									
				No. of Demos conducted	Area covered (ha)	2007-08		2008-09		2009-10		2010-11		2011-12	
						Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Satara	Cereals, Pulses, Vegetables, Fruits	0.50	-	-	-	1684	24.68	1484	21.88	1484	21.87	1483	21.77	1483	21.77
Koregaon			-	-	-	1503	22.83	1203	18.63	1202	18.52	1202	18.52	1202	18.52
Khatav			-	-	-	1503	22.83	1203	18.63	1202	18.52	1002	15.05	1002	15.05
Karad			-	-	-	1884	28.16	1484	21.88	1484	21.87	1483	21.77	1483	21.77
Patan			-	-	-	1683	24.63	1383	20.43	1382	20.32	1382	20.32	1182	16.85
Wai			-	-	-	1684	24.68	1384	20.48	1384	20.47	1383	20.37	1383	20.37
Jaoli			-	-	-	1683	24.63	1383	20.43	1382	20.32	1182	16.85	1082	15.85
M.Shwar			-	-	-	522	7.78	521	7.68	521	7.69	521	7.69	521	7.69
Khandala			-	-	-	1563	23.43	1163	17.83	1162	17.72	962	14.25	962	14.25
Phaltan			-	-	-	1704	26.36	1504	23.56	1304	20.07	1303	19.97	1303	19.97
Man			-	-	-	1483	22.63	1183	18.43	1182	18.32	1182	18.32	982	14.85
Total				0.50	-	-	-	16896	252.64	13895	209.86	13689	205.69	13085	194.88

Table 6.7: Varietal Demonstration in Next Five Year-Satara district

Phy-Area in Ha and Fin in Lakh

Name of Crop	Average Area per demonstration (ha.)	Present Area under Varietal demon. (ha)	Varietal Demonstrations In 2006-07		Varietal Demonstration Projection (Phy in No.)									
			No. of Demos conducted	Area covered (ha)	2007-08		2008-09		2009-10		2010-11		2011-12	
					Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.	Phy.	Fin.
Paddy	0.4	375	259	104	234	4.68	250	5	275	5.5	300	6	325	6.5
Nachani	0.4	0	0	0	50	1	75	1.5	100	2	125	2.5	150	3
K.jawar	0.4	50	26	11	40	0.8	60	1.2	80	1.6	100	2	120	2.4
Bajara	0.4	200	125	50	50	1	60	1.2	70	1.4	85	1.7	100	2
R. Jawar	0.4	175	85	34	210	4.2	230	4.6	250	5	260	5.2	280	5.6
Wheat	0.4	150	117	47	66	1.32	70	1.4	75	1.5	80	1.6	85	1.7
K & S Gr.Nut	0.4	125	50	20	30	1.2	40	1.6	50	2	60	2.4	70	2.8
Safflower	0.4	0	0	0	14	0.21	20	0.3	30	0.45	40	0.6	50	0.75
Sesamum	0.3	5	7	2	10	0.15	20	0.3	30	0.45	40	0.6	50	0.75
Bean	0.4	125	45	18	12	0.42	40	1.6	50	2	60	2.4	70	2.8
Gram	0.4	75	10	4	12	0.3	50	1.25	60	1.5	70	1.75	80	2
Mung	0.4	25	15	6	0	0	20	0.4	30	0.6	40	0.8	50	1
Sugarcane	0.5	545	444	222	41	1.64	80	3.2	100	4	120	4.8	150	6
Cotton	0.5	0	0	0	39	1.95	45	2.25	50	2.5	50	2.5	50	2.5
Maize	0.4	45	25	10	55	2.2	60	2.4	70	2.8	80	3.2	90	3.6
Total		1895	1208	528	863	21.07	1120	28.2	1320	33.3	1510	38.05	1720	43.4

Table 6.8: Farmers Field Schools Projection in Next Five Year-Satara district

Sr. No.	Name of crop	TOF Trained Available Man power (Nos.)	FFS Conducted in five year (Aided)			Yield obtained under FFS In 06-07 Quntl/ha	Normal average yield obtained in 06-07 Quntl/ha	2007-08		2008-09		2009-10		2010-11		2011-2012	
			No. of FFS conducted in last five years	No. of villages Covered in last five years	Area Covered in last five years (Ha.)			No. of FFS	No. of villages to be covered	No. of FFS	No. of villages to be covered	No. of FFS	No. of villages to be covered	No. of FFS	No. of villages to be covered		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	Paddy	2	20	20	200	16.67	15.29	7	7	25	25	30	30	35	35	40	40
2	Kh.Jawar	0	8	8	80	11.2	10.04	5	5	7	7	8	8	9	9	10	10
3	Soyabean	2	30	30	300	15.5	15.2	8	8	16	16	20	20	22	22	24	24
4	Rabi. Jawar	8	15	15	150	11.2	10.02	11	11	20	20	25	25	30	30	30	30
5	Gram	1	12	12	120	8.2	7.96	5	5	10	10	12	12	15	15	15	15
6	S.cane	15	20	20	200	82	77	30	30	35	35	40	40	45	45	50	50
7	Cotton	7	19	19	190	192	190	10	10	10	10	10	10	10	10	10	10
8	Gr.Nut	0	10	10	100	10.3	9.13	3	3	9	9	10	10	10	10	11	11
9	Mug	0	0	0	0	0	0	0	0	2	2	3	3	5	5	5	5
10	Bean		16	16	160	13.5	12.1	0	0	8	8	10	10	10	10	10	10
11	Vegetable	0	0	0	0	0	0	0	0	10	10	12	12	15	15	20	20
12	Spices	0	0	0	0	0	0	0	0	5	5	7	7	10	10	12	12
13	Fruit	0	0	0	0	0	0	0	0	10	10	15	15	17	17	20	20
	TOTAL	35	150	150	0	0	0	79	79	167	167	202	202	233	233	257	257

Table 6.9: Crop Diversification Plan in Next Five Years- Satara district

Sr. No.	Existing Cropping Pattern 2006-07		Crop Diversification Proposed (Area in Lakh ha.)									
	Crop Group	Area	2007-08		2008-09		2009-10		2010-11		2011-12	
			Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)	Area under crop	Change in area with reference to 06-07 (+/-)
1	Cereals	397167	387100	-10067	397930	763	387150	-10017	387550	-9617	384975	-12192
2	Pulses	80700	86000	5300	91600	10900	98550	17850	102600	21900	106350	25650
	Total Food grains	477867	473100	-4767	489530	11663	485700	7833	490150	12283	491325	13458
3	Oilseeds	100000	97300	-2700	100930	930	105680	5680	110625	10625	113650	13650
4	Sugarcane	38700	53800	15100	52000	13300	51000	12300	50000	11300	49000	10300
5	Cotton	2900	3600	700	3800	900	3900	1000	4000	1100	4100	1200
6	Other cash crops	0	0	0	0	0	0	0	0	0	0	0
	Total Cash Crops	141600	154700	13100	156730	15130	160580	18980	164625	23025	166750	25150
7	Fruit crops	31799.7	33148	1348.3	34559	2759.3	36430	4630.3	38296	6496.3	39913	8113.3
8	Vegetable Crops	34197	35159	962	36045	1848	36886	2689	37772	3575	38822	4625
9	Flower Crops	1448.45	1475	26.55	1595	146.55	1710	261.55	1823	374.55	1937	488.55
10	Spices	6891.37	7015	123.63	7260	368.63	7510	618.63	7740	848.63	7950	1058.63
11	Medicinal and Aromatic Plants	50	60	10	70	20	80	30	90	40	100	50
	Total Horticulture Crops	74386.52	76857	2470.48	79529	5142.48	82616	8229.48	85721	11334.5	88722	14335.5
12	Other Crops			0		0		0		0		0
	Grand Total	693853.5	704657	10803.5	725789	31935.5	728896	35042.5	740496	46642.5	746797	52943.5

Table 6.10: Additional area to be brought / under Organic Farming in Next Five Years-Satara district

Sr.No.	Taluka	Present area under Organic Farming	Area to be brought under Organic Farming (ha)					Total
			2007-08	2008-09	2009-10	2010-11	2011-12	
1	2	3	4	5	6	7	8	9
1	Satara	3563	350	380	400	410	420	1960
2	Koregaon	2751	220	240	260	270	300	1290
3	Khatav	1079	110	130	140	160	200	740
4	Karad	975	500	530	560	580	620	2790
5	Patan	2376	320	350	380	400	450	1900
6	Wai	163	310	330	360	380	405	1785
7	Jawli	1816	205	215	240	260	290	1210
8	Khandala	120	80	110	130	150	175	645
9	Mahableshwar	259	120	125	130	135	140	650
10	Phaltan	708	210	250	260	280	350	1350
11	Man	874	50	60	80	100	125	415
	Total	14684	2475	2720	2940	3125	3475	14735

Table 6.11: Proposed production of organic input and formation of organic groups in the next five years-Satara district

Sr.No.	Taluka	Production of organic inputs (q)						Other activities					District Level Activities			Required Amount (in lakh Rs.)
		Bio fertilizers	Vermi Compost Production in (Ton)	Biodynamic Compost Production-on in (ton)	Bio pesticides Group	Botanical pesticides	Organic farming seeds	O.F. Group	Organic Certification Group	Vermiculture Center	Vermi compost Center	Bio-Dynamic compost center	Publicity	Training & work shop	Exhibition	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	Satara	0	5340	2500	0	0	0	100	10	25	1050	2050	1	1	1	40.3875
2	Koregaon	0	5820	2400	0	0	0	100	10	25	1000	1950			1	38.7625
3	Khatav	0	6108	2300	0	0	0	100	10	20	800	1900			1	32.475
4	Karad	0	6120	2700	0	0	0	100	15	30	1050	2100	2	1	1	42.425
5	Patan	0	5112	2400	0	0	0	100	10	25	950	1950			1	37.5125
6	Wai	0	4812	2250	0	0	0	100	10	25	850	1850	1	1	1	35.2375
7	Jawli	0	3660	2100	0	0	0	100	10	20	750	1750			1	31.1125
8	Khandala	0	2784	2100	0	0	0	50	10	10	850	1750		1		28.6125
9	Mahableshwar	0	1872	1500	0	0	0	100	5	20	500	1100				23.825
10	Phaltan	0	8100	2450	0	0	0	100	10	30	1050	2000	1	1	1	41.6
11	Man	0	5208	1400	0	0	0	100	10	20	850	1600			1	33.5
TOTAL		0	54936	24100	0	0	0	1050	110	250	9700	20000	5	5	9	385.45

