COMPREHENSIVE DISTRICT AGRICULTURE PLAN (C-DAP) DISTRICT RAJKOT

सत्यमेव जयते

Department of Agriculture & Co-operation
Government of Gujarat
Gandhinagar

COMPREHENSIVE DISTRICT AGRICULTURE PLAN RAJKOT DISTRICT

JUNAGADH AGRICULTURAL UNIVERSITY
JUNAGADH-362 001

SEPTEMBER, 2012

COMPREHENSIVE- DISTRICT AGRICULTURE PLAN, RAJKOT DISTRICT

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Narendra Modi
Chief Minister, Gujarat State

Dt. 01-08-2012

MESSAGE

Gujarat agriculture has recorded the fastest growth about 11 per cent amongst all Indian states, since 2000, which is more than three times agricultural growth at all India level (2.9 per cent per annum during 2000-01 to 2007-08). In the last decade the agriculture income of state farmers increased from Rs. 9,000 cores to Rs. 80,000 cores. Agriculture in Gujarat is a success story for other states to emulate. An important question facing Indian policy makers at the centre as well as states is how to promote faster and more inclusive agricultural growth. Due to significant regional disparity in agricultural growth across the state, it became imperative to prepare micro level planning and understand the drivers of this high growth in agricultural sector in Gujarat.

In spite of increase in cropping intensity, crop production and productivity in the post green revolution period, there exists ample scope to enhance the production by interventions of modern technologies and capacity building of the farmers. Planning receives equal importance in the process of development with that of investment and execution. An appropriate planning has several advantages such as adequate capital investments, less gestation period, better flow control and farmers friendly. Therefore, ways and means need to be planned at micro level to augment the resources is highly essential to increase crop productivity and farm income. Hence, in order to implement the State and Central Government schemes by formulation of action plans and utilizing the resources efficiently, the **Comprehensive-District Agriculture Plans** (C-DAP) have been prepared for each district of Gujarat State.

The task of preparing the C-DAP of all districts of Gujarat state has been given to State Agricultural Universities of Gujarat. In this context, **Junagadh Agricultural University, Junagadh** has prepared the plans for seven districts of Saurashtra region. I appreciate Dr. N. C. Patel, Vice Chancellor and the team of Junagadh Agricultural University for putting their inclusive efforts in preparing the C-DAP.

In my opinion, these Comprehensive District Agriculture Plans are unique Endeavour for reducing the yield gap in important crops and increase production and productivity in agriculture and allied sectors through focused and holistic initiatives. The C-DAPs also suggesting way forward to various government agencies working for the benefit of the farmers in using the resources judiciously to enhance farm productivity and income.

(Narendra Modi)

To,
Dr. C. J. Dangariya, The Research Director,
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Narendra Modi
Chief Minister, Gujarat State

Dileep Sanghani

Minister for Agriculture, Co-operation,
Animal Husbandry, Fisheries,
Cow-breeding, Prison, Law and Justice,
Legislative and Parliamentary Affairs
Government of Gujarat.

Date : 31 JUL 2012

Message

In India, with the green revolution period from the mid-1960s to 1991, the agricultural sector grew at 3.2 per cent, but despite the changes in the macro-economic policy frame work and trade liberalisation, Indian agricultural sector did not experience any significant growth subsequent to the initiation of economic reforms in 1991; nor has the new macro-economic policy frame work resulted in accelerating agricultural growth. In fact, Gujarat agriculture has a record growth of about 11 per cent since 2000 in spite of 2.9 per cent per annum growth at all India level and in last decade the agricultural income of state farmers' increased by ten times, which has presented a role model for others to follow.

Government of Gujarat has launched various innovative schemes to accelerate the growth in the agriculture and allied sectors and to implement this, formulation of action plans by means of developing Comprehensive-District Agriculture Plans (C-DAP) have been undertaken. Junagadh Agricultural University, Junagadh has prepared the C-DAP for seven districts of Saurashtra region, which comes under its jurisdiction. I convey my hearty congratulations to Dr.N.C. Patel, Vice Chancellor; Dr.C.J. Dangariya, Director of Research and Dean, P.G.Studies and their team for their deterministic approach in preparing the C-DAP.

Comprehensive District Agriculture Plans will become a torch bearer for the implementing agencies in the field of agricultural education, research and programme execution by utilizing the resources effectively. Saurashtra agriculture sector will get faster and more inclusive agricultural growth, which helps in increasing farm income and up gradation of livelihood of the farmers in the region.

Dileep Sanghani

(Dileep Sanghani)

To,
DR. N. C. PATEL
Vice-Chancellor,
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JUNAGADH-362 001.

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A. K. JOTI, *IAS*
Chief Secretary

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Dt.: 08/08/2012

Message

The Gujarat government envisages agricultural production through focused and innovative agricultural development programmes which resulted in extra ordinary average agricultural growth rate of above 10 per cent during last decade and presented a role model in the field of agricultural development in India. However, instead of saying how much Gujarat has done, we shall see how much remains to be done. We are at important stage of agricultural transformation and looking at 12th plan as an opportunity for making appropriate change and formulate winning strategy to make agriculture more rewarding and remunerative.

As per directives of the National Development Council, the State agricultural plan should be based on district plans, subject to all available resources from its own plan and adding those available from the Central Government, aimed at achieving the State's Agricultural growth objective, keeping in view the sustainable management of natural resources and technological possibilities in each district. Accordingly, Gujarat has prepared micro level planning in the form of a document entitled Comprehensive District Agriculture Plan (C-DAP). During the last decade a silent agricultural revolution has emerged in Gujarat, with a shift from traditional subsistence to modernized/ mechanized farming, which stove to inject technology lead diversification within agriculture. The major areas of focus in the C-DAP are integrated development of major food crops, agricultural mechanization, strengthening of market infrastructure and marketing development, activities relating to enhancement of horticultural production and popularization, micro irrigation systems and development activities in sector of animal husbandry and fisheries. The State Agricultural Universities (SAU) of Gujarat have worked as nodal agencies for preparation of the C-DAPs. For seven districts of Saurashtra region, Junagadh Agricultural University, Junagadh has prepared the plans. I complement the efforts made by JAU to come up with C-DAP of districts having potential to transform Gujarat agriculture towards sustainable and remunerative agriculture.

I am sure that the forward looking approach and proposed strategies presented for each district of Saurashtra by Junagadh Agricultural University would bring a substantial change in agriculture to further accelerate the agricultural growth of Gujarat.

(A. K. Joti)

Dr. N. C. Patel

Vice Chancellor
Junagadh Agricultural University
Junagadh

Date: August 20, 2012

Message

Gujarat has recorded the highest decadal agricultural growth rate of 10.97 % in the period 2000-01 to 2009-10. Gujarat has the highest productivity in the country for the crops grown in Saurashtra such as cotton and castor and second highest productivity in groundnut and bajra. To enhance the agricultural productivity further, a comprehensive planning is required. The task of preparing the Comprehensive-District Agriculture Plan (C-DAP) for 7 districts of Saurashtra region had been given to Junagadh Agricultural University, Junagadh by the Government of Gujarat. The C-DAP focused on integrated development of major food crops, cereals, oilseeds, fiber crops, horticultural crops, vegetables and spices. It also included the agricultural mechanization, use of micro irrigation systems, watershed development activities, protected cultivation, infrastructure and development in animal husbandry & fisheries sector, market infrastructure & marketing development.

The Comprehensive-District Agriculture Plan for Rajkot District is very well prepared. It is an outcome of fruitful discussions at different levels and valuable directives given by Shri R. K. Tripathi, Principal Secretary (Agriculture), Government of Gujarat. I extend my hearty congratulations to Dr. C. J. Dangaria, Director of Research and Dean, P.G. Studies, Dr. I. U. Dhruj, Dr. K. N. Akbari, Dr. P. Mohnot, members of the committee and all the concerned scientists for their contribution in preparing the Comprehensive District Agriculture Plan (C-DAP) of Rajkot district. This document will provide the guidelines to all the officials working for the development of agriculture and rural sector. With the proper execution of C-DAP in 12th five year plan, the Saurashtra region of Gujarat will get the benefit to increase its crop production, productivity and ultimately the income of farmers.

(N. C. Patel)

Dr. C. J. Dangaria
Director of Research & Dean, P. G. Studies
Junagadh Agricultural University
JUNAGADH - 362 001

FOREWORD

The District Agriculture Plan indentifies the problems, needed interventions and the financial requirement for the developments in Agriculture and allied sectors viz. Horticulture, Agricultural Engineering, Animal husbandry, Fisheries and Agricultural marketing and Agricultural business. The plan documents have identified the major thrust areas in agriculture and allied sectors for achieving the envisioned growth in the district and also in Gujarat state. The task of preparing the Comprehensive-District Agriculture Plan (C-DAP) for seven districts of Saurashtra region had been given to Junagadh Agricultural University, Junagadh by the Government of Gujarat. The Saurashtra area is divided in four agro climatic zones *viz*. North Saurashtra Agro-climatic zone, South Saurashtra Agro-climatic zone, part of North-West Agro-climatic zone and part of Bhal & Coastal Agro-climatic zone.