Table 6.12: Tools Utilized for Improving Crop Production

Sr. No.	Name of Crop	Area under Crop	Type of Crop Production tools	Area under Crop Production tools (ha)	Proposed Area under Crop production tools (ha)					Name of the Persistence technology	Reason of shortfalls of technology	Remedies suggested for adoption of technology	Remarks
					07-08	08-09	09-10	10-11	11-12				
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Kharif Jowar	60500	1) Timely sowing Before 7th July	57500	49438	51120	52256	54245	57500		Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2) Integrated Nutrient Management (Balance use of fertilizer as well as Organic Manure & Biological manure & as per soil testing	11729	5648	8183	9159	10038	11729				
			3) Seed Treatment	20520	16224	16996	18318	19149	20520				
			4)Use of Hybrid & Improved Varieties of K. Jowar (eg.CSH-5,9,14,17,18,21,& 23)	54625	45200	48280	51120	54245	54625				
			5) Use of Improved &High Yielding Straight Varieties (Eg.SPV-462,CSV-15,17 &23)	2875	11300	8520	5680	2855	2875				
			6) Farmers Field School (FFS)	900	450	630	720	810	900				
2	Paddy	42767	1)Seed Replacement (QT.)	4500	1486	2260	2376	3778	4500		Short Fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	4700	4175	4200	4250	4300	4700				
			3) Promoting char-sutri technology.	14048	8780	10975	11853	13170	14048				
			4) Use of improved and hybrid variety. (Sahayadri -1 & Sahyadri-2)	9180	5232	6160	7136	8172	9180				
			5)Use of Improved &High Yielding Straight Varieties (Eg. Indrayani, Phule Samrudhi, Bhogavati, Phule Radha, Maval Padma, & Kundalika)	36720	26160	28600	31220	34050	36720				
			6) Integrated Nutrient Management (Balance use of fertilizer as well as Organic Manure & Biological manure & As per soil testing	10557	6540	7480	8474	9534	10557				
			7)Farmers Field School (FFS)	3600	650	2250	2700	3150	3600				

3	Bajara	82400	1)Seed Replacement (QT.)	2340	2142	2214	2280	2340	2340	Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2) 20 % Brime Solution &1 Aproon Seed treatment for Ergoot Dise & Iso bcteril seed treatment	7500	8400	8200	8000	7800	7500			
			3) Use of improved varieties like ICTP 8203 & hybrid varieties (Shradha, Saburi & Shanti)	78000	71400	73800	76000	78000	78000			
			4) Balance use of organic and chemical fertilizer.	7800	4200	4300	4400	7500	7800			
			5) Providing protective irrigation at critical stage.	11250	6300	7380	8800	10140	11250			
			6)In Situ moisture conservation	11250	8400	9840	10400	10920	11250			
4	Groundnut	58300	1)Seed Replacement (QT.)	14730	4226	6465	10070	11470	14730	Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	645	294	375	460	530	645			
			3) Seed Treatment	9094	5875	7128	7203	7285	9094			
			4) To maintain optimum plant population	10455	5650	6840	8190	9000	10455			
			5)Use of Improved &High Yielding Varieties (Eg.JL-24, JL286, TAG -24 & TG-26 & Tikka & Rust resistant Varieties	9225	2825	4275	5850	7200	9225			
			6)Farmers Field School (FFS)	990	270	510	900	900	990			
			7) Mulching	90	24	45	60	75	90			
5	Soyabean	30400	1) To promote timely sowing.	35000	24310	26250	27200	31050	35000	Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Seed Replacement (QT.)	13250	8759	9725	11300	13231	13250			
			3)Village Seed Production (QT.)	2500	250	400	700	1000	2500			
			4) Seed Treatment of Trichoderma & other Chemicals	3367	1543	1944	2576	3173	3367			
			5)Framers Field School (FFS)	2160	720	1440	1800	1980	2160			
			6)Use of Improved &High Yielding Varieties (Eg. Phule Kalyani & JS-335	21000	12012	13500	16000	18975	21000			
6	Sugarcane	38700	1) Integrated Nutrient Management (Balance use of fertilizer as well as Organic Manure & Biological manure & As per soil testing ,Plant Population ,Green manuring,	22050	13450	15600	17850	20000	22050	Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With	

			6) Integrated use of fertilizer and irrigation at critical growth stages.	9920	6958	8524	8600	9021	9920				
9	Bean	25827	1)Seed Replacements (QT.)	5250	1004	1422	1820	4380	5250		Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	1500	350	450	700	900	1500				
			3) Seed Treatment	1032	335	412	630	674	1032				
			4) Integrated use of fertilizer and irrigation at critical growth stages.	516	133	165	270	289	516				
			5)Farmers Field School (FFS)	900	0	720	900	900	900				
10	Gram	26700	1)Seed Replacement (QT.)	4763	1290	1790	2613	3600	4763		Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	1800	900	1000	1100	1500	1800				
			3) Seed Treatment of Trichoderma & Rhizobium	3770	787	1391	2005	2965	3770				
			4)Use of Improved &High Yielding Varieties (Eg. TVijay , vishal , Digvijay & Virat)	875	2920	3720	4950	6800	8750				
			5) Integrated use of fertilizer and irrigation at critical growth stag.	4596	1312	1948	2865	4448	4596				
			6)Farmers Field School (FFS)	1350	450	900	1080	1350	1350				
11	Mung	5800	1)Seed Replacement (QT.)	123	48	63	90	103	123		Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	200	100	120	150	180	200				
			3) Use of Improved &High Yielding Varieties (Eg. Vaibhav ,BSMR-145	1615	740	915	1200	1415	1615				
			4) Seed Treatment of Trichoderma & Rhizobium	1030	335	412	630	674	1030				
			5)Farmers Field School (FFS)	450	0	180	270	450	450				
12	Udid	4800	1)Seed Replacement (QT.)	86	32	45	58	69	86		Short fall of Technical Staff & Lack of Awareness	Adoption of Farmers Training , Demonstrations FFS, Field Visits, & With the help of KVM	
			2)Village Seed Production (QT.)	40	20	25	30	35	40				
			3)Use of Improved &High Yielding Varieties(Eg. TPU-9 &4T-9)	630	260	350	440	520	630				
13	Cotton	8500	1)Farmers Field School (FFS)	600	600	600	600	600	600				
			3) Use of Integrated Pest Man. & Balanced Use of Fertilizer	120	90	100	110	120	120				
14	Vegetables	34196	1)Farmers Field School (FFS)	1800	0	900	1080	1350	1800				
15	Spices	6891	1)Farmers Field School (FFS)	360	0	150	210	300	360				
16	Fruits	31799	1)Farmers Field School (FFS)	1800	0	900	1350	1530	1800				
17	Seed Treatment	72886	1)Farmers Field School (FFS)	2700	1350	1800	2250	2430	2700				

6.4.2: Strategies For Bridging the Gap of Research and Extension

Proposed Extension Strategies:

A strategy refers to the selection of one of the ways or alternatives available in addressing the problems. The extension strategies are worked out by analyzing the specific problems and issues of different crops and enterprises in predominant farming systems in identified agro-ecological situations. These strategies outline how a particular problem or issue is going to be addressed to get desired outcome after its implementation. The strategies are generally categorized into following subheads to have more specificity in dealing with each type of problems. The extension strategies are proposed for each of crop, livestock and other farm-based activities, which are divided mainly on the following categories

1. Improving productivity and income of existing crops, livestock and commodities by means of bringing existing technological gaps, which are either identified as critical practices or critical inputs.
2. Diversification or intensification of crops, commodities or enterprises, which are proposed on the basis of critical analysis of existing farming systems.
3. Improving sustainability in production and income of crops, commodities or enterprises by means of adopting integrated nutrient management and pest management which are low cost and improving the production and reducing the cost of production.
4. Natural resource management for soil and water by means of adopting different soil and water conservation practices on farmer's fields and adopting micro-management practices of Drip/Sprinkler Irrigation.
5. Post harvest management – value addition, processing and marketing for different crops and commodities.
6. Organizing farmers for different activities and their capacity building.
7. Women empowerment in agriculture.

Table 6.13: Proposed Extension Strategies

Sr. No	Crop / Enterprises		Proposed Extension Strategies	Proposed Extension Activities
1	Soil & Water	<ul style="list-style-type: none"> ▪ Shallow Soils (7.5 –25 am) ▪ Coarse Soils, ▪ Low water holding capacity of soils ▪ High eroding soil ▪ Poor drainage ▪ High calcium content ▪ Poor drainage leaching deteriorating soil health due to salinity -alkalinity ▪ Saline Alkaline soils ▪ Poor drainage ▪ Very hard work with implements ▪ Low to medium soil erosion 	<ul style="list-style-type: none"> ▪ Educating & promoting for Soil water conservation practices ▪ Contour cultivation, ▪ cultivation of low water requiring crops ▪ Promoting and educating farmers for ▪ application of organic and green manuring ▪ High calcium content low P₂O₅ availability ▪ Mixing phosphatic fertilizer with compost ▪ Contour cultivation ▪ Educating about following :- ▪ Drainage spring to drainage water ▪ 5 ton gypsum application ▪ Removing scarping of excess sort on soil ▪ Application of organic fertilizers & sowing ▪ of salt tolerant crops ▪ Organic and green manuring ▪ Contour cultivation ▪ Crop rotations 	<ul style="list-style-type: none"> ▪ Use of mass media including print & electronic media to create awareness. ▪ Training of farmers on soil & water conservation practices. ▪ Use of mass media , ▪ Convergence with ongoing schemes. ▪ Use of mass media , ▪ Convergence with ongoing schemes ▪ Convergence with ongoing schemes

Sr. No	Crop /Enterprises	Issues / Problems	Proposed Extension Strategies	Proposed Extension Activities
	Soil & Water	<ul style="list-style-type: none"> • Medium to very high soil erosion • Low to very low drainage saline alkali soils • Shallow soils with heavy erosion • Shallow, coarse, soils, heavy erosion 	<ul style="list-style-type: none"> • Educating and encouraging farmers about • Balanced fertilization • Bunding treatment • Educating and promoting for • Dry land farming • Soil improvement by gypsum, sulfur, iron pyrites applications • Molasses application drainage channels • organic green manuring organic fertilizer, Sowing of salt tolerant crops like paddy, wheat, sugarcane, cotton onion • Continuous contour Trenches • Gally plugging • Promoting for Convergence with ongoing schemes • Organic / Green manuring • Drought resistant crops • Loose Boulders gully plugging compartment & graded bunding • Bund plantation • Forest / pasture development • 	<ul style="list-style-type: none"> • Capacity building of farmers • Convergence with ongoing schemes • Capacity building of farmers • Convergence with ongoing schemes • Capacity building of farmers • Convergence with ongoing schemes • Capacity building of farmers • Convergence with ongoing schemes

Sr. Nr.	Crop /Enterprises	Issues / Problems	Proposed Extension Strategies	Proposed Extension Activities
2	Rice	Improper Nursery management Lack of seed treatment Lack of improved high yielding varieties application of balanced use of fertilizer & faulty method of fertilizer application	Application of recommended technology in case of nursery management seed treatment and introducing high yielding varieties. Promoting for integrated fertilizer management & recommended method of its application through briquettes. Promoting for use of urea briquettes preparation & application on large scale.	Exposure visit to research station. Organizing training on improved production technology. Organizing adaptive trials. Organizing demonstration rice plantation with urea briquette application. Integrating farmers with ongoing scheme for purchasing machine for briquette preparation. Formation of FIG for briquette preparation.
		Very severe yield losses due to lack of plant protection measures for paddy. Low yield due to high infestation of weed during crop growing stage. Low rates to the grains due to cultivation of local varieties due to lack of vision for cultivating high yielding scented varieties of rice.	Promoting for integrated pest management in paddy. Promoting for weed control by introducing interculturing implements use of weedicide Promoting for cultivation of improved high yielding scented market demanded rice varieties.	Organizing farmers field school. Organizing IPM demonstrations. Organizing Training on cultivation practices. Organizing adaptive trials and demonstrations on scented rice variety.
		Lack of preparatory tillage operations & lack of collection and destruction of stables which carries stem borer and other pest to next crop reducing yield.	Educating ,encouraging and promoting of paddy cultivators for adoption of improved cultivation practices Including Integrated pest and nutrient management.	Exposure visit to successful paddy cultivators Training on improved cultivation practices by scientists from concerned research station well before the growing season.

		<p>Improper of nursery management in paddy reducing the yield due to lack of healthy growth of seedlings in nursery.</p> <p>Lack of proper puddling operations to prepare land for transplantation.</p> <p>Lack of application of green manure at paddling i.e. glyricida and more leaching.</p> <p>Lack of proper spacing during transplantation and toping of seedlings to control stem borer.</p> <p>Low yield due to use local seed and lack of seed treatment, very low seed replacement continued use of same seed.</p> <p>Very low application of chemical fertilizers than recommended.</p> <p>Lack of proper pest / disease due to lack knowledge of diseases pests and micronutrient deficiency symptoms and no control measures applied.</p> <p>Severe yield loses due to lack pest management.</p> <p>Low yield due to lack of nutrient management.</p> <p>Lack of protective irrigation and irrigation facilities in dry spell.</p> <p>Lack of inter culturing and mixing of used to paddy seed.</p>		<p>Demonstrations on improved technological practices</p> <p>Organizing field days during various crop growing stages.</p>
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Sr. No	Crop / Enterprise	Issue / Problems	Proposed Extension strategy	Proposed extension activities
		<p>Use of traditional or locally available interculturing implement not effective for inter culturing operations i.e. Vaibhav sickle or Karjat hoe etc.</p> <p>Improper stage of harvesting. Leading to empty searched padding.</p> <p>Reducing the quality of finished seeds & grains due to mixture of grains when the crop variety is threshed at on threshing yard.</p> <p>Use of local / traditional methods of rice hashing reducing the quality of whole grains due to more broken grains.</p>		
3	<p>Niger (Research Variety) Refinement Assessment</p>	<p>Low yield of Niger due to sowing on light soils as mixed crop and not as a sole crop</p> <p>Lack of improved seed and low yield due to low productivity of existing varieties.</p> <p>Low yield due to lack of fertilizer and pest management for Niger.</p> <p>Lack of processing and value addition.</p>	<p>Educating farmer for application of recommended technologies and organic fertilizer</p> <p>Promoting For evolving new high yielding variety through research station.</p> <p>Promoting for adoption and integrated nutrient and pest management</p> <p>Promoting for processing and value addition</p>	<p>Training on improved production technology.</p> <p>Organizing demonstrations on IPM & INM.</p> <p>Undertaking research activities to evolve new variety of xlinger</p> <p>Needs assessment / Refinement of technology on INM / IPM of Niger.</p> <p>Exposure visit to processing unit</p>

4	Nachani Ragi Figer millet	<p>Low yield due to use of local seed and non availability of improved high yielding varieties in Ragi</p> <p>Low yield due to non availability of improved technological package</p> <p>Non economical hence regains crop divers fiction</p> <p>Growing demand for value addition and processing required high yielding seed varieties and improved technological package for higher economic returns</p>	<p>Promoting for high yielding variety seed production</p> <p>Promoting retirement of Ragi production technology</p> <p>Promoting for value addition and processing of Varai crop for better economic returns</p>	<p>Ragi seed village program in potential areas</p> <p>Mulching available improved variety seed by linking with research station</p> <p>Organizing training on seed production technology and improved cultivation practices</p> <p>Organizing demonstrations adoptive trials on improved production technology</p> <p>Training on value addition and processing Exposure visit to saucers stories.</p> <p>Formation of farmers / farm women's interest group.</p> <p>Linking with crud it institution for capital machinery</p>
5	Jowar (Rabbi)	<p>1. In light & medium soils the moisture contain is low.</p> <p>2. Low yield due to improper plant plantation</p> <p>3. Low yield due to lack of INM & IPM.</p> <p>4. low yield due to non adoption of inter culturing operation and maintain soil moisture stress in low rain fall area.</p>	<p>Educating and promoting farmers for adoption of dry land technology.</p> <p>Promoting farmers for preparation and application of organic manure and vermicompost</p> <p>Promoting jowar cultivators for converting local seed drill into suitable seed drill.</p>	<p>Organizing farmer's exposure visit to Dry land research station.</p> <p>Organizing technical training on dryland technology for above participating farmers by involving concerned scientists. Conducting dry land technology demonstrations on above farmers' fields.</p> <p>Use of mass media for creating awareness about importance and use of organic manures for jowar.</p>

				Incentives for conversion of seeddrill. Training on vermicompost preparation and linking with ongoing schemes.
6	Maize (Grain purpose)	Low yield due improper soil selection & lack of integrated nutrient management Low returns due to lack of value addition & processing facilities in potential production area	Educating farmers for proper soil selection & application of integrated nutrient management promoting for processing of maize	Use of mass media for educating farmers. Training for improved maize production technology. Organizing exposure visits to research stations, processing units Organizing training processing & value addition Formation of FIG for processing.
7	Wheat	Low yields due to sowing in light soils. Lack of proper preparatory tillage. Lack of organic manure's Lack of proper sowing seed rate and spacing Lack of sowing methods. High seed rate, broadcasting local seed use, lack of seed treatment Imbalance fertilizer application Lack of soil testing for fertilizer application Lack of integrated weed management Lack of water management Low yield and poor quality grains Lack of pest / disease management	Promoting for use of recommended seed rat, spacing and production technology. Promoting for integrated nutrient management	Organizing Farmers field schools . Training on wheat production technology Organizing Seed village program Organizing crop demonstrations on integrated nutrient management

8	Kharif Bajara	<p>low yields due to soil moisture stress during growing stage</p> <ol style="list-style-type: none"> 1. Low yields due to lack of recommended seed rate crop spacing 2. Low yields due to non-application of FYM / compost balanced fertilizers and its method of application. 3. Low yields due to non adoption of interculturing operation to maintained soil moisture during moisture stress low rainfall. 4. Low yields due to lack of protection irrigation during dry spell. 	<p>Educating and encouraging for in-situ moisture conservation practices before growing.</p> <p>Educating about recommended seed rate spacing and production technology.</p>	<p>Organizing adoptive trials on in-situ moisture conservation practice</p> <p>Organizing training on improved production technology</p> <p>Organizing training on improved package of practice.</p> <p>Organizing demonstration.</p> <p>Organizing farmers field school.</p>
9	Tur	<p>Low yield due to improper low selection late sowing high seed rate, lack of seed treatment.</p> <p>Low yield due to lack of FYM compost and basal chemical fertilizer.</p> <p>Severe yield reduction due to pest problems.</p>	<p>Promoting for adoption of recommended practices with special emphasis on integrated nutrient / pest management.</p>	<p>Organizing adoptive trials on in-situ moisture conservation practice</p> <p>Organizing training on improved production technology</p> <p>Organizing training on improved package of practice.</p> <p>Organizing demonstration.</p> <p>Organizing farmers field school.</p>

10	Gram	<p>Low yield due to wilt disease in heavy soils.</p> <p>Lack of use of resistant variety of diseases.</p> <p>Low yield due to lack of pest management</p> <p>Low yield due to water management in heavy soils</p> <p>lack of knowledge about processing and value addition.</p>	<p>Promoting farmers for adoption of recommended gram production technology</p> <p>educating farmers for integrated pest & disease management.</p>	<p>Use of mass media</p> <p>Training on recommended production technologies for gram</p> <p>Organizing crop demonstrations on improved technology and IPM.</p> <p>Organizing farmers field schools for gram</p> <p>Supply of Trichoderma HNPV, Neem powder</p>
11	Peas (Research for seed)	<p>Unavailability of high yielding peas varieties needs research initiatives</p> <p>Low availability of certified peas seed</p> <p>Lack of seed treatment</p> <p>Lack of plant protection measures</p> <p>Lack of post harvest technology .</p>	<p>Promoting for seed production.</p> <p>Promoting for FIG for post harvest and processing</p>	<p>Convergence with seed village programme .</p> <p>Organizing training</p> <p>Organizing demonstration on IPM,INM</p>

12	Safflower Recommendation of variety suited to late sowing of safflower	Server yield losses due to aphids infestation and lack of its control measures by farmers. Low yield of crop due to farmers negligence towards crop management	Promoting for adoption of dry land technology for safflower Educating farmers for integrated crop management	Organizing training programme on improved safflower production technology with special emphasis on suitable varieties for late sowing. Training on dry land production technology for safflower. Organizing farmers field schools for safflower Organizing demonstrations on IPM on Safflower
13	Sunflower	1. Lack of improved variety seed. 2. Low yield due to lack of pest management 3. Low yield due to pollination problem	Educating farmers for adoption of recommended production technology Promoting for integrated nutrient management Promoting for integrated pest management	Organizing training on improved production technology with special emphasis on IPM,INM Organizing crop demonstration IPM & INM for demonstrating recommended production technology Organizing Farmers Field School during the growing season Organizing Field days to show the results of recommended technology.
14	Soybean	Low yield / low germination Lack of seed treatment and seed inoculation with Rh. Japonicum reducing yield Lack of recommended seed rate and plant population Sever yield reduction due to pest infestation and diseases	Promoting for integrated pest management for soybean Promoting farmers for integrated nutrient management	Organizing farmers field schools Organizing training programme for improved production technology of soybean particularly on IPM &INM Supply of Bio-fertilizer Especially <u>Rhizobium japonicum</u> by integrating with Bio-fertilizer supplying agency. Supply of proper seed drill by linking with input agency or Panchayat samiti.

15	Groundnut	<p>Low yield of groundnut due to</p> <ol style="list-style-type: none"> 1. Sowing on light soils and depend on rainfall. 2. Low yield due to use of local seed due unavailability of improved groundnut variety, high cost of seed 3. Lack of seed treatment. 4. Imbalance nutrient. 5. Low seed rate low plant population. 6. Lack of bio-fertilizers & micronutrient. 7. Lack of agro processing. 	<p>Educating and promoting farmers for adaptation of recommended groundnut production technology with special emphasis on seed rate.</p> <p>Seed treatment. Balance nutrient. Bio-fertilizer. Micronutrient. Integrated nutrient management. Integrated pest management. Promoting for processing & value addition for groundnut.</p>	<p>Organizing training on groundnut cultivation practices. Organizing demonstration on seed rate, spacing, INM & IPM. Organizing seed production by supply of improved varieties. Exposure visit to processing unit.</p>
16	Sugarcane	<p>Low and reducing sugarcane yields due to soil salinity due to lack of water management. Low and reducing tonnage due to pest problems. Low yields due to more weed infestation.</p> <p>Lack of use of balance fertilizer (INM) , FYM, bio fertilizer, use of excess water.</p>	<p>Encouraging sugarcane cultivators for proper water management for sugarcane to avoid salinity / water logging</p> <p>Promoting integrated pest management</p> <p>Encouraging for paired row planting and application of organic matters / matters.</p> <p>Promoting for integrated weed management by adopting proper interculturing operations.</p>	<p>Organizing training on water management / Micro irrigation and improving soil health by applying</p> <ol style="list-style-type: none"> 1. Soil conditioner. 2. Green manuring. 3. Crop rotation. 4. Organic manure. 5. Organizing demonstration on water management micro irrigation and improving soil salinity by applying soil conditioner.