State level meeting of SAUs of Gujarat was held at AAU, Anand under the chairmanship of Shri R. K. Tripathi, IAS, Principal Secretary, Department of Agriculture & Co-operation, Government of Gujarat who provided valuable guidance and direction in bringing out this plan document. Subsequently several meetings were held at Junagadh Agricultural University during the last few months. Coordination committee, district plan preparation committee and plan finalizing team of JAU made concerted efforts in shaping up the District Agriculture Plans. Hon'ble Vice Chancellor, Junagadh Agricultural University, Dr. N. C. Patel has played active role in the sensitising the meetings held at JAU.

I congratulate Dr. K. N. Akbari, Dr. I U. Dhruj, Dr. P. Mohnot, the members of committee and all the scientists of Junagadh Agricultural University, Targhadia who have contributed for preparing the Comprehensive District Agriculture Plan (C-DAP) of Rajkot district. I appreciate the officials from line departments for extending the help to the university scientists in bringing out the valuable action plans for each district. The C-DAP document narrates key challenges and opportunities in making the agriculture more remunerative and sustainable and provides solid basis of appropriate strategies to articulate role of all the stakeholders in achieving sustainable agricultural growth. It is envisaged that all the stakeholders, viz., line departments, government institutes, co-operatives, private sectors, NGOs and farmers will implement the plan with zeal and required thrust to achieve a still better growth in agriculture and allied sectors during XII plan in Gujarat State.

Junagadh
August 29, 2012

(C. J. Dangaria)

PREFACE

The Comprehensive District Agriculture Plan (C-DAP) of Rajkot district is brought out for the developments in Agriculture and allied sectors viz. Horticulture, Agricultural Engineering, Animal husbandry, Fisheries and Agricultural marketing and Agricultural business based on the details provided by the scientists of Junagadh agricultural University, Targhadia and the line department officials of the district. The Government sponsored various on-going schemes and programmes in the development of agriculture have also been dovetailed in the preparation of plan. Keeping in view, the Government of Gujarat approach of Apno Taluko Vibrant Taluko (ATVT), the taluka-wise plans were prepared and subsequently, a Comprehensive District Agriculture Plan (C-DAP) was prepared by integrating these taluka plans.

My sincere thanks and profound gratitude are due to Shri R. K. Tripathi, I.A.S., Principal Secretary, Department of Agriculture and Cooperation, Government of Gujarat, Gandhinagar who is instrumental in integrating the multi-level functionaries and providing valuable directives and guidance in bringing out this plan document. It is my privilege to express the deep sense of gratitude to Dr. N. C. Patel, Hon'ble Vice Chancellor, Junagadh Agricultural University, Junagadh for his valuable guidance and wise advice for the completing this work successfully. I express my thanks to Dr. B. R. Shah, Director of Agriculture, Dr. B. S. Patel, Director of Horticulture and Dr. A. J. Kachhiyapatel, Director of Animal Husbandry, GoG, Gandhinagar for supplying the required information for the district plan. I express my deep sense of gratitude to Dr. T. P. Singh, Director BISAG, Gandhinagar and his colleagues for providing the thematic maps and other geo-information support for the plan.

I am thankful to Dr. Rajendrakumar, District Collector, Rajkot, who has been instrumental in providing the felt needs of the farmers and other stakeholders. The help and full cooperation rendered by the Shri Nalin Upadhiyay, District Development Officer, Zilla Panchayat Rajkot and the line department officials of the district is highly appreciable. Without their assistances, the formulation of the plan would not have materialized.

My sincere thanks to Dr. C. J. Dangaria, Director of Research and Dean, P.G. Studies, Dr. I. U. Dhruj & Dr. P. Mohnot, ADRs and Dr. B. B. Ramani, Assistant Research Scientist as well as all the professors and research scientists of Junagadh Agricultural University for their technical support, supply of needed inputs without which the time schedule in preparing the document could not have been adhered to. Sincere thanks to all the Principals and Deans of the colleges, Agril. Engg. & Tech., Agriculture, Veterinary Science & Animal Husbandry, Fisheries and PG Institute of Business Management, Junagadh Agricultural University for their cooperation and valuable support in preparation of plan documents.

Special thanks are due to Dr. D. R. Padmani & Dr. B. B. Kabaria, Coordinators, Dr. P.D.Vekariya, Member Secretary and all committee members of C-DAP district Rajkot Dr. V. N. Patel, Dr. M. S. Gajera, Dr. G. S. Sutaria, Shri. V. B. Gadhiya, Dr. D. S. Hirpara, Shri. M. M. Talpada, Shri. G. B. Vekariya, Shri. D. A. Makawana, Shri. V. D. Vora, Shri. M. G. Khokhani, Shri. D. N. Rathod, Shri. D. A. Saradava, Shri. D. P. Sanepara, and Shri. J. B. Kathiria, JAU, Targhadia for their sustained support in the preparation and documentation of the taluka and district plans.

Date: 28.08.2012
Place: Targhdia

(K.N. Akbari)
Convener and Research Scientist (Dry Farming)
Main Dry Farming Research Station
Junagadh Agricultural University, Taghadia-360003

EXECUTIVE SUMMARY

In India during the pre-green revolution period, from independence to 1964-1965, the agricultural sector grew at annual average of 2.7 per cent. This period saw a major policy thrust towards land reform and the development of irrigation. With the green revolution period from the mid-1960s to 1991, the agricultural sector grew at 3.2 per cent during 1965-1966 to 1975-1976 and at 3.1 per cent during 1976-1977 to 1991-1992. But despite the changes in the macro-economic policy framework and trade liberalization, India's agricultural sector did not experience any significant growth subsequent to the initiation of economic reforms in 1991. In fact, except for a short period 1991-92 to 1996-97, when because of a highly favorable international climate, agricultural exports rose sharply, the agricultural sector has not derived the expected benefits from trade liberalization. Nor has the new macro-economic policy framework resulted in accelerating agricultural growth. In fact, when compared with the immediate pre-liberalization period 1980-81 to 1990-91, agricultural growth in India recorded a visible deceleration during the post-liberalization period 1990-93 to 2003-06. keeping above in view, The National Development Council (NDC) has resolved that a special Additional Central Assistance Scheme, named National Agriculture Development Programme (NADP) or Rashtriya Krishi Vikas Yojana (RKVY) be launched to overcome the slow growth in the agriculture and allied sectors. To implement this, formulation of action plans by means of developing District Agriculture Plans (DAP) is recommended. Subsequently, a comprehensive State Agriculture Plan (SAP) would be prepared by integrating these DAPs.

To prepare the comprehensive District Agriculture Plan (C-DAP) for Rajkot district the major areas of focus were integrated development of major crops like groundnut, cotton, wheat, coarse cereals, pulses and oilseeds; Agriculture mechanization; Strengthening of Market Infrastructure and Marketing Development; Activities relating to enhancement of Horticultural Production and Popularization of Micro Irrigation Systems and Animal Husbandry and Fisheries and poultry Development activities.

Several meetings were held at various Talukas of Rajkot district to discuss the various components of the District Agriculture Plan in the presence of stakeholder's viz. Taluka Panchayat Officials, line department officials, Panchayat leaders and progressive farmers. The feedback received in the Meetings was incorporated before finalization of the District Agr iculture Plan.

District Agriculture Plan for Rajkot District

Rajkot district is located in western part of Gujarat. The district falls in the North Saurashtra (10 Talukas), South Saurashtra (3 Talukas) and North-West (Maliya-Miyana) Agro-climatic Zones of Gujarat State. Rajkot district was formerly called Madhya Saurashtra district as it occupied the central part of Saurashtra peninsula. The District is surrounded on the North by Gulf of Kutch and little Rann of Kutch; on the North-east by Surendranagar district; on the East by Bhavnagar district; South-east by Amreli district; on the West by Jamnagar district; on the South and South-west Junagadh district. The district has three distinct geographical regions, (1) Eastern hill region almost bordering on Jetpur, Rajkot and Wankaner cities, (2) Alluvial plain of Bhadar valley on the West and South-west, (3) Northern plains, Rann of Kutch and swampy coastline.

The fourteen talukas are Rajkot, Lodhika, Kotada sangani, Jasdan, Gondal, Jam Kandorana, Padadhari, Wankaner, Tankara, Morbi, Jetpur, Dhoraji, Upaleta and Maliya-Miyana. The entire area comes, predominantly under the dry region viz., arid and semi-arid climates (73.4 per cent). Annual rainfall over different parts of the district varies from 500 to 750 mm distributed over 19 to 31 rainy days. The district receives rainfall during July to September; about 60 to 65 per cent of total rainfall is received in the narrow window of July and August. Total geographical area of the district is about 1120300 hectares. Total cultivable area is 860936 hectares (76.25 %) and net cultivated area is 764427 hectares (68.23 %). and among this 32 per cent and 68 per cent are irrigated and unirrigated, respectively. Cultivable waste is 12981 hectares (1.16 %) and area under non agricultural use is 75899 hectares (6.77 %). Total area under forest is 36618 hectares (3.27 %).