Sr. No.	Crop/ enterprise	Issues / Problems	Proposed strategy	Proposed Activities
		<p>Low yield due to lack of pest management</p> <p>Low yield due to improper water management & salinity</p> <p>Low yield due to lack of INP</p> <p>Low yield due to improper harvesting time.</p> <p>Improper plat population affects on yield.</p> <p>Weed problem attack on production & yield.</p> <p>Low yield due to lack of certified seed.</p> <p>Low yield due lack of proper plantation method.</p>	<p>Educating sugarcane cultivators for specially maintained sugarcane nurseries</p> <p>Educating sugarcane cultivators for adopting recommended sugarcane production technology</p> <p>Educating for recommended planting ,season, spacing and methods to avoid and or minimize the problem</p> <p>Educating cultivators about importance of organic manures, integrated nutrient management</p> <p>Promoting for recommended water management practices in sugarcane</p>	<p>Use of mass media for creating awareness among the cultivators</p> <p>Organizing training on improved production technology with special emphasis on selection of planting material , its quality parameters, planting spacing , INM, IPM in sugarcane, water management.</p> <p>Organizing exposure visits to research stations and successful farmers.</p> <p>Organizing demonstrations on improved production technology.</p>
17	Kharif Onion	<p>Low yield due to use of locally produced low quality onion seed and hence very low seed replacement with the certified seed of improved varieties.</p> <p>Late transplanting of onion seedling and no seedling treatment followed.</p> <p>Lack of micro nutrient application.</p> <p>Comparatively high 'N' Fertilizer application i.e. imbalance fertilizer leading to low keeping quality of onion bulbs.</p> <p>Sever yield reduction due to lack of timely pest / disease management.</p>	<p>Promoting the onion cultivator for use of quality onion seed for seedling preparation .</p> <p>Educating onion cultivators about importance of transplanting and seed treatment for seedling.</p> <p>Educating farmers for integrated nutrient management by soil test report.</p> <p>Promoting integrated pest management pest management in onion.</p>	<p>Organizing crop demonstration for IPM/INM with improved high yielding certified variety.</p> <p>Nursery management seedling treatment and transplanting methods.</p> <p>Organizing training on all production technology of onion cultivation.</p> <p>Organizing farmer's field school for educating farmers on IPM technology.</p> <p>Organizing farmers field day.</p>

18	Tomato	<p>1. Lack of soil testing & unbalance use of fertilizer decrease yield Low yield due to lack of nursery management and more pest, disease Lack of micro-nutrient application reducing yield & quality Indiscriminate use of pesticides leading to pest resistant , minor pest resurgence and increasing cost of production Low market rates due to surplus production. Highly fluctuating marketing rates and many times farmers are not able to pay the transport charges due to very low rates.</p>	<p>Educating farmers for quality seedling preparation Promoting for integrated fertilizer management Promoting for integrated Pest management Encouraging onion cultivators for adoption of organic an Bio-fertilizer Promoting for crop planning with market intelligence Encouraging for processing & marketing</p>	<p>Organizing training programme on seedling preparation on INM &IPM</p> <p>Use of mass media</p> <p>Exposure visit to processing unit Organizing need based training programme to interested farmers</p>
19	Potato	<p>Low yield due to lack of application of recommended practices of cultivation by farmers due to non-availability of labour for planting. Non availability of certified quality potato seed and high cost of seed. Lack of seed treatment Reducing yield due to lack of application of balanced chemical fertilizers. Severe yield reduction due to pest disease. Low economic returns due to lack of proper harvesting methods Low returns due to lack of storage facilities and high cost involved in storage</p>	<p>Promoting the farmers for application of recommended production technology. Encouraging and educating farmers about mechanical seed planting. Promoting for seed production programmer. Educating about integrated nutrient management. Promoting and educating about integrated pest / disease management for potato. Educating potato cultivators to maintain quality of produce by adopting proper / recommended harvesting methods. Promoting for contract farming by formation of FIG's potato cultivators</p>	<p>Organizing training on recommended production technology</p> <p>Formation of FIGs for encouraging group approach.</p> <p>Visit to success story for group approach of cultivation & marketing Identification of private company Linkages with farmers</p>

20	Cabbage / Cauliflower	Sever yield losses due to lack of nursery management Severe yield reduction due to pests and disease Lack of balance nutrition and lack of micro nutrients	Educating for commercial nursery management by erecting shading net house on group approach Promoting organic cultivation practices Educating about integrated pest management	Organizing training programme on improved production technologies in tomato Exposure visit to success story Use of mass media
21	Brinjal	Low yields due to lack of nursery management, planting time, close spacing. Lack of fertilizer management Severe infestation of fruit & shoot borer.	Promoting cultivators for adoption of recommended cultivation practices in Brinjal	Organizing training on seedling preparation , improved cultivation practices IPM/INM Demonstration on Integrated Pest Management & Integrated Nutrient Management Organizing Farmers Field School
22	Bhendi	Low yield due to lack of fertilizer management. Low yields due to pest infestation Low market rates due to reducing quality of fruits due to lack of proper packaging.	Educating bout fertilizer management IPM with emphasis on biological control Educating for adopting recommended packaging to maintain quality of produce	Training on improved cultivation practices of Bhendi with special emphasis on IPM/INM and packaging for distant markets
23	Custard apple	1. Lack of plantation of improved varieties 2. Recommended spacing is not followed very close spacing 3. Low productivity 4. Interculturing operation is not in application 5. Due to high density plantation pest attack is more severe	Promoting farmers to plant improved varieties i.e. Balanagar Educating farmers above recommended planting distance. Imparting necessary training and processing operation among cultivators.	

24	Guava	<p>Low quality fruits due to plantation in heavy /black soils</p> <p>Low availability of seedling / grafts</p> <p>Improper spacing and dense population</p> <p>Lack of proper water management</p> <p>Imbalance fertilizer application</p> <p>Low yields due to lack of pruning and lack of crop management</p>	<p>Discouraging farmers for under taking plantation in heavy /black soils</p> <p>Promoting for private to people for production of guava</p> <p>Promoting for recommended i.e.g. and 6 X 6 mm & 277 plants/ha</p> <p>Promoting micro-irrigation integrated fertilizer management</p>	<p>Use of mass media</p> <p>Identification of good mother plant / Variety</p> <p>Training & demo.</p>
		<p>Sever yield and fruit quality reduction due to pest and diseases Bahar treatment is not carried as per market demand</p> <p>Lack of processing and low rate due to market glut</p>	<p>Promoting for rejuvenation for higher yields and good quality fruits</p> <p>Promoting for integrated crop management practices</p> <p>Promoting for fruit processing to avoid the market glut due to over supply</p>	
25	Mango	<p>Lack of flower plant protection. More fruit drop</p> <p>Lack of plantation of proper improved varieties as per recommendations in specific climatic regions .</p> <p>Lack of INM, IPM .</p> <p>Less use of growth regulators</p> <p>Less impotence towards storage ,export & processing..</p>	<p>Use proper Varieties as per recommendations in specific climatic regions .</p> <p>Creating awareness about INM ,IPM.</p> <p>Creating groups (FIG) infrastructure for processing</p>	<p>Educating mango growers for using recommended varieties .</p> <p>Promoting for INM&IPM in mango</p> <p>Organizing and educating and promoting for processing and value addition& export.</p>
26	Grapes	<p>Improper land selection</p> <p>Lack of storages of rootstock for grapes.</p> <p>Low yield</p> <p>Lack of availability of skilled labor for grape</p> <p>Lack of canopy management</p> <p>Lack of proper spraying sprout bunches poor quality low returns</p> <p>Lack of branded growth promoting promotes</p> <p>Lack Of export Management of the produce.</p>	<p>Educating grape growers for using recommended root stocks</p> <p>Promoting for IPM &INM in grapes</p> <p>Organizing and educating and promoting for processing and value addition &export</p>	<p>Educating grape growers for using recommended root stocks</p> <p>Promoting for IPM &INM in grapes</p> <p>Organizing and educating and promoting for processing and value addition& export</p>

<i>Sr. Nr</i>	<i>Crop/ Enterprises</i>	<i>Problems/Issues</i>	<i>Proposed Strategies</i>	<i>Proposed Extension Activities</i>
27	Sericulture	Low yield due to lack of technical know how being non traditional crop in the district	Educating cultivators on recommended technology of mulberry cultivation and cocoon rearing practices	Organizing training on recommended technology of mulberry cultivation and cocoon rearing practices Arranging demonstrations
		Low yield due unavailability of improved high yielding mulberry varieties planting material of M-5, S-36, V-1	Arranging for supply of improved high yielding mulberry varieties planting material of M-5, S-36, V-1	Convergence with on going EGS linked scheme
		Low yield due to lack of timely availability of Egg Masses and under utilization of mulberry leaves for feeding the recommended silkworm larvae.	Educating about batch production of cocoon and requirement of egg masses	Use of mass media for creating awareness
		Low production ,low quality and low rates due to lack of recommended sterilization and sanitation	Educating cultivators for recommended sterilization and sanitation	Use of mass media
		Scope for intensification of Area under mulberry plantation and cocoon rearing enterprise	Promoting for diversification of area under mulberry plantation	Organizing training on cultivation of mulberry and rearing of cocoon Organizing exposure visit to Karnataka

28	Animal Husbandry	Vast stretch of grazing land and existing livestock based economy is in tune with the available agro-ecological situation	Intensification of dairy enterprise and Promoting for goat rearing by adopting limited grazing or controlled grazing.	Organizing of training on dairy enterprise clean and hygienic milk production . Organizing training for farm women on processing of milk for milk products. by forming group of farmers and marketing directly Cultivation of forage crops and Training on goat rearing –feeding breeding and health management
29	Dairy	Low milk production due to availability of required quantity of green fodder, concentrates minerals, vitamins on availability of nutritious forage varieties and more feeding of dry roughages.	Promoting for cultivation of improved varieties of forage crops of forage and fodder verity ,cost Strengthening privets for veterinary services educating farmers on animal nutrition and disadvantages of inbreeding Promoting for combination of stall feeding with open grazing	Supply of seed on subsidy basis for multiplication of seed of forage crops. Use of mass media Training and capacity building of veterinary privets Training of farmers

		Lack of proper feeding ,breeding and health care management in dairy animals leading to poor quality and low milk production per animal	Encouraging farmers for better management of animals	Use of mass media for creation of awareness.
		Low availability of good forage and fodder Repeat breeding due to malnutrition, in breeding , infections, infertility	Promoting for forage crop cultivation by introducing high yielding forage crops Promoting for adoption of recommended management practices and timely vaccinations	Organizing demonstrations on forage crops cultivation Organizing training on animal management and vaccination programmes.
		Milk rates not paid on fat percentages basis	Promoting milk payments on fat basis by adopting Milk- Testing Machine	Providing milk testing machine to successful dairy societies.
30	Horticulture	Less availability of organic manures	promoting for vermi compost, in-situ compost making, preparation of compost by NADEP methods	Organizing training on organic manure preparation. Convergence with ongoing schemes
		Less availability of good quality planting material	Promotion for preparation of nurseries, use of shedding nets for quality planting material production	Organizing Training on nursery management for quality production of planting material. Convergence with ongoing schemes

		less availability of water during summer season	Promoting farmers for use of drip irrigation, micro irrigation, Preparation of water storage tanks on group basis	Use of mass media for creating awareness Convergence with ongoing schemes.
		Lack of market infrastructure, Market fluctuation and low prices to produce	Promoting farmer organizations groups for market study and market linkage development	Use of mass media
		High cost of production and residual effect of chemical pesticides and chemical fertilizers on farm produce	Promoting farmers for biological pest control and organic farming	Use of mass media Creation of awareness
		Less knowledge about taking Bahar treatment	Educating cultivators regarding water management and Bahar treatments	Use of mass media Organizing training on Water management
32	Agriculture	Lack of good forage and fodder variety.	Promoting for cultivation of high yielding ,short duration forage /fodder	Use of mass media Demonstration on new variety
		Scarcity zone with sporadic rains results in crop failure.	Promoting & educating the farmers for mix cropping & adoption of mix cropping system	Organizing crop demonstrations on recommended mix cropping Organizing field days on demonstration sites.

		Sucking complex pest in Jowar and Safflower and Heliothis in gram is a major concern issue for farmer.	Educating farmers for adopting of IPM practices and to follow crop rotation	Use of mass media to create awareness among the farmers about the importance of IPM & crop rotations Organizing crop demonstrations on recommendations Organizing Farmers Field Schools.
		Soil fertility is decreasing due to improper crop rotations.	Educating & promoting farmers for follow crop rotation by using legumes, adoption of green manuring practices	Use of mass media,
		The existing cropping pattern is becoming economically non -viable.	Promoting for situation specific economically viable cropping pattern and farming system agriculture and Dairy enterprise as complementary to each other	Exposure visit to successful farmers , research stations.
		Soil fertility is decreasing due to undulating terrain and limited soil water conservation practices	Promoting for of agro-forestry, farm-forestry and energy plantation	Organizing exposure visits to success stories Organizing training on different aspects of agro-forestry, farm -forestry, energy plantation like Jatropha .

6.4.3 Proposed Research Strategies

The major objectives of preparation of Strategic Research and Extension Plan for the districts are to strengthen the research extension and farmer linkages to give proper feedback to the research institutes and to bring more location specificity in technology dissemination for better agricultural development.

Technologies evolved at research stations are being recommended to a large geographical area that becomes general in its applications not matching to the local situations. Over a period of time such general recommendations require to be refined suiting to the local situations. The farming situations differs from one location to the other with regards to existing soil type, its depth, sources of irrigation water, quality irrigation of water, pervious crops grown, sowing time of next crop etc. These factors are playing major role in deciding the crops, cropping pattern and also farming systems of the area.

Under this category of research strategies n attempt was made to identify such technologies, which requires assessment and refinement, validation and also to carry out on station research activities to give altogether a refined technological package.

For sake of our understanding, the research strategies are grouped into following three subheads.

- A. Resynthesis of existing technological package for making it situation specific.
- B. On-farm research activities for validation technologies.
- C. On -station research for evolving new technological package.

Table 6.14: Proposed Research Strategies

Sr. No.	Identified Problems/Issues	Proposed Research Strategies	Proposed Activities
A	Re-synthesis of Existing Technological Package for Making It Situation Specific		
1	Refinement of Integrated Pest Management package for udid	Promoting for carrying out Re-synthesis of IPM package by KVK	Organizing frontline demonstrations on farmers fields
2	Refinement of Integrated Pest Management package for udid	Promoting for carrying out Resynthesis of IPM package by KVK	Organizing frontline demonstrations on farmers fields
3	Refinement of dry land production technology for Rabi jowar ,safflower	Promoting for carrying out Resynthesis of IPM package by ZRS	Organizing frontline demonstrations on farmers fields
4	Refinement of Pest Management package for Soybean	Promoting for carrying out Resynthesis of IPM package by KVK	Organizing frontline demonstrations on farmers fields
5	Refinement of Integrated nutrient management package for groundnut	Promoting for carrying out Resynthesis of INM package by KVK	Organizing frontline demonstrations on farmers fields
6	Refinement of Integrated nutrient management package for wheat	Promoting for carrying out Resynthesis of INM package by KVK	Organizing frontline demonstrations on farmers fields
8	Refinement of integrated nutrient management for maize for grain	Promoting for carrying out resynthesis of INM package by KVK	Organizing frontline demonstrations on farmers fields
9	Refinement of Integrated nutrient management for onion	Promoting for carrying out resynthesis of INM package by KVK	Organizing frontline demonstrations on farmers fields
10	Refinement of Integrated Pest management package for onion	Promoting for carrying out resynthesis of IPM package by KVK	Organizing frontline demonstrations on farmers field

B	On-Farm Research Activities for Validation Technologies		
13	Refinement of rainwater harvesting techniques	Promoting for carrying out refinement and validation of rain water harvesting techniques. by ZRS/SAU	Arranging On farm trials
14	Developing agro-forestry –dry land horticulture- dairy and animal husbandry farming system model	Promoting for carrying out refinement and validation of production technology by ZRS/SAU	Arranging On farm trials
15	Promotion of nutrient enrichment of agro –wastes for fodder	Promoting for carrying out refinement and validation of production technology by ZRS/SAU	Arranging On farm trials
16	Standardization of organic production technology for vegetables and fruit crops	Promoting for carrying out refinement and validation of production technology by ZRS/SAU	Arranging On farm trials
C	On-Station Research for Evolving New Technological Package.		
17	Processing and value addition for jowar	Promoting for new production technology by ZRS/SAU	Undertaking research programme by ZRS /SAU
18	Promoting for Goat breed up gradation	Promoting for new production technology by ZRS/SAU	Undertaking research programme by ZRS /SAU
19	Suitable variety for late sowing conditions for safflower	Promoting for new production technology by ZRS/SAU	Undertaking research programme by ZRS /SAU
20	Suitable variety for late sowing conditions for wheat	Promoting for new production technology by ZRS/SAU	Undertaking research programme by ZRS /SAU

6.5 : DISTRICT PLAN

Table 6.15: Budget Required in Existing Schemes and New Schemes- Satara district

(Rs. in Lakhs)

AGRICULTURE AND ALLIED SECTORS: STREAM I

Sr. No.	Department	Scheme Name	2007-08	2008-09	2009-10	2010-11	2011-12	Total
1	(a)Agriculture	Agro- Tourism	0.00	0.00	250.00	250.00	200.00	700.00
2		Agri Exhibition	0.00	0.00	30.00	30.00	40.00	100.00
3		Strengthening of Krishi Vigyan Mandal	0.00	0.00	850.00	850.00	839.52	2539.52
4		Agricultural Mechanization (Urea briquette machines, Improved Seed Drills, Gender friendly tools.)	0.00	0.00	800.00	800.00	705.22	2305.22
5		Establishment of Soil testing laboratories at Taluka Level (10 Nos.)& Enhancement of Soil health	0.00	0.00	200.00	200.00	100.00	500.00
6		Strengthening of RAMETI	0.00	0.00	30.00	30.00	31.00	91.00
7		Strengthening of Seed processing Unit	0.00	0.00	30.00	30.00	40.00	100.00
8		Establishment of New Seed Processing Unit	0.00	0.00	60.00	60.00	80.00	200.00
9		Development of Integrated & Sustainable Farming System	0.00	0.00	175.00	175.00	150.00	500.00
10		Establishment of Bio -Fertilizer& Biopesticide Unit	0.00	0.00	80.00	80.00	90.00	250.00
11		Special Exposure of Foreign Tours	0.00	0.00	175.00	175.00	150.00	500.00
12		Proposals for financial assistance to control tobacco leaf eating caterpillar and other pests on cotton,soyabean, Tur & Gram crop.	0.00	0.00	25.00	25.00	25.00	75.00
		Total Agriculture	0.00	0.00	2705.00	2705.00	2450.74	7860.74

1	(b) Horticulture	Contract Farming in Horticultural Crops	156.45	156.45	156.45	156.45	156.45	782.25
2		Vegetable Seed Production	3.00	3.00	3.00	3.00	3.00	15.00
3		Exotic Vegetable Production	2.00	2.00	2.00	2.00	2.00	10.00
4		Maintainance of Green house Subsidy	10.00	10.00	10.00	10.00	10.00	50.00
5		Good Agricultural practices for production of Exportable Grapes	10.00	10.00	10.00	10.00	10.00	50.00
6		Good Agricultural Practices for Exportable Pomogranate	50.00	50.00	50.00	50.00	50.00	250.00
7		Good Agricultural Practices for Exporatble Onion	2.00	2.00	2.00	2.00	2.00	10.00
8		Innovative Schemme for Spotles of Banana	5.00	5.00	5.00	5.00	5.00	25.00
9		Import of Strawberry mother plants	50.00	50.00	50.00	50.00	50.00	250.00
		Total Horticulture	0.00	0.00	949.00	949.00	986.50	2884.50
1	(c) Water Conservation	Project for reclamation & development of saline soils	0.00	0.00	1000.00	1000.00	1066.00	3066.00
2		Well recharging	0.00	0.00	75.00	75.00	100.00	250.00
3		Farm Pond	0.00	0.00	175.00	175.00	150.00	500.00
4		Diversion Bandhara	0.00	0.00	800.00	800.00	762.00	2362.00
		Total Water Conservation	0.00	0.00	2050.00	2050.00	2078.00	6178.00
		TOTAL AGRICULTURE (Stream I)	0.00	0.00	5704.00	5704.00	5515.24	16923.24
	2. Dairy	Strengthening of Co-op Dairy Sangh						
1		Revival of Non Functional DCSs	0.00	0.00	600.00	600.00	587.19	1787.19
2		Formation of SHGs & Shetkari Mandal	0.00	0.00	175.00	175.00	180.482	530.482

3		Strengthening of Existing DCSs	0.00	0.00	1100.00	1100.00	1278.12	3478.12
4		Clean Milk production Promotion Scheme	0.00	0.00	500.00	500.00	542.10	1542.10
5		Artificial Insemination Facility	0.00	0.00	250.00	250.00	312.50	812.50
6		Improving Green Fodder Supply to DCSs Members	0.00	0.00	11.00	11.00	13.00	35.00
7		Extension & Training Center	0.00	0.00	75.00	75.00	94.76	244.76
8		Plant & Machineries	0.00	0.00	200.00	200.00	226.74	626.74
9		Civil Construction	0.00	0.00	60.00	60.00	74.32	194.32
TOTAL DAIRY			0.00	0.00	2971.00	2971.00	3309.21	9251.21
1	3. Animal Husbandry	Improving A.I. Delivery system	0.00	150.00	150.00	150.00	150.00	600.00
2		Establishment of Hatcheries at I.P.D. Block	0.00	26.00	26.00	26.00	26.00	104.00
3		Strengthening the distribution network of government Hatcheries by involving SHG./ producer association	0.00	5.00	5.00	5.00	5.00	20.00
4		Establishment of small Ruminants market yard	0.00	0.00	10.00	10.00	10.00	30.00
5		Breed village scheme for sheep and goat	0.00	6.00	6.00	6.00	6.00	24.00
6		Strengthening modernization of existing veterinary Hospitals Dispensaries	0.00	53.00	53.00	53.00	53.00	212.00
7		Popularization of Azolla cultiavation technology at doorstep of rural and Triable masses (BPL)	0.00	0.00	154.85	42.60	42.60	240.05
8		Grassland development including grass reserves	0.00	0.00	5.50	0.00	0.00	5.50
9		Sustainable rural livelihood security for farmers of satara district of maharashtra through diversufied turkey farming	0.00	0.00	67.42	4.31	4.345	76.075