Strategies to Achieve the Objectives of DAP for Rajkot District

- Production & Supply high yielding & improved cultivars of different crops.
- Improved availability of the quality seeds to the farmers by seed village concepts.
- Increase the inputs availability through establishing/strengthening co-operative societies at village level.
- Improving/sustained soil productivity through the use of enriched bio-compost, vermi-compost, cakes, crop rotation etc.
- Reclamation of problematic soils, fallow and degraded lands of the district.
- Participatory work on water harvesting & Increase water use efficiency through micro irrigation systems. Strengthening water harvesting structures like farm ponds and check dams.
- Establishment of small scale storage structure for farm produce & seeds at farmers level and in rural godowns at panchayat levels.
- Mechanization of farms with tractor operated – combined harvester, cotton picker, ground nut decorticator etc. small equipment and mini tractors.
- To strengthen the marketing through establishing the collection centers in various clusters and linking them with APMC.
- Generate the effective market accessing facilities at village by linking with major agriculture market through e-connectivity.
- Increase the area under vegetable, fruit and flower crops.
- Establishment of bull mother farm for breed improvement.
- Establishment and strengthen the milk cooperative society at village level.
- Establishment of cool chains for better distribution of milk.
- Establishment of cattle feed units.
- For the better management of rural livestock, establish veterinary clinic at cluster level.
- Input management supported by a strong institutional arrangements for the supply of inputs like seed, fertilizers, plant protection chemicals, credit etc, price support system favorable to farmers and market infrastructure for major crops
- Popularization of renewable energy sources like bio gas, solar power generation unit, wind farm for its utilization in agriculture.
- Catering need of farmers related to improved technology through establishing agri-poly clinic at cluster & taluka level and connects it with KVKs/district coordinating and research centers of the district through e-connectivity.

- Establishment of food parks to create necessary infrastructure for value addition in agricultural products
- Introduce the concept of inland fisheries development in major tanks and reservoirs.
- Processing units for marine fish (catch).
- Forestry and inland fisheries for the better utilization of waste land of the district.
- Strengthening the efficient weather forecasting and early warning systems at taluka level.
- Formation of Commodity Groups for major crops like ground nut, cotton, wheat, and pulses.
- Training and exposure visit to the farmers, traders and other stakeholders on soil health management, crop management, water management, grading, post harvest technologies, value addition and market intelligence
- Strengthening the extension machinery for effective dissemination of technology.

District Agricultural Plan

In order to coordinate the components and magnitude of the ongoing schemes implemented by the various departments as far as agriculture was concerned, production & procurement of good quality seed of various crops, seed village programs horizontal & vertical spread of good quality seed, storage of seed at rural level, nurseries, polyhouse, low cost net house, kitchen gardening, high tech vegetable farming, mechanization, use of hand implements, Plant & soil health management, organic recycling, water harvesting, soil & water conservation, IWM, land development & soil reclamation practices, water conservation technology. Biological control of pests in different crops, fodder production, use of mineral mixture, Adoption of micro irrigation system, strengthening of APMC, value addition, food processing were taken up, training for line departments, cooperatives, NGO staff, farmers, horticulture, vegetable & flower growers, fisherman, live stalk farmers, poultry man. Establishment of soil & water testing laboratories, establishment of polyclinic & capacity building centre, strengthening of weather forecasting system, development of model agricultural farm, establishment of an elite herd of cattle & buffalo, cold storage, collection centre & refrigerating van, feed factory, use of solar and wind energy, research station for problematic soils, poly-technique in agriculture, veterinary, poultry, fishery & horticulture and vegetable, farmers & scientist linkage in public participatory mode.

Agricultural development of a district can be well represented by composite indices which are used as yardsticks not only to gauge the development of district but also to compare its performance in relation to other districts. The analysis was performed to highlight the Strength, Weakness, Opportunities and Threats (SWOT) of Rajkot district.

Rajkot, the Head-Quarters of Rajkot District, is well connected by rail and bus routes to major towns of the neighboring states like Maharashtra, Rajasthan and Madhya Pradesh and different major cities of country, however frequency is limited, Rajkot is also connected though air with Mumbai directly. Rajkot city is hub for auto parts, diesel engine parts, silvers, dairy products.

Rajkot district is a drought prone district with erratic and less than normal rainfall, but during last decades, rainfall recorded higher than normal. Most of the rivers in this district are short and dry for longer period during years and the major irrigation source for agriculture crops is open wells and bore wells, the area under the waste and fallow lands in the district also was around one-fifth of the total geographical area. Large scale migration of farm younger from villages to Rajkot, Jamnagar and Surat resulted in a great shortage for agricultural workers

The line departments like Agricultural University, Agriculture, Horticulture, Animal Husbandry, Fisheries, NABARD, DRDA and Agricultural Marketing have proposed the developmental projects to be taken up under various agriculture and allied sectors during XII Plan Period for Rajkot district and the financial outlay is given in the table below:

Sector wise budget proposal of the Comprehensive District Agriculture Plan of Rajkot District for 12th plan

(Rs. in lakh)

Budget proposal head-wise	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Agriculture	14956.55	14540.57	14984.71	15571.11	16298.05	76350.99
Horticulture	1335.55	1335.55	1335.55	1335.55	1335.55	6677.75
Animal Husbandry	2032.32	1146.908	1149.434	1150.922	1151.66	6631.244
Fisheries	25.00	25.00	25.00	25.00	25.00	125.00
Forestry	62.6	62.15	62.15	63.5	62.15	312.55
Employment Generation Activities	52.20	52.20	52.20	52.20	52.20	261.00
New Innovative Projects	3809.00	309.00	309.00	309.00	309.00	5045.00
Strengthening of KVK	509.00	0	0	0	0	509.00
Miscellaneous Activities	19.50	19.50	19.50	19.50	13.50	91.50
Education and Research Components	3472.15	1145.75	1185.20	1225.50	1258.60	8287.20
Monitoring and Evaluation	2.00	2.00	2.00	2.00	2.00	10.00
Grand Total (Rs in Lakh)	**26275.87**	**18638.628**	**19124.744**	**19754.282**	**20507.71**	**104301.234**

A brief account of SWOT of agricultural sector is discussed below:

Rajkot District is well connected by rail and road routes to major towns of the states like Ahmedabad, Vadodara, Surat and Gandhinagar. Jamnagar and Kutch as well as neighboring states like Rajasthan, Maharastra and madhaya Pradesh. There is a good network of the roads within the district and its towns and villages. An airport is also situated at Rajkot.

A vast area (68% of geographical area) is under cultivation with a large number of crop species and also a variety of vegetables and medicinal & aromatic crops are grown round the year. Horticultural & floricultural crops are also grown scatter. All the major crops have good productivity during last decades. Average rainfall of the district is 818 mm. Rainfall is increased during last decades, so that ample opportunities for all crops. Introduction of GM cotton crops, district productivity and area increased up to a greatest extent. Enriched diversity of plant genetics materials, diversified farming of agriculture, animal husbandry and horticulture which provide additional income to the stake holder are the strength of the district. Suitability of soil and environment resulted in highest productivity of groundnut, cotton, bajra, cumin and onion & garlic cultivation. Abundance of solar energy round the

year which is also provides ample opportunities for generation of solar energy round the year. Another possibility is due to high & continuous wind velocity, there is a great scope for electricity generation (average 10-15 km/h, which reaches up to 30 km/h) through establishment of wind farms. Good breeds of Gir and kankej cows are reared as draught and milking animal. A good breed of Jafrabadi buffaloes is reared as milking animal. Goat & ship are reared for milk and wool purpose.

Most of the rivers are flowing only in monsoon season and remain dry throughout the year in Rajkot district. Proper planning and reclamation of fallow and degraded lands could also enhance the net sown area in the district. Apart from this the other weaknesses are inadequate processing and cold chain facilities for vegetable produce. Critical technological gaps are in specific area of crop like seed treatment, balanced use of fertilizers, organic recycling, crop rotation and insect pest and disease management in major crops.

Besides these strength, large number of marginal and small land holding, limited irrigation facility, poor quality of irrigation water in coastal area, erratic rainfall, undulating land holdings in some part, Lack of technological know-how among the farmers, agricultural labour crisis, Lack of permanent pasture for animal grazing, poor soil fertility, improper management of organic matter and farm waste, livestock with poor genetic makeup, Lack of agriculture clinical facility at taluka level, poor farm mechanization, Lack of agro processing unit and storage structure at village and taluka level, poor infrastructure for fisheries and poultry etc. are the major weaknesses existing in the district which hamper the growth & development in agriculture and allied sectors.

There are the ample opportunities for improvement and development of existing infrastructure and establishment of new infrastructure which boost the growth & development of agriculture and allied sectors in the district which includes use of unexplored biodiversity with respect to vegetables and fruit crops, greater scope for increasing cropping intensity by bringing more area under cultivation in the Rabi and summer season, utilization of biomass available from livestock, crop and farm residues used for maintaining soil health, integrated approaches of NRM, INM and IPM, strengthening of co-operative structure, promotion of organic farming, brought area under medicinal & aromatic plants, enhanced water conservation practices, reclamation of problematic soil and development of infrastructure for inland fisheries.