10		Sustainable rural livelihood security of women of satara Districts of maharashtra through low input rural Poultry farming technology	0.00	0.00	122.43	85.54	85.62	293.59
11		Socio-economic Upliftment of triable and below poverty line farmers through Scientific dairy farming	0.00	0.00	79.88	35.10	28.18	143.16
TOTAL ANIMAL HUSBANDRY			0.00	15.63	1089.08	826.55	807.12	2738.38
1	4.DIC	Agro Processing Entrepreneurship	0.00	0.00	25.00	25.00	25.00	75.00
2		Development of Co-op Industrial estate	0.00	0.00	600.00	600.00	560.00	1760.00
3		Agro-park Incentive Scheme	0.00	0.00	300.00	300.00	360.00	960.00
4		Capital For Agro processing units	0.00	0.00	1500.00	1500.00	1400.00	4400.00
5		Scheme For Quality Standards	0.00	0.00	150.00	150.00	108.00	408.00
6		Agro Inform. technology centre	0.00	0.00	30.00	30.00	30.00	90.00
7		Food testing Laboratory	0.00	0.00	200.00	200.00	200.00	600.00
8		Export Promotion Scheme For Agro Units	0.00	0.00	500.00	500.00	400.00	1400.00
TOTAL DISTRICT INDUSTRIAL CENTER			0.00	0.00	3305.00	3305.00	3083.00	9693.00
1	5.Fishery	Reservoir Development	0.00	0.00	45.00	45.00	40.00	130.00
2		Subsidy for mechanized Craft (Rs.10,000/-each)	0.00	0.00	6.00	6.00	8.00	20.00
3		Establishment of Training Centre-1 proposed	0.00	0.00	30.00	30.00	40.00	100.00
		Subsidy on fish Preservation, Transport & Marketing						0.00
4		1) Ice Factories	0.00	0.00	30.00	30.00	40.00	100.00
5		2) Cold Storages	0.00	0.00	60.00	60.00	80.00	200.00

6		3) Transport - Vehicles	0.00	0.00	60.00	60.00	80.00	200.00
7		Establishment of Mini Wholesale Market	0.00	0.00	60.00	60.00	80.00	200.00
TOTAL FISHERY			0.00	0.00	291.00	291.00	368.00	950.00
	6. Social Forestry	Social Forestry Infrastructure development						
1		1) Van Purchases	0.00	0.00	15.00	15.00	14.00	44.00
2		2) Divisional Building	0.00	0.00	16.00	16.00	18.00	50.00
3		3) Training Centre Hall	0.00	0.00	13.00	13.00	14.00	40.00
4		4) Other Taluka level Offices	0.00	0.00	10.00	10.00	10.00	30.00
5		5) LCD Projector	0.00	0.00	1.00	1.00	2.00	4.00
6		6) Fax / Xerox Machine	0.00	0.00	1.00	1.00	2.00	4.00
7		7) Office Furniture	0.00	0.00	2.00	2.00	2.00	6.00
8		8) Computer Purchases	0.00	0.00	0.75	0.75	0.50	2.00
9		9) Other Miscellaneous	0.00	0.00	7.00	7.00	6.00	20.00
TOTAL SOCIAL FORESTRY			0.00	0.00	65.75	65.75	68.50	200.00
1	7.Sericulture	Infra. stru. for training for staff.	0.00	0.00	18.00	18.00	18.00	54.00
2		Infra. stru. for training for block level farmers	0.00	0.00	35.00	35.00	32.00	102.00
3		Consultancy centers	0.00	0.00	7.00	7.00	6.00	20.00
4		Cocoon purchase centers	0.00	0.00	9.00	9.00	10.00	28.00
5		Starting new reeling centers	0.00	0.00	13.00	13.00	14.00	40.00
6		Subsidy for construction of rearing houses	0.00	0.00	75.00	75.00	100.00	250.00
TOTAL SERICULTURE			0.00	0.00	157.00	157.00	180.00	494.00

1	8.Co-Operative & Marketing	Development of New Marketing Infrastructure Fascilities	0.00	0.00	1000.00	1000.00	1041.00	3041.00
2		New Proposed Kharedi Vikri Marketing Society	0.00	0.00	75.00	75.00	58.00	208.00
3		New Proposed Agro-processing Units	0.00	0.00	150.00	150.00	205.00	505.00
4		costruction of Onion Storage Structure	0.00	3.00	4.00	4.00	3.00	14.00
5		Repairs of Pack house Godown	0.00	0.00	7.00	7.00	6.00	20.00
TOTAL CO-OPERATIVE & MARKETING			0.00	3.00	1236.00	1236.00	1313.00	3788.00
1	9.Khadi & Village Industry	Infra Structure of Training Center	0.00	0.00	20.00	0.00	0.00	20.00
TOTAL KHADI & VILLAGE INDUSTRY			0.00	0.00	20.00	0.00	0.00	20.00
Agriculture and Allied Sectors -Total Stream - I			0.00	18.63	14838.83	14556.30	14644.07	44057.83

AGRICULTURE AND ALLIED SECTORS : STREAM II
Strengthening of Existing Schemes

Sr.		Scheme name	Financial Budget					Total Programme
			2007-08	2008-09	2009-10	2010-11	2011-12	
1	(a)Agriculture	Cereals Development Programme	27.35	32.00	105.10	118.52	95.80	378.77
2		Oil Seeds Development Programme	51.36	45.12	106.99	174.85	170.76	549.08
3		Pulses Development Programme	30.58	14.24	59.73	87.81	71.34	263.70
4		Sugar cane Development Programme	61.43	83.84	53.00	45.48	81.06	324.81
5		Cotton Development Programme	5.82	8.63	24.15	19.97	19.34	77.91
6		Maize Development Prograamme	5.68	9.92	16.78	20.41	19.80	72.59
7		Oraganic Farming	38.10	25.30	100.40	130.49	91.15	385.44
8		Agro-Polyclinic	2.17	3.95	277.83	276.05	140.00	700.00
9		I.N.M. Demonstrations	0.00	0.00	458.33	404.74	186.94	1050.01
10		Strengthening of Taluka Seed Farms	21.70	8.65	16.30	67.35	28.00	142.00
		Total Agriculture	244.19	231.65	1218.61	1345.67	904.19	3944.31
1	(b) Horticulture	Horticulture	285.75	592.40	1574.23	1469.81	1256.90	5179.09
2		Micro Irrigation	403.27	244.17	436.56	634.91	457.97	2176.88
		Total Horticulture	689.02	836.57	2010.79	2104.72	1714.87	7355.97
1	(c).Water Conservation	jalsandharan	3319.87	3677.72	4323.13	3962.28	3814.00	19097.00
		Total Water Conservation	3319.87	3677.72	4323.13	3962.28	3814.00	19097.00
		TOTAL AGRIL. DEPT. Stream - II	4253.08	4745.94	7552.53	7412.67	6433.06	30397.28

1	2.Dairy Department	Dairies	96.00	0.00	0.00	0.00	0.00	96.00
2		Chilling Plants	127.00	0.00	0.00	0.00	0.00	127.00
3		Dist. Dairy Deve. Office	5.00	0.00	0.00	0.00	0.00	5.00
4		Bulk cooler 1000 Ltrs. Cap	210.00	140.00	70.00	70.00	49.00	539.00
5		2000 Ltr. Cap.	90.00	72.00	90.00	90.00	45.00	387.00
6		Electronic Weight & Testing	190.00	81.00	60.00	44.00	40.00	415.00
7		S.S. Cans	40.00	40.00	33.00	23.00	21.00	157.00
8		S.S. Kettles	12.00	12.00	10.00	7.00	7.00	48.00
9		Milk Procurement Centre	26.00	22.00	20.00	12.00	13.00	93.00
10		Farmer Training	50.00	48.00	48.00	42.00	22.00	210.00
11		Secretary Training	5.00	4.00	3.00	4.00	4.00	20.00
12		Farmer Edu. Trip	82.00	79.00	69.00	69.00	58.00	357.00
		TOTAL DAIRY	933.00	498.00	403.00	361.00	259.00	2454.00
1	3.Animal Husbandry	Fodder development programme	0.50	1.00	2.50	5.00	3.00	12.00
2		Scientific Tackling of Infertility in Dairy Animals	0.00	0.00	32.00	64.00	32.00	128.00
3		Demonstration of Scientific calf rearing	0.00	0.00	35.00	70.00	35.00	140.00
4		Up gradation existing mini-polyclinics veterinary dispensaries	8.00	15.00	24.00	49.00	32.00	128.00
5		Certified fodder seed marketing subsidy	0.00	0.00	32.00	64.00	32.00	128.00
		TOTAL ANIMAL HUSBANDRY	8.50	16.00	125.50	252.00	134.00	536.00

1	4.Sericulture	Mulberry plantation cuttings supply Rs. 1500 / acre	6.55	4.89	3.20	4.11	4.50	23.25
2		Training for farmers Rs. 2000 / farmer	0.48	2.22	12.52	9.78	6.00	31.00
3		Eggs (Dfls) supply Rs. 3 / Dfls.	1.63	11.00	24.17	26.80	30.60	94.20
4		Cocoon purchase avg. cost / kg. Rs. 125/-	94.96	197.29	424.04	594.71	698.13	2009.13
5		Farmers study tour Rs. 2000 / farmer	1.12	0.88	1.88	4.12	3.00	11.00
6		Reeling unit	13.34	19.35	18.66	10.65	15.00	77.00
7		Demonstration farm	3.56	5.21	6.44	4.79	5.00	25.00
8		Publicity	0.62	2.25	0.00	0.00	0.00	2.87
		TOTAL SERICULTURE	122.26	243.09	490.91	654.96	762.23	2273.45
1	5.Fishery	Establishment of fish Seed Production Centre+ Rearing Unit- a) Fish Seed centre + Rearing Unit, b) Fish seed Production	50.00	51.00	51.00	51.00	51.00	254.00
2		Fish farming in Impounded Water - a) Fish Seed Stocking, b) Fish Production	16.00	16.00	16.00	16.00	16.00	80.00
3		Fish farmers Development Agency- a) Water Spread Area covered, b) Pond, c) Fish Production, and d) Training	7.20	7.20	7.20	7.20	7.20	36.00
4		Assistance for supply of Fishery Requisites - a) Nylon Net Twines , b) non mechanized boat	9.75	10.00	11.45	12.50	13.75	57.45

5		Development of fisheries Co.op. Societies - a) Fish Co.op. Societies	0.20	0.20	0.20	0.20	0.20	1.00
	TOTAL FISHERY		83.15	84.40	85.85	86.90	88.15	428.45
1	6.Social Forestry	1) 'Small (Polythin bag) plants	2.60	2.50	5.30	5.80	4.65	20.85
2		2) 'Highted Plant	1.57	1.73	34.09	37.44	15.00	89.83
3		3) 'Farmer's (Kisan) Nursery	4.84	3.33	4.34	2.83	2.33	17.67
		Social Forestry						
4		1) 'Plantation on social Land	6.77	2.74	174.23	156.46	18.70	358.90
5		2) 'Plantation on CTC / loose holder /CNB	0.00	0.00	35.49	51.20	32.80	119.49
6		3) 'Plantation on Road Side	0.00	0.00	84.27	100.36	66.27	250.90
7		'Harit Sena Shala'	0.00	0.00	2.50	2.50	1.25	6.25
	Total		15.78	10.30	340.22	356.59	141.00	863.89
1	7.Co-operative and Marketing	Implementation of Co-operative Marketing Schemes	0.00	367.75	388.00	54.00	11.75	821.50
	Total		0.00	367.75	388.00	54.00	11.75	821.50
1	8.District Industry Centre	Seed Money Scheme	8.20	15.30	31.80	30.00	50.00	135.30
2		DIC Loan Scheme	1.58	1.80	2.22	4.70	6.00	16.30
3		Employment Development Training Programme	1.40	64.70	75.00	60.30	100.00	301.40
	Total		11.18	81.80	109.02	95.00	156.00	453.00

1	9.Khadi and Village Industry	Bee Keeping Training	0.00	0.49	3.50	3.51	2.50	10.00
2		Bee Breeder Training Programme	0.00	0.00	2.40	2.60	1.50	6.50
3		Training for capacity Building	0.00	0.00	1.00	1.00	0.50	2.50
4		Distribution of Bee Boxes	0.35	3.52	3.47	3.26	3.36	13.96
		Total	0.35	4.01	10.37	10.37	7.86	32.96
	Agriculture and Allied Sectors -Total Stream - II		5427.30	6051.29	9505.40	9283.49	7993.05	38260.53
	Agriculture and Allied Sectors – (Stream – I and II)		5427.30	6069.92	24344.22	23839.79	22637.12	82318.35

Table 6.16: Department-wise Proposed Programmes – Abstract (Rs. in Lakhs)

Sr. No.	Department	Agriculture and Allied Sectors (Stream I and Stream II)					
		Financial Budget (Rs. in lakh)					
		2007-08	2008-09	2009-10	2010-11	2011-12	Total
1	Agriculture	244.19	231.65	3923.61	4050.67	3354.93	11805.05
2	Horticulture	689.02	836.57	2959.79	3053.72	2701.37	10240.47
3	Jal Sandharan	3319.87	3677.72	6373.12	6012.28	5892.00	25274.99
4	Animal Husbandry	8.50	31.63	1214.58	1078.55	941.12	3274.38
5	Dairy	933.00	498.00	3374.00	3332.00	3568.21	11705.21
6	Fishery	83.15	84.40	376.85	377.90	456.15	1378.45
7	Minor Irrigation	0.00	0.00	0.00	0.00	0.00	0.00
8	Sericulture	122.26	243.09	647.91	811.96	942.23	2767.45
9	Social Forestry	15.78	10.30	405.97	422.34	209.50	1063.89
10	Co-operative & Marketing	0.00	370.75	1624.00	1290.00	1324.75	4609.50
11	District Industries Center	11.18	81.80	3414.02	3400.00	3239.00	10146.00
12	Khadi & Village Industry	0.35	4.01	30.37	10.37	7.86	52.96
Grand Total Budget		5427.30	6069.92	24344.22	23839.79	22637.12	82318.35

Table: 6.17: Projection of GVA Agriculture and Allied Sector (2007-08 to 2011-12)

(Rs. in Lakhs)

Sr.No	Crop	Yearwise Total Value in Rupees in Lakh						Net Growth Rate
		2006-2007	2007-2008	2008-2009	2009-2010	2010-2011	2011-2012	
Primary Sector								
1	Total Cereals	25975	31998	33169	34164	35319	36306	5.88
2	Total Pulses	5330	7236	7993	4796	9304	9909	10.02
3	Total Oil Seeds	12324	18302	19470	20960	22449	23678	11.95
4	Total Cash Crops	22501	54478	53995	54259	54456	54625	13.52
5	Total Fruits & Vegetables	80964	104155	113671	124005	135581	143350	11.26
6	Total Flower	3112	4172	4565	4932	5314	5579	11.22
7	Total Spices	4448	12304	13560	14914	16420	17241	24.73
	Primary Total	154654	232645	246423	258030	278843	290688	11.29
Secondary								
II	Animal Husbandry							
1	Milk	25359	53345	60303	67971	76607	82432	22.49
2	Meat Products	3318	8149	9004	9544	10117	10725	16.58
3	Poultry Products	3967	5855	6276	7185	7615	8070	17.61
	Total A.H.	32644	67349	75583	84700	94339	101227	21.39
III	Fishery	1480	2480	2629	2787	2954	3131	13.17
IV	Sericulture	314.32	565.8	1340.3	2234.2	3219.3	4347.5	71.41
V	Khad & Village Industry	17.76	17.81	19.31	20.76	22.26	23.76	6.48
	Total Secondary	34456.08	70412.61	79571.61	89741.96	100534.56	108729.26	21.91
	Grand Total	189110.08	303057.61	325994.61	347771.96	379377.56	399417.26	13.65

Note:* Significant at 1 percent

Table 6.18: Growth rate of Crop-wise GVA at constant (1999-00) prices (Year- 2007-08 to 2011-12)

Sr. No	Crop	Net Growth Rate
	Primary	
1	Total Cereals	5.88
2	Total Pulses	10.02
3	Total Oil Seeds	11.95
4	Total Cash Crops	13.52
5	Total Fruits & Vegetables	11.26
6	Total Flower	11.22
7	Total Spices	24.73
	Primary Total	11.29
	Secondary	
II	Animal Husbandry	
1	Milk	22.49
2	Meat Products	16.58
3	Poultry Products	17.61
	Total A.H.	21.39
III	Fishery	13.17
IV	Sericulture	71.41
V	Khadi& Village Industry	6.48
	Total Secondary	21.91
	Grand Total	13.65

Annexure I

Annexure II

Table 1: Production of Horticultural Crops (Area: Lakh ha, Production :Tonnes, Productivity: Kg /ha)

Sr.No.	Existing Cropping Pattern (2006-07)			2007-08			2008-09			2009-10			2010-11			2011-12			
	Crops	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
A.	FRUIT CROPS																		
1	Grape	428.67	14648	34170	464	16648	35879	499	18799	37672	534	21123	39556	569	23633	41534	604	26341	43611
2	Banana	650.85	54736	84100	750	66229	88305	850	78812	92720	950	92488	97356	1050	107335	102224	1150	123436	107335
3	Mango	15784	157838	10000	16000	168000	10500	16200	178605	11025	16400	189851	11576	16600	201774	12155	16800	214415	12763
4	Mandrine	38.86	1321	34000	39	1392	35700	39	1457	37485	39	1530	39359	39	1606	41327	39	1686	43394
5	Citrus	2.54	76	30000	3	95	31500	3	84	33075	3	88	34729	3	93	36465	3	97	38288
6	Coconut	1216.6	25549	21000	1250	27563	22050	1300	30098	23153	1350	32819	24310	1375	35098	25526	1400	37526	26802
7	Arecanut	2.27	5	2100	2	4	2205	2	5	2315	2	6	2431	2	6	2553	2	6	2680
8	Cashew	465.15	455	979	500	514	1028	550	594	1079	600	680	1133	650	773	1190	700	875	1249
9	K.lime	659.04	6590	10000	670	7035	10500	680	7497	11025	690	7988	11576	700	8509	12155	710	9062	12763
10	Pomogran	2853.5	35669	12500	3253	42692	13125	3753	51720	13781	4753	68776	14470	5753	87411	15194	6500	103701	15954
11	Guava	991.17	7929	8000	1020	8568	8400	1040	9173	8820	1060	9817	9261	1090	10599	9724	1100	11231	10210
12	Papaya	223.99	7840	35000	250	9188	36750	300	11576	38588	325	13168	40517	350	14890	42543	400	17868	44670
13	Sapota	1388	16656	12000	1588	20009	12600	1788	23655	13230	1988	27616	13892	2188	31914	14586	2388	36573	15315
14	Ber	824.3	12365	15000	825	12994	15750	825	13643	16538	825	14326	17364	825	15042	18233	825	15794	19144
15	C.Apple	1503.8	6015	4000	1650	6930	4200	1750	7718	4410	1850	8566	4631	1950	9481	4862	2050	10466	5105
16	Fanas	238.5	5963	25000	240	6300	26250	240	6615	27563	240	6946	28941	240	7293	30388	240	7658	31907
17	Tamarind	1546.3	15463	10000	1570	16485	10500	1600	17640	11025	1625	18811	11576	1650	20056	12155	1675	21378	12763
18	Ramphal	60.31	302	5000	60	315	5250	60	331	5513	60	347	5788	60	365	6078	60	383	6381
19	Cocum	1.66	17	10000	2	21	10500	2	22	11025	2	23	11576	2	24	12155	2	26	12763
20	W.Apple	100.08	1001	10000	100	1050	10500	100	1103	11025	100	1158	11576	100	1216	12155	100	1276	12763
21	Karwand	1769.2	1415	800	1770	1487	840	1770	1561	882	1770	1639	926	1770	1721	972	1770	1807	1021
22	Strawbery	299.7	3746	12500	300	3938	13125	300	4134	13781	300	4341	14470	310	4710	15194	325	5185	15954
23	Pineapple	0.95	5	5000	2	1	5250	3	17	5513	4	23	5788	5	30	6078	5	32	6381
24	Fig	40.2	241	6000	50	315	6300	55	364	6615	60	417	6946	65	474	7293	65	498	7658
25	Anola	662	16550	25000	740	19425	26250	800	22050	27563	850	24600	28941	900	27349	30388	950	30312	31907
26	Jamun	48.2	289	6000	50	315	6300	50	331	6615	50	347	6946	50	365	7293	50	383	7658
	Total	31800	392684		33148	437513		34559	487604		36430	547494		38296	611767		39913	678015	

Table 2 : Production of Horticultural Crops (Area: Lakh ha, Production :Tonnes, Productivity: Kg /ha)

Sr.No.	Existing Cropping Pattern (2006-07)			2007-08			2008-09			2009-10			2010-11			2011-12			
	Crops	Area	Prod.	Prodty	Area	Prod.	Prodty	Area	Prod.	Prodty	Area	Prod.	Prodty	Area	Prod.	Prodty	Area	Prod.	Prodty
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
B	VEGETABLES																		
1	Onion	11560	219631	19000	11800	235410	19950	12000	251370	20948	12200	268337	21995	12400	286373	23095	12700	307967	24249
2	Tomato	3633.2	72665	20000	4000	84000	21000	4200	92610	22050	4400	101871	23153	4700	114258	24310	5000	127628	25526
3	Potato	8606.2	52498	6100	8650	55403	6405	8700	58510	6725	8750	61788	7062	8800	65248	7415	8850	68900	7785
4	Sw.Potat	299.08	1495	5000	300	1575	5250	300	1654	5513	300	1736	5788	300	1823	6078	300	1914	6381
5	Brinjal	2585.4	64634	25000	2700	70875	26250	2800	77175	27563	2900	83928	28941	3000	91163	30388	3200	102103	31907
6	Cauiflower	1495.4	29907	20000	1600	33600	21000	1750	38588	22050	1900	43990	23153	2000	48620	24310	2100	53604	25526
7	Cabbage	1078.9	26973	25000	1100	28875	26250	1150	31697	27563	1200	34729	28941	1250	37985	30388	1300	41479	31907
8	Lady.Finge	1130.8	13569	12000	1130	14238	12600	1150	15215	13230	1150	15975	13892	1150	16774	14586	1150	17613	15315
9	C.Beans	450.62	2253	5000	450	2363	5250	450	2481	5513	450	2605	5788	450	2735	6078	450	2872	6381
10	Methi	572.85	5729	10000	600	6300	10500	650	7166	11025	650	7525	11576	675	8205	12155	700	8934	12763
11	Drumstik	228.12	2281	10000	230	2415	10500	250	2756	11025	250	2894	11576	250	3039	12155	250	3191	12763
12	Capsicum	308.95	3707	12000	310	3906	12600	325	4300	13230	350	4862	13892	350	5105	14586	375	5743	15315
13	Carrot	265.9	1330	5000	265	1391	5250	270	1488	5513	275	1592	5788	280	1702	6078	285	1819	6381
14	Cucumbe	298.2	4473	15000	300	4725	15750	300	4961	16538	300	5209	17364	300	5470	18233	300	5743	19144
15	R.gourd	188	3760	20000	190	3990	21000	190	4190	22050	195	4515	23153	195	4740	24310	200	5105	25526
16	B.Gourd	172.4	3448	20000	175	3675	21000	175	3859	22050	180	4167	23153	185	4497	24310	190	4850	25526
17	Gourd	72.5	2900	40000	75	3150	42000	75	3308	44100	80	3704	46305	80	3890	48620	85	4339	51051
18	Tondli	21.2	85	4000	21	88	4200	22	97	4410	22	102	4631	22	107	4862	22	112	5105
19	Padwal	12.45	311	25000	13	341	26250	13	358	27563	14	405	28941	14	425	30388	15	479	31907
20	Leafy veg.	1217.1	18256	15000	1250	19688	15750	1275	21085	16538	1300	22574	17364	1325	24158	18233	1350	25845	19144
Total		34197	529905		35159	576008		36045	622868		36866	672508		37726	726317		38822	790240	