General problems & threats to agriculture & allied sectors in the district are deforestation, indiscriminate & injudicious use of agro-chemicals, natural calamity, soil erosion, scanty of water for irrigation, deterioration in quality of irrigation water, increasing area under problematic soil, indiscriminate breeding practices, low/shrinking pasture land, undulating lands, fragmented land holdings, soil erosion, rainfall with uneven distribution, Lack of secured irrigation facility through out the year, weed problem, agricultural labour crisis, poor infrastructure and marketing facility etc. It is prime requirement to give attention on these issues. Productivity enhancement, Farm mechanization, Improve water use efficiency (MIS), Food processing industries, Groundnut HPS industry, Ginning & processing for cotton, Pack houses for fruits and vegetables, Availability of non conventional energy sources solar & wind.

Rajkot city has industrial importance. The industrial development opportunities are tremendous in the major towns of the district like Morbi, Jetpur, Gondal, Jasdan and GIDC Metoda, Shapar, Kuvadava and in coastal regions like Navlakhi. A good breed of Gir cows is reared as draught and milking animal.

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CHAPTER I

INTRODUCTION

1.1 General:

India's policies should be shaped to take the full advantage of present emerging realignment of economic power; the slowdown of industrialized countries and gaining weight of emerging market economies, were the directives emerged from the Prime Minister's inaugural address in the National Development Council (NDC) held at New Delhi in 2011. Therefore, our policies in the 12th five year plan must stands to gain on both counts. Seventy per cent of the Gujarat State population is either wholly or significantly dependent for their livelihoods on agriculture, horticulture, animal husbandry or fisheries. The Gujarat Government envisages agriculture promotion through focused agricultural research, and technological interventions. Government of Gujarat has planned several initiatives in the back drop to achieve the current agricultural growth rate of about 11% and have carved a niche in the field of agricultural development in India, when the country's growth rate is less than 3%. Agricultural income of state farmers' risen from Rs. 9000 crores to Rs. 80,000 crores in last 10 years, not denying the fact that the state received normal rains during last decade, which also holds true for most of the states of the country.

As per the agenda- VII of the 5th meeting of Gujarat State Level Steering Committee (SLSC) held on May 26, 2011, it was directed to prepare the Comprehensive District Agriculture Plan (XII five year plan) by the Agricultural Universities for all the districts under their jurisdiction. These plans present the vision for agriculture and allied sectors within the overall development perspective of the district apart from financial requirement and the sources of financing agriculture development plan in a comprehensive way, in order to revive the agriculture during XII plan with a growth rate of more than 4 per cent per annum has to be achieved (as per NDC commitment). The DAP, therefore could integrate multiple programmes that are in operation in the district concerned, include the resources and activities indicated by the state, combine the resources available from the other programmes.

1.2 Objectives and Expected Outcomes:

Keeping above points in view, the present database/information systems were developed with the following objectives:

- Analysis on the existing farming practices to identify the development opportunities and potentialities for employment generation in agriculture and allied sector.
- Collection and analysis of secondary data on agriculture and allied sectors and documentation of existing marketing pattern.
- Identification of production constrains and technological gap for understanding prevailing agricultural and allied situations in the district.
- Formulation of strategies and action plan for different agricultural production systems to increase productivity, production and farm income.

1.3 Agricultural Scenario of Gujarat State:

Gujarat has geographical area of 19.6 M ha, out of which 55.10 per cent is under agriculture land i.e.10.8 Mha. The major Crops grown in the state are wheat, bajra, rice, maize, groundnut, mustard, sesame, pigeon pea, green gram, gram, cotton and sugarcane. Gujarat is the largest producer of castor, fennel, tobacco and isabgul (psyllium) whereas it is second largest producer of sesame seeds, cotton and groundnut in the country. Gujarat has highest productivity in mustard, castor and cotton, also has second highest productivity in groundnut and bajra, records third highest productivity in gram and guar in the country. Horticultural crops are grown in about 14.04 lakh ha, the major crops are mango, banana, sapota, lime, guava, tomato, potato, onion, cumin, garlic, isabgul and fennel. In the country, Gujarat has highest productivity in guava, potato, onion, cumin and fennel and third highest productivity in banana and isabgul. In 2001, Gujarat produced 23 lakh bales of cotton, but today the figure stands at 123 lakhs bales (one bale equals 170 kg).

Gujarat State Horticulture Mission (GSHM) has been set up for implementation of National Horticulture Mission (NHM) in the state. The area and production of horticultural crops was 14.04 lakh ha (5.1 % of total cropped area) and 180.16 lakh MT respectively in 2010-11. The production of fruits, vegetables and spices & flowers were 74.73 lakh MT, 93.79 lakh MT and 11.64 lakh MT respectively during year 2010-11. Gujarat state is leading in the production of banana, mango, sapota, onion, potato & seed spices (cumin & fennel) in the country. Gujarat ranks 2nd among the states in India, for the export of banana with exports of 1430 tonnes to Middle East in April-June 2009. In social forestry Gujarat has achieved a benchmark of 14 trees per hectare.

Gujarat has total livestock of 199.39 lakh with cattle population of 67.49 lakh. It has 72.36 lakh poultry. In dairy sector, Gujarat has 12 District Milk Producers' Union, 10,725 Milk Cooperative Societies, 20.84 lakh members of milk cooperative. In last decade the Gujarat's milk production has risen by 68 per cent and reached to 150 lakh litres/day. Gujarat has 1600 km long coastal belt and occupies first position in production of marine fish (6.71 lakh MT/year) with a share of 24 % in total quantity of the country. Value of fish production is Rs. 1200 crore per annum and export worth Rs. 390 crore. In inland fisheries katla, rohu, mrigral are the major fish varieties.

In Gujarat, under 'Jyoti Gram Yojna' villages are getting round the clock uninterrupted electricity supply that covers 18,065 villages and 9,680 suburbs. The farmers are getting 8 hour per day assured 3 phase power supply for irrigation. Gujarat is the first state who has issued Soil Health Card to the farmers, till now the soils of 42 lakh farmers have been tested and 31 lakh soil health cards have been distributed, which is a record in itself. The State has strong cooperative credit & marketing structure, along with 213 cold storages having 9.50 lakh MT storage capacities. About 42 Fruit & Vegetable Co-operative Marketing Societies and 197 Agriculture Produce Market Committees (APMCs) dealing with selling & buying of horticulture produce in the State. Gujarat's advancement in the field of solar energy is also coming up; the state has dedicated 600 MW of solar energy to the national grid, while the rest of the country is producing only 120 MW of solar energy. The solar park set up at Charanka will be the Asia's largest, the innovative canal-top solar power project was beneficial in saving about one crore litres of water per kilometre from evaporation annually and would save 16 per cent of electricity and land for farmers.

Gujarat Government has created history in water conservation, by launching a drive for blue revolution, constructing more than 3.5 lakh check dams, boribunds and khet talavadies (farm ponds). The water conservation work was carried out by various state Govt. departments in cooperation with NGOs and the private sector in last 10 years, which has brought up the ground water level throughout the state and increased the Agriculture income by four folds. On behalf of Government of Gujarat (GoG), GGRC as an implementing agency is aimed to promote Micro Irrigation System (MIS) to the farmers to bring 2nd green revolution. MIS saves water and energy, besides multiple benefits to improve agricultural productivity and farmer's prosperity at large, till now more than 35 lakh ha area is brought under MIS in the state.

For comprehensive development of tribe community, improve their standard of living, empower them through education and social initiatives the State Government has initiated the 'Vanbandhu Kalyan Yojana' and allocated a huge sum of Rs. 15,000 crores, however already Rs. 17,000 crores has been spent in four years and it may reach to Rs. 20,000 crores by the end of five years. There is no parallel scheme to compare in the entire country with these inclusive initiatives.

Hon'ble Chief Minister of Gujarat State Mr. Narendra Modi has initiated a mega event *Krishi Mahotasav* for dissemination of agricultural and allied field technology to the farmers in Gujarat. In a month long *Krishi Mahotasav,* the government officials, agro-scientists and experts from SAUs are visiting all the villages of the state with informative *Krushi Rath* to give helpful information about farming to the farmers. During Krishi Mahotsav-2012, an intensive animal vaccination and animal health camps programmes were launched in all the villages so as to focus on disease management and the rearing of healthy livestock.

Fig. 1.3.1 Hon'ble Chief Minister, GoG Shri Narendra Modi inaugurated month-long Krishi Mahotsav-2012 at Manavadar Taluka in Junagadh district.

1.4 Saurashtra region of Gujarat State:

The total geographical area of Saurashtra is 6.43 million hectares representing 32.82 per cent area of the state out of which 3.70 million hectares (61%) is cropped area. The Saurashtra area is divided in two agro climatic zone viz. North Saurashtra Agro-climatic zone (Bhavnagar, Jamnagar, Surendranagar, part of Amreli and Rajkot) and South Saurashtra Agro-climatic zone (Junagadh, Porbandar, part of Bhavnagar, Amreli and Rajkot). It is flanked by Arabian Sea on the south and west side, the Gulf of Kutch in the north and Gulf of Khambhat in east. The total population of Saurashtra region is 15.44 million as per 2011 census with a density of 240 people per km^2 living in 4767 villages spread over in seven districts. The overall literacy percentage in the Saurashtra is 77.17. Saurashtra receives precipitation through the south west monsoon with average annual rainfall varies widely from 400 mm in the northern part to 1000 mm in the southern part. In Saurashtra region, the major field crops are groundnut, cotton, wheat, bajra, sesame & cumin, while mango, coconut, citrus, sapota, guava & ber are the major fruit crops, and onion, brinjal, okra, tomato & cluster bean are the major vegetable crops. Among the major crops, oilseeds (groundnut, sesame and castor) occupy 47.42 per cent of the gross cropped area followed by cotton (31.64%) and total food grains (20.28%). Other important crops grown in the region are spices (1.96%), fruits (mango 0.66% & sapota 0.17%) and vegetables (brinjal 0.50% & okra 0.24%).

As per the 2007 census, there is 238 lakh total livestock population in Gujarat State in which sharing of Saurashtra region is about 26.71 per cent with population of 64 lakh. Saurashtra is the home of famous breed of cattle (*Gir*), buffalo (*Jafrabadi*), goat (*Zalawadi*) and horse (*Kathiavadi*). Saurashtra has a long coastal-line, and the area available for fishing activities extends from Okha to Bhavnagar. Important commercial varieties of fish namely pomfret, jew fish, bombay duck, shrimp, lobster, squid, cuttle fish, silver bar, shark, catfish, mullets, etc. are caught in large quantities in these areas. Some ports like Okha, Sikka, Porbandar, Veraval and Pipavav are located in Saurashtra region.

1.4.1 Major Issues and Areas of Focus:

The major part of the Saurashtra region, falls under semi arid and arid types with varying climatic as well as soil conditions, has been divided into two Agro-climatic zones. The major issues and areas to be focused in the plan are:

i. In Saurashtra about 70 per cent of total area is rainfed, needs an integrated development of crop varieties and cultivation practices for major cereals, food, cash, fruits, vegetables and spices crops.

ii. Activities related to enhancement of soil health, integrated nutrient management, use of organic and bio-fertilizers. Integrated pest management schemes.

iii. In the adjoining areas of 788 km long coastal belt, sea water ingress and inland salinity caused soil health/fertility problems needs integrated watershed development, water harvesting, groundwater recharge and more area to be brought under MIS.

iv. Development of mechanization by introducing improved tractors, machines, implements, equipments and tools. Increasing use of renewable energy i.e. solar, wind and bio energy in agriculture.

v. Activities relating to enhancement of horticultural production, high density cultivation and popularization of micro irrigation systems. Food processing and value addition of produce; cold storage, handling, packaging, transportation and marketing of perishable produce (fruits and vegetables).

vi. Good local breed of cattle (Gir) and Buffalo (Jafrabadi) are reared, but needs breed establishment and increased involvement of various farming communities in animal rearing. Proper clinical care of animals, increased fodder production and feed management for increasing milk production.

vii. Modernization of marine fish processing units and quality control as per HACCP norms for accelerating export at Veraval, Mangrol and Sutrapada. Development of cage culture of commercial marine fauna. Development of inland fisheries by utilizing salt affected land and water by introducing diversified fish and shrimp fauna.

viii. Strengthening of Market Infrastructure and Marketing Development.

ix. Strengthening of infrastructure to promote extension services for farmers.

x. Innovative schemes.

1.5 Methodology Adopted for Preparation of District Agriculture Plan:

The C-DAP was prepared adopting participatory appraisal mode. Junagadh Agricultural University, Junagadh, Gujarat was identified as Technical Support Institute (TSI). The TSI, under the guidance of Director of Research, provided all necessary technical help to planning units and support groups for preparation of this plan through participatory bottom-up process. The TSI trained the Planning Units/ Groups in designed formats for data collection, guided in data collection and analysis and conducted regular workshops and meetings for plan preparation. In coordination with Scientists/ Professors from JAU, Junagadh and officials from Department of Agriculture, Horticulture, Animal Husbandry and Fisheries, District Panchayat, DRDA, BISAG, NABARD, ATMA, PGVCL, Dept. of Disaster Management, Dept. of Irrigation, etc. the task is fulfilled.

1.5.1 Collection of Data:

The preparation of district level plan involved basically collection of base line and bench mark details. So a template is developed to collect these particulars from the different districts under the jurisdiction of JAU, Junagadh. The district level scientist's teams from JAU were formed for the collection and compilation of the information. The Taluka wise information was collected with the help of Taluka Development Officer (TDO) and his team, officers from Animal Husbandry, officers from Agriculture Department, Jilla Panchayat, Taluka Panchayat, Village Panchayat, NGOs, BISAG, NABARD, ATMA, DRDA, Watershed development agency, etc.

1.5.2 Formulation of District Planning Unit:

To facilitate the involvement of local representatives in the preparation of plans, planning units in each district was formulated. The composition of the district planning units is as follows:

a) Director of Research & Dean PG studies, Dean, College of Agricultural Engg., Dean College of Agriculture, Dean College of Veterinary Sciences, Dean College of Fisheries and one scientist for every 2 talukas.

b) Coordinating staff from Directorate of Research.

c) Officials of Line Departments from Agriculture, Horticulture, Animal Husbandry, Fisheries, District Panchayat and DRDA.

Numbers of meetings were held at state and University level with authorities and concerned officials of C-DAP. The current priorities discussed with scientists of the JAU, officers of the line departments, NGOs and farmers. During the meetings of stakeholders discussed about the proposed design, trials, Front line demonstration (FLDs) and other activities in a farming system approach. The group identified the farmers' needs and constraints and subsequent changes proposed in management practices. The time frame of various activities and expected out comes of five year plan were incorporated. The following meetings were arranged.

Sr. No.	Date	Meeting
1	12-11-11	To discuss the guideline of C-DAP
2	27-01-12	Review meeting to prepare C-DAP
3	28-03-12	Regarding to prepare C-DAP of seven districts of Saurashtra
4	05-04-12	Presentation of Report at AAU, Anand
5	29-04-12	To discuss the future line of action for collection of Talukawise information
6	04-05-12	Review of C-DAP under the chairmanship of the Vice Chancellor, JAU, Junagadh.
7	May, 2012	Various stakeholders meeting at different talukas
8	23-05-12	Discuss future planning regarding various aspects of C-DAP with HoDs of the university and committee members of C-DAP
9	13-07-12	A meeting with Taluka leader to prepare taluka level plan
10	12-07-12	C-DAP presentation at JAU, Junagadh
11	19-07-12	Presentation of final report at Gandhinagar
12	27-07-12	Final meeting with all concerns to modify the report as per the directions of Gandhinagar's meeting

1.5.3 An indicative outline for the preparation of C-DAP:

1: A brief introduction to the District, its location, features, etc.
2: Main points of SWOT of the District
3: Areas/ Sectors which need to be addressed in the district
4: Various on- going programmes in the district- a brief contextual gist
5: The District Plan at a Glance.

CHAPTER II

GENERAL DISCRIPTION OF THE DISTRICT

2.1 Brief History of Rajkot

Rajkot is a peaceful and important city of Gujarat State. The largest city of Saurashtra situated at 138 meters above MSL. City has a number of impressive colonial buildings and educational institutions. Handicrafts like oil engine, silver and textile are a highlight of Rajkot, which has the national weaving institute, is working to promote traditional weave.

History of Rajkot is about 400 years old. Rajkot state was established by Jadeja family of Jamnagar state after separation before years. During British rule, Carnal Catties has established Rajkumar College in 1871 to made available Cambridge education here to princes of state. Foundation stone of Lalpari irrigation scheme was put in 1895. Motor service between Rajkot and Jasdan was started in 1920 and railway in 1922. Rajkot municipality had provided electricity in 1924 and telephone office, post office established in 1925.

With formation of the united states of Saurashtra in 1948, various states and principalities which were integrated into the new state redistributed into five administrative districts of which Madhya Saurashtra now Rajkot comprised of Gondal, Jetpur, Rajkot, Wankaner, Maliya, Kotada Sangani, Morbi and other principalities, Atkot, Padadhari and Jamkandorana Mahals of former Navanagar state were subsequently added to it while three enclave villages were transferred to Amareli district of the Bombay state. After independence, Rajkot was Capital of Saurashtra state and first Chief Minister was Hon'ble Uchhagrai Dhebar. Current Civil Hospital building was the secretaries at that time.

A bigger bilingual Bombay state comprising all Gujarati speaking areas and all Marathi speaking areas was formed in 1956 and Saurashtra became a component of that state. Four years later, in 1960 the bilingual Bombay state was bifurcated by parliamentary enactment and two separate unilingual States of Gujarat and Maharashtra came into existence. Saurashtra naturally continues to be an integral part of Gujarat state.