Table 3: Production of Horticultural Crops (Area: Lakh ha, Production :Tonnes,Productivity: Kg /ha)

Sr.No.	Existing Cropping Pattern (2006-07)				2007-08			2008-09			2009-10			2010-11			2011-12		
	Crops	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody	Area	Prod.	Prody
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
C	Flowers																		
1	Merigold	987.4	3950	4000	1000	4200	4200	1100	4851	4410	1200	5557	4631	1300	6321	4862	1400	6637	4200
2	Aster	35	245	7000	35	257	7350	40	309	7718	45	365	8103	50	425	8509	55	447	7350
3	Shevanti	20.6	144	7000	21	154	7350	22	170	7718	23	186	8103	24	204	8509	25	214	7350
4	Mogra	3.55	18	5000	4	21	5250	4	2	5513	5	29	5788	6	36	6078	7	38	5250
5	Nishigand	58.3	583	10000	60	630	10500	62	684	11025	64	741	11576	64	778	12155	65	817	10500
6	Rose	51.2	512	10000	55	578	10500	57	628	11025	58	671	11576	59	717	12155	60	753	10500
7	Other	292.4	1462	5000	300	1575	5250	310	1709	5513	315	1823	5788	320	1945	6078	325	2042	5250
	Total	1448.5	6914		1475	7415		1595	8353		1710	9372		1823	10426		1937	10948	
D	Spices Crops																		
1	Coriande	1299.4	1299	1000	1300	1365	1050	1350	1488	1103	1400	1621	1158	1400	1702	1216	1425	1787	1050
2	Chilly	2004.3	12026	6000	2005	12632	6300	2025	13395	6615	2050	14239	6946	2075	15133	7293	2100	15890	6300
3	Turmeric	1326	7293	5500	1350	7796	5775	1400	8489	6064	1450	9232	6367	1500	10028	685	1550	10529	5775
4	Ginger	1475.2	25846	17520	1550	28514	18396	1650	31871	19316	1750	35493	20282	1850	39397	21296	1900	41367	18396
5	Garlic	730.2	6572	9000	750	7088	9450	775	7690	9923	800	8335	10419	850	9299	10940	900	9764	9450
5	Other	56.2	281	5000	60	315	5250	60	331	5513	60	347	5788	65	395	6078	75	415	5250
	Total	6891.3	53317		7015	57710		7260	63264		7510	69267		7740	75954		7950	79752	
E	Spices	50			60			70			80			90			100		
ABSTRACT																			
A	Total Fruits	31800	392684		33148	437513		34559	487604		36430	547494		38296	611767		39913	678015	
B	Total Vegetables	34197	529905		35159	576008		36045	622868		36866	672508		37726	726317		38822	790240	
C	Total Flowers	1448.5	6914		1475	7415		1595	8353		1710	9372		1823	10426		1937	10948	
D	Total Spices	6891.3	53317		7015	57710		7260	63264		7510	69267		7740	75954		7950	79752	
E	Total Spices	50			60			70			80			90			100		
	Total	74386.3	982820		76857	1078646		79529	1182089		82596	1298641		85675	1424464		88722	1558955	74386.3

Table 4: Taluka wise Cropwise Yield Gap Analysis

Taluk wise Yield Gap Analysis: Block- Satara

Sr. No.	Name of crops (major crops)	Name of Taluka - Satara				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	973	1526	1751	N.A.	N.A.
2	Kh. Jowar	1198	1261	1165		
3	Kh. Gr.Nut	903	1007	1081		
4	Kh. Maize	493	1163			
5	Udid	580	525	437		
6	Mung	491	420	410		
7	Soyabean	1746	1626	1254		
8	Sugercane	83	81	78		
9	R. Jowar	979	942	547		
10	Wheat	1236	1513	1388		
11	Gram	935	586	596		
12	R. Maize	3500	2413			
13	Sum.Gr.Nut	2571	2416	1445		

Taluk wise Yield Gap Analysis: Block- Koregaon

Sr. No.	Name of crops (major crops)	Name of Taluka - Koregaon				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	973	1526	1751	N.A.	N.A.
2	Kh. Jowar	1198	1261	1165		
3	Kh. Gr.Nut	903	1007	1081		
4	Kh. Maize	493	1163			
5	Udid	580	525	437		
6	Mung	491	420	410		
7	Soyabean	1746	1626	1254		
8	Sugercane	83	81	78		
9	R. Jowar	979	942	547		
10	Wheat	1236	1513	1388		
11	Gram	935	586	596		
12	R. Maize	3500	2413			
13	Sum.Gr.Nut	2571	2416	1445		

Taluk wise Yield Gap Analysis: Block- Khatav

Sr. No.	Name of crops (major crops)	Name of Taluka - Khatav				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Kh. Jowar	595	1261	1165	N.A.	N.A.
2	Bajra	456	600	594		
3	Kh. Gr.Nut	530	1007	1081		
4	Kh. Maize	1030	1163			
5	Udid	381	525	437		
6	Mung	344	420	410		
7	Soyabean	615	1626	1254		
8	Cottan	382	550	147		
9	Sugercane	70	81	78		
10	R. Jowar	806	942	547		
11	Wheat	1191	1513	1388		
12	Gram	531	586	596		
13	Safflor	75	236	484		
14	R. Maize	4920	2413			
15	Sum.Gr.Nut	2211	2416	1445		
Total						

Taluk wise Yield Gap Analysis: Block- Karad

Sr. No.	Name of crops (major crops)	Name of Taluka - Karad				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	2373	1526	1751	N.A.	N.A.
2	Kh. Jowar	1598	1261	1165		
3	Kh. Gr.Nut	1263	1007	1081		
4	Kh. Maize	994	1163			
5	Udid	671	525	437		
6	Mung	674	420	410		
7	Soyabean	1633	1626	1254		
8	Sugercane	82	81	78		
9	R. Jowar	1040	942	547		
10	Wheat	2027	1513	1388		
11	Gram	920	586	596		
12	R. Maize	2023	2413			
13	Sum.Gr.Nut	3346	2416	1445		
Total						

Taluk wise Yield Gap Analysis: Block- Patan

Sr. No.	Name of crops (major crops)	Name of Taluka - Patan				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	1758	1526	1751	N.A.	N.A.
2	Kh. Jowar	1524	1261	1165		
3	Kh. Gr.Nut	1392	1007	1081		
4	Ragi	1069	880			
5	Kh. Maize	1340	1163			
6	Udid	824	525	437		
7	Soyabean	1726	1626	1254		
8	Sugercane	83	81	78		
9	R. Jowar	1066	942	547		
10	Wheat	1665	1513	1388		
11	Gram	575	586	596		
12	R. Maize	1758	2413			
13	Sum.Gr.Nut	2598	2416	1445		
Total						

Taluk wise Yield Gap Analysis: Block- Wai

Sr. No.	Name of crops (major crops)	Name of Taluka - Wai				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	1344	1526	1751	N.A.	N.A.
2	Kh. Jowar	1525	1261	1165		
3	Bajra	623	600	594		
4	Kh. Gr.Nut	972	1007	1081		
5	Kh. Maize	2277	1163			
6	Udid	489	525	437		
7	Soyabean	2036	1626	1254		
8	Sugercane	84	81	78		
9	R. Jowar	1389	942	547		
10	Wheat	1690	1513	1388		
11	Gram	629	586	596		
12	R. Maize	3051	2413			
13	Sum.Gr.Nut	2473	2416	1445		
Total						

Taluk wise Yield Gap Analysis: Block- Jaoli

Sr. No.	Name of crops (major crops)	Name of Taluka -Jwoli				
		Average yield			Frontline Demonstration	Yield gap % (with respect toFLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	1439	1526	1751	N.A.	N.A.
2	Kh. Jowar	1366	1261	1165		
3	Kh. Gr.Nut	1033	1007	1081		
4	Ragi	756	880			
5	Kh. Maize	1203	1163			
6	Udid	463	525	437		
7	Soyabean	1379	1626	1254		
8	Sugercane	93	81	78		
9	R. Jowar	807	942	547		
10	Wheat	1066	1513	1388		
11	Gram	424	586	596		
12	R. Maize	1760	2413			
Total						

Taluk wise Yield Gap Analysis: Block- M.shwar

Sr. No.	Name of crops (major crops)	Name of Taluka - M.shwar				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	R. Jowar	456	942	547	N.A.	N.A.
2	Wheat	796	1513	1388		
3	Gram	343	586	596		
Total						

Taluk wise Yield Gap Analysis: Block- Khandala

Sr. No.	Name of crops (major crops)	Name of Taluka - Khandala				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Paddy	1447	1526	1751	N.A.	N.A.
2	Bajra	669	600	594		
3	Kh. Gr.Nut	779	1007	1081		
4	Kh. Maize	563	1163			
5	Udid	519	525	437		
6	Mung	386	420	410		
7	Cottan	658	550	147		
8	Sugercane	70	81	78		
9	R. Jowar	646	942	547		
10	Wheat	1346	1513	1388		
11	Gram	515	586	596		
12	Safflor	332	236	484		
13	R. Maize	1580	2413			
14	Sum.Gr.Nut	3499	2416	1445		
Total						

Taluka wise Yield Gap Analysis: Block- Phltan

Sr. No.	Name of crops (major crops)	Name of Taluka - Phaltan				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Bajra	1203	600	594	N.A.	N.A.
2	Kh. Maize	425	1163			
3	Mung	568	420	410		
4	Soyabean	1919	1626	1254		
5	Cottan	2980	550	147		
6	Sugercane	85	81	78		
7	R. Jowar	826	942	547		
8	Wheat	2274	1513	1388		
9	Gram	921	586	596		
10	Safflor	193	236	484		
11	R. Maize	2695	2413			
12	Sum.Gr.Nut	3061	2416	1445		
Total						

Taluk wise Yield Gap Analysis: Block- Man

Sr. No.	Name of crops (major crops)	Name of Taluka - Man				
		Average yield			Frontline Demonstration	Yield gap % (with respect to FLD)
		Taluka	District	State		
1	2	3	4	5	6	7
1	Bajra	323	600	594	N.A.	N.A.
2	Kh. Gr.Nut	933	1007	1081		
3	Kh. Maize	1725	1163	NA		
4	Udid	338	525	437		
5	Mung	206	420	410		
6	Cottan	452	550	147		
7	Sugercane	55	81	78		
8	R. Jowar	426	942	547		
9	Wheat	1477	1513	1388		
10	Gram	436	586	596		
11	Sum.Gr.Nut	1278	2416	1445		
Total						