2.2 Rajkot District at a Glance

The district is situated in the Saurashtra region of Gujarat State lies between North Latitude 20° 58' 56" and East Longitude of 71° 40' 53". The District is surrounded on the North by Gulf of Kutch and little Rann of Kutch; on the north-east by Surandranagar district; on the east by Bhavnagar district; south-east by Amreli district; on the West by Jamnagar district; on the South and south-west Junagadh district. Rajkot district was formerly called Madhya Saurashtra district as it occupied the central part of Saurashtra peninsula. The district falls in the North Saurashtra (10 Talukas), South Saurashtra (3 Talukas) and North-West (Maliya-Miyana) agro climatic Zones of Gujarat State, characterized by rainfall ranging from 350 mm to 750 mm.

The district has three distinct geoghraphical regions, (1) Eastern hill region almost bordering on Jetpur, Rajkot and Wankaner cities (2) Alluvial plain of Bhadar valley on the west and south-west, (3) Northern plains, Rann of Kutch and swampy coastline. The location of Rajkot district is depicted in the Fig. 2.2.1.

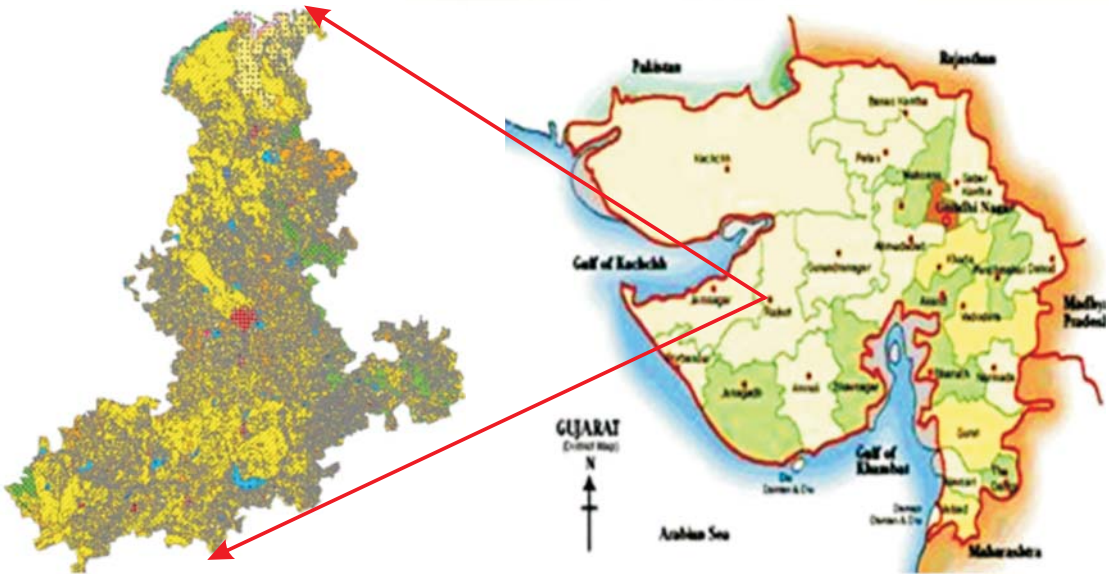
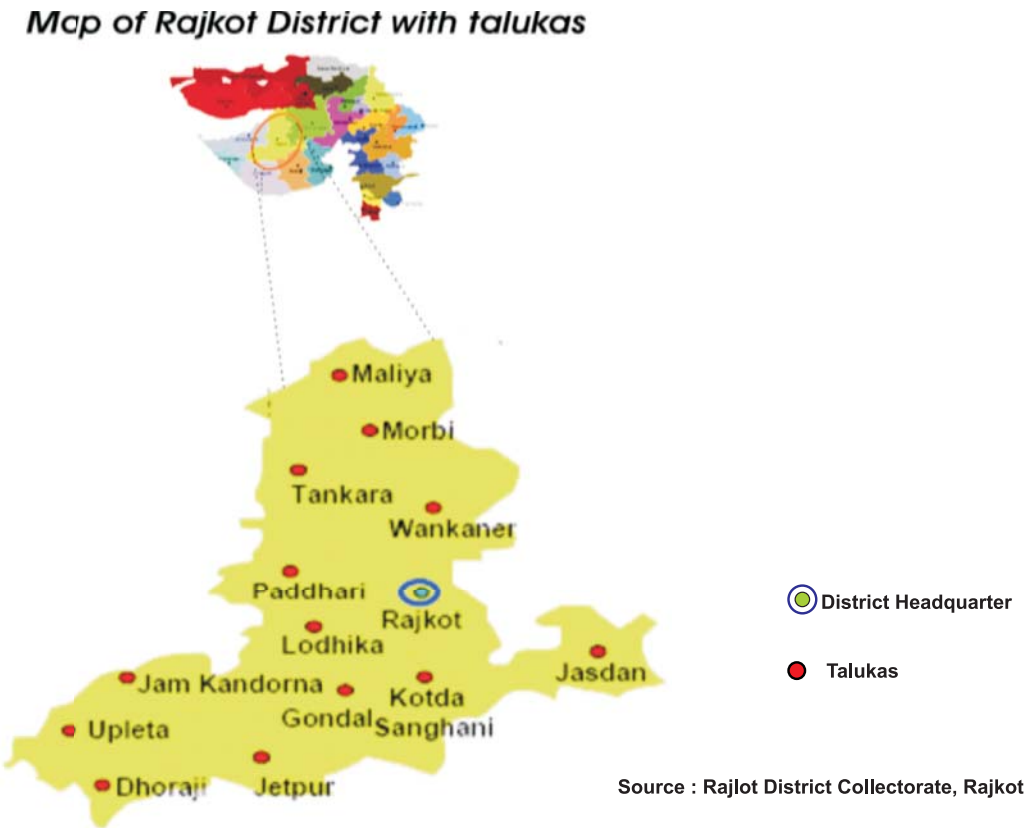


Fig. 2.2.1: Location map of Rajkot district



2.3 Demographic Profile

The Directorate of Census Operations in Gujarat has released the Census 2011 details of Rajkot district. Rajkot had population of 3,799,770 of which male and female were 1,975,131 and 1,824,639 respectively. There was increase of 19.87 per cent in the population compared to 2001. In the previous census of India 2001, Rajkot District recorded increase of 26.08 per cent to its population compared to 1991. The initial provisional data suggest a density of 339 in 2011 compared to 283 of 2001. Average literacy rate of Rajkot in 2011 was 82.20 compared to 74.16 of 2001; gender wise, male and female literacy were 88.67 and 75.26 per cent respectively. With regards to Sex Ratio in Rajkot, it stood at 924 female per 1000 male compared to 2001 census figure of 930. The average national sex ratio in India is 940 as per the latest reports of Census 2011. The General information of the Rjkot District is shown in table 2.3.1 & 2.3.2.

Schedule Cast and Schedule Tribe population is about 8.6 % in Rajkot district. The Schedule Cast population is more than 10 % in Lodhika, Kotda Sangani ,Upleta & Jam Kandorna taluka, while, Schedule Tribe population is more than 5 % in Tankara, Wankaner and Paddhari talukas (Table 2.3.3). In district having total number of rural families are 328273 of which 20.9 % families are below poverty line (Table 2.3.4).

Table: 2.3.1: Area, population density and villages of Rajkot district

Sr. No.	Name of Taluka	Area (ha)	Population Density/ Sq.km.	No. of Villages	No. of Gram Panchayat
1	Maliya-Miyana	76998	108	43	41
2	Morbi	107770	303	83	83
3	Tankara	66771	127	50	50
4	Wankaner	111751	166	89	89
5	Padadhari	59934	122	60	60
6	Rajkot	107225	1061	91	91
7	Lodhika	37323	124	38	38
8	Kotada Sangani	44703	179	41	41
9	Jasdan	132642	198	101	101
10	Gondal	119792	222	81	81
11	Jam Kandorana	56029	135	50	50
12	Upleta	79254	215	51	51
13	Dhoraji	54786	272	30	30
14	Jetpur	65322	349	48	48
	Total	**1120300**	**283**	**869**	**845**

Source: Taluka Ankadakiya Ruprekha, District Panchayat, Rajkot and Disaster Management Plan, Rajkot District, Rajkot

Table 2.3.2: Demographic changes in Rajkot district from 2001 to 2011

Description	2001	2011
Actual Population	**3,169,881**	**3,799,770**
Male	1,642,018	1,975,131
Female	1,527,863	1,824,639
Population Growth	**26.08%**	**19.87%**
Area Sq. km.	11,203	11,203
Density/sq.km	**283**	**339**
Proportion to Gujarat Population	6.26%	6.29%
Sex Ratio (Per 1000)	**930**	**924**
Child Sex Ratio (0-6 Age)	854	854
Average Literacy	**74.16**	**82.20**
Male Literacy	82.61	88.67
Female Literacy	65.20	75.26
Total Child Population (0-6 Age)	**427,184**	**424,061**
Male Population (0-6 Age)	230,402	228,713
Female Population (0-6 Age)	196,782	195,348
Literates	**2,033,946**	**2,774,740**
Male Literates	1,166,122	1,548,521
Female Literates	867,824	1,226,219
Child Proportion (0-6 Age)	**13.48%**	**11.16%**
Boys Proportion (0-6 Age)	14.03%	11.58%
Girls Proportion (0-6 Age)	12.88%	10.71%

Source: Census 2011 from Website

Table 2.3.3: Taluka wise population of SC/ST in the district

Sr. No.	Taluka	Population (As per the 2001 Census)				
		Total	S.C.	S.T.	S.C. %	S.T .%
1	Maliya-Miyana	83471	4652	126	5.6	2.7
2	Morbi	326995	27487	690	8.4	2.5
3	Tankara	84517	7348	427	8.7	5.8
4	Wankaner	186013	10475	645	5.6	6.2
5	Padadhari	73092	6465	473	8.8	7.3
6	Rajkot	1137984	19294	277	1.7	1.4
7	Lodhika	46276	5829	168	12.6	2.9
8	Kotada Sangani	79847	9895	351	12.4	3.5
9	Jasdan	262955	14132	426	5.4	3.0
10	Gondal	265954	19896	807	7.5	4.1
11	Jam Kandorana	75729	8616	144	11.4	1.7
12	Upleta	170275	19294	227	11.3	1.2
13	Dhoraji	149006	14110	119	9.5	0.8
14	Jetpur	227767	17235	294	7.6	1.7
	Total	**3169881**	**184728**	**5174**	**5.8**	**2.8**

Source: Statistical Report of Rajkot District

Table 2.3.4: Taluka wise details of the BPL families

Name of Taluka	No. of Rural Families	No. of Families Below Poverty line (0 to16 score)	No. of Families Below Poverty line (17 to 20 score)	% of Families below Poverty line	SC (0 To 20)	ST (0 To 20)	Women (0 To 20)	Physically Handicapped 0 To 20
Maliya- Miyana	17130	2754	2766	32.22	548	0	584	230
Morabi	31297	1495	2884	13.99	862	0	513	301
Tankara	17093	1081	1799	16.85	667	0	312	165
Wankaner	28902	4015	5269	32.02	675	0	796	536
Padahari	14266	1472	1552	21.20	712	0	334	119
Rajkot	32614	3059	4294	22.55	1124	0	759	411
Lodhika	8709	351	673	11.76	233	0	180	53
Kotda-Sangani	15131	1175	1580	28.21	696	0	241	89
Jasdan	48551	5339	7919	27.31	1483	0	907	463
Gondal	36943	2376	3632	16.26	1355	0	742	562
Jam kandorana	14444	463	807	8.79	336	0	144	60
Upleta	21786	1821	3080	22.50	1076	0	702	213
Dhoraji	14653	531	1702	15.24	603	0	266	120
Jetpur	26754	1998	2734	179	929	0	576	314
Total	**328273**	**27930**	**40691**	**20.90**	**11299**	**0**	**7056**	**3636**

Source: Annual Credit Plan Report of SBI Lead Bank Department of Rajkot District (2012-13)

2.4 Educational Facilities

Education has been considered as central to the development of our society. Basic ability to read, write and count is an important goal of any national educational system. Though the nation has achieved in regards to elimination of hunger and poverty but not much has been achieved with regards to elimination of ignorance and inequality of opportunity. Ignorance owning to illiteracy and Lack of access to information and knowledge continues to be pervasive and establish elementary education as a fundamental right of all citizens in India.

The district has 1510 primary schools, 869 secondary schools and 134 colleges for literacy facility. The maximum number of all educational institutes is in Rajkot taluka (Table 2.4.1). The district has a 82.2 per cent literacy rate where the male literacy (88.67 %) which is higher than female literacy (75.26 %). The maximum male (86.7 %) and female (74.1 %) literacy in per cent in Rajkot talukas, whereas minimum literacy in Maliya-Miyana talukas (71.4% male and 44.2 % female) in Rajkot district.

Table 2.4.1 Takuka wise educational institutes in the district

Sr.No.	Taluka	Primary	Secondary	College	Total
1	Maliya-Miyana	78	11	0	89
2	Morbi	159	61	15	235
3	Tankara	64	23	2	89
4	Wankaner	155	31	2	188
5	Padadhari	82	17	0	99
6	Rajkot	215	431	80	726
7	Lodhika	43	9	2	54
8	Kotada sangani	54	12	0	66
9	Jasdan	188	42	7	237
10	Gondal	127	61	4	192
11	Jam Kandorana	57	18	4	79
12	Upleta	99	62	8	169
13	Dhoraji	55	46	4	105
14	Jetpur	134	45	6	185
	Total	**1510**	**869**	**134**	**2513**

2.5 Agricultural and Allied Sectors

Agriculture sector is the main occupation in the district and alone occupy about 75% workers. The taluka wise Land Utilization Statistics is given in fig .2.5.1 & table 2.5.1. It shows that out of total Geographical area of 1120300 ha, the forest area is 36618 ha, Non- agricultural use is 75899 ha, cultivable waste is 12981 ha, permanent pasture is 87442 ha, current fallow is 30602 ha, and net sown area is 764427 ha. Thus,the net sown area is about 68.23 % of the total geographical area of the district. The taluka wise land capability classification of Rajkot district is presented in table 2.5.2.

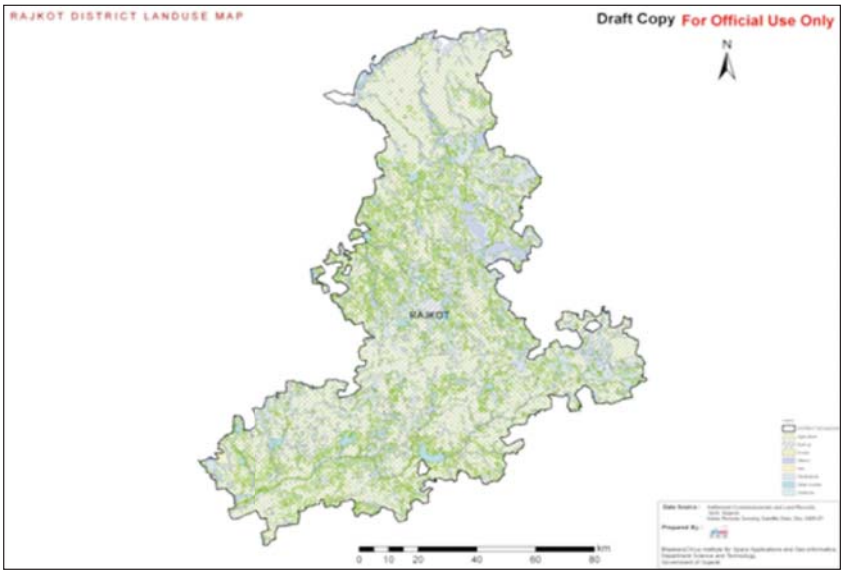


Fig. 2.5.1: Land use map of Rajkot district

Table 2.5.1: Land use statistics of Rajkot district (Area in hectares)

Taluka	Geographical Area	Forest Area	Non- agril. Use	Cultivable waste	Permanent pastures	Current Fallows	Net sown area
Maliya Miyana	76998	10157	6021	123	2490	1675	50300
Morbi	107770	2003	18065	461	4559	362	76867
Tankara	66771	200	3968	114	4550	1016	48015
Wankaner	111751	7841	8999	5010	13155	4694	57110
Paddhari	59934	529	4376	500	4160	591	43188
Rajkot	107225	3312	7905	2450	7655	6119	63220
Lodhika	37323	685	1531	20	3481	235	25823
Kotada Sangani	44703	435	737	20	4404	314	32810
Jasdan	132642	8311	6417	2310	6681	8933	87327
Gondal	119792	1285	8190	50	8589	2224	89218
Jam Kandorna	56029	340	3415	307	5272	1131	41003
Upleta	79254	430	9642	826	10392	421	57962
Dhoraji	54786	338	1588	219	4795	879	37257
Jetpur	65322	351	2790	682	5589	2005	50797
Total	**1120300**	**36618**	**75899**	**12981**	**87442**	**30602**	**764427**

Source: Statistical Report of Rajkot District (2008-2009)

Table 2.5.2: Land capability classification of Rajkot district (Area in hectares)

Taluka	Class-III	Class-IV	Class-V	Class-VI	Class-VII	Geographical area
Maliya Miyana	38499	19250	11550	7700	0	76998
Morbi	59274	26943	12394	9160	0	107770
Tankara	36724	16359	6677	6343	668	66771
Wankaner	48053	21233	13410	14528	14528	111751
Paddhari	29368	14984	8990	6593	0	59934
Rajkot	58974	26270	10723	11259	0	107225
Lodhika	21274	9144	3732	3172	0	37323
Kotada Sangani	25481	10952	4470	3800	0	44703
Jasdan	57036	25202	15917	17243	17243	132642
Gondal	70677	24917	17969	6229	0	119792
Jam Kandorna	33057	11654	8404	2914	0	56029
Upleta	56667	12681	7925	1981	0	79254
Dhoraji	41090	7177	4821	1698	0	54786
Jetpur	46901	9798	5226	3397	0	65322
Total	623073	236562	132208	96017	32439	1120300

Note: 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 depth.

2.5.1 Agriculture

The Rajkot is agriculture dominated district. About 75% of population is engaged in agriculture and allied activities. The taluka wise land holding of the district is shown in table 2.5.3,which shows that there are total 3,27,298 farmers in the district who have total 7,73,131 ha of land; out of which the marginal farmers are 59, 534 with 39, 346 ha of land, small farmers are 1,25,046 with 1,84,570 ha of land and Semi-medium to large Farmers are 1,42,718 with 5,49,215 ha of land. Groundnut, cotton, wheat, bajra, sesame, pulses, castor and sorghum are the major field crops grown in the district. The major horticultural crops are guava, citrus, pomegranate, ber, jambu etc. The major vegetables and spices crops grown are brinjal, cabbage, cauliflower, tomato, chilly, radish, fenugreek, onion, garlic,, coriander, cumin etc. The major field crops cultivated in *Kharif* season are groundnut, cotton, pulses, bajra, castor and sesame. Wheat, gram, pulses, garlic, onion and other vegetables are the important *Rabi* crops of the area, in summer the major crops grown are groundnut, pulses and sesame.

Table 2.5.3 Land holding of Rajkot district

Taluka	Marginal (below 1 ha)		Small (between 1-2 ha)		Semi-medium to large Farmers (above 2 ha)		Total	
	No.	Area	No.	Area	No.	Area	No.	Area
Maliya- Miyana	1681	1201	5104	7687	9742	40893	16527	49782
Morbi	6609	4603	11881	17235	14227	55952	32717	77790
Tankara	4483	2832	7981	11978	12691	42246	25155	57056
Wankaner	5477	3372	7705	11229	11104	45038	24286	59639
Paddhari	2604	1717	7602	11113	8080	26876	18286	39707
Rajkot	7252	4526	12176	17729	11003	42506	30431	64761
Lodhika	2106	1381	4695	6893	4349	14762	11150	23036
Kotada Sangani	2255	1343	5865	8649	5352	22077	13472	32069
Jasdan	5760	3747	11504	16923	16739	68118	34003	88787
Gondal	6580	4521	15564	22864	15815	59382	37959	86767
Jam Kandorna	2616	1578	7747	11732	7401	27597	17764	40907
Upleta	4043	2935	9735	14610	10120	39416	23898	56961
Dhoraji	3307	2465	7766	11515	6900	29581	17973	43561
Jetpur	4761	3125	9721	14414	9195	34770	23677	52309
Total	**59534**	**39346**	**125046**	**184570**	**142718**	**549215**	**327298**	**773131**

Source: Statistical Report of Rajkot District (2008-2009)

Marginal <1 ha, Small 1-2 ha, Semi medium 2-4 ha, Medium 4-10 ha, Large >10 ha

The use of modern agricultural equipments is gradually increasing in the district. The density of tractor indicates further scope for mechanized agriculture operation. Recently the use of rotavators, combine harvester, low horse power tractor (mini tractors), seed drill and tractor drawn sprayer is increasing. The farmers have adopted micro irrigation system like drip irrigation, sprinkler irrigation etc. to save the scarce water resources. Still there is long gap in development of agricultural engineering in the district.

2.5.2 Animal Husbandry

The animal Husbandry programme in Rajkot district performs various activities and schemes to welfare of animals. DRDA, District Panchayat and Dairy Sector are doing effective efforts to secure livelihood of the farmers through adoption of mix /integrated farming system. Numbers of cows, buffalo, oxe, and sheep-goat are 273401, 343901, 156996 and 396385, respectively. The maximum numbers of animals is recoded in Jasdan taluka as compared to other talukas of the district.

The development of livestock as an economic activity it is important to focus on intensive management of dairy animals *viz*. cattle (indigenous and crossbred) and buffaloes in the district. Another area which needs attention is to increase the Poultry sector on the large scale. With intervention of bigger integrators in the field of poultry small unit does not give much return to farmers. Also due to lack of sufficient infrastructural support for poultry market, the district has not reached to its potential.

2.5.3 Veterinary Services

There are about 33 veterinary dispensaries, 30 primary health centres, 133 Artificial Insemination in Rajkot district The maximum Artificial Insemination centrs(19), ACDP (13)and primary health centres (8) are in Jasdan, Gondal and Upleta taluka,respectively. It is necessary to develop the veterinary services in Maliya-Miyana, Jam Kandorana and Padadhari talukas. As per the government norms, each Veterinary officer serves 10,000 animals. Similarly, one livestock inspector is accountable for 3000 Animals. Looking at the growth of the industry, it is necessary to strengthen the existing veterinary services with manpower in the district. It is quite needed for planning to introduce the Gopal Mittra schemes in the villages for first aid veterinary service where there is no veterinary support in a radius of 20 Kms.

2.5.4 Dairy Development

The Rajkot district offers good scope for dairy development. As per the census of 2007, the district has 11,83,412 animals. However, looking at the area with river belts, cultivable waste, and permanent pastures, current and other fallows and forest cover, it can sustain many more milch animals. With financial support for purchase of cows/buffaloes, mini commercial dairy units, milk testing machines and support to grow fodder the potential can be made many folds.

Beside Dairy, there is also potential for sheep and goat rearing in the district. The maximum milk co-operative society, member and milk production recorded in Wankaner taluka in the district.

2.5.5 Fisheries

The district having sea coast only in Maliya-Miyana taluka in small area, hence there is less scope for brackish water fishery and Marine fishery. Inland fisheries or capture aquaculture is possible in ponds, reservoirs, dams and rivers. There is some scope to establish fresh water fishery activities which include reservoir fish catching and also lease of village ponds for the fishery. No hatchery or feed meal factory is available in the district.

The district has large number of village ponds which can be converted for such activities. As per the record of fisheries department, around 86 mechanized and 974 non-mechanized boats and 14427 fish nets as well as 6270 ha water spread area with brackish water and 208134 ha for fresh water. The production is only 3228000 tonnes of fish in Maliya-Miyana talukas in District.

2.6 Natural Resources

Rajkot district is rich in minerals such as fireclay, 8% chalk, perlite and limestone. Other minerals found in the district include brick sand, black trap, silica sand, calcite and red clay. The coastal area comprising the part of Morbi and Maliya-Miyana taluka of district..

The important rivers are Bhadar, which emerges from Jasdan taluka and flows across the southern part of the district (Gondal, Jetpur, Dhoraji and Upaleta) is the biggest of all other two rivers. Machhu, which emerges from Chotila and flow toward north. Aji, which emerges from Sardhar hills and flow toward north through Rajkot city.

2.6.1 Soil Types

The District land is mainly consists of calcareous soils, with basalts as predominant rocks. The soil fertility and micro nutrient status of different talukas are presented in table. 2.6.1. The soils of Rajkot district were neutral to moderately alkaline in reaction (pH 6.7 to 8.8) with mean of 7.98 and non saline (EC 0.11 to 1.88 dS/m) in nature. The 30 to 85 percent soils of different taluka's of Rajkot district was found low in organic carbon content. District as a whole, 51.4 and 48.6 per cent soils found low and medium category in organic carbon content, respectively, whereas, none of soils is not found in high status of organic carbon. Soils of Rajkot district as a whole found deficient in available P, K, S, Fe and Zn to the tune of 33.6, 1.8, 32.1, 20,7 and 36.4 per cent, respectively. While, 51.8, 32.9, 44.6, 16.8 and 36.8 per cent soils found medium in availability of P, K, S, Fe and Zn respectively. The 14.6, 65.4, 23.2, 62.5 and 26.8 per cent soils found high status for availability of P, K, S, Fe and Zn, respectively (Fig.2.6.1).

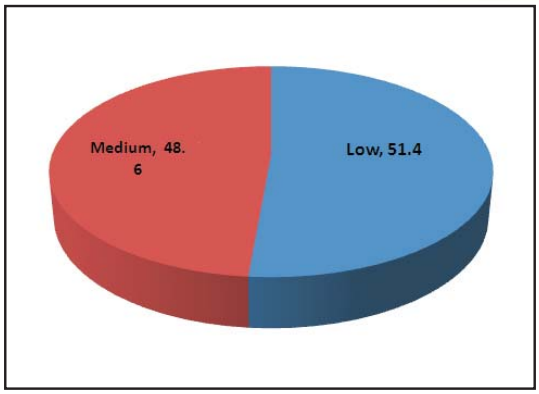
Table 2.6.1: Fertility status of soils of Rajkot district

Taluka	Organic carbon		Available P			Available K		
	Low	Medium	Low	Medium	High	Low	Medium	High
Kotda Sangani	30.0	70.0	0.0	35.0	65.0	0.0	65.0	35.0
Paddhari	80.0	20.0	45.0	40.0	15.0	0.0	30.0	70.0
Maliya-Miyana	85.0	15.0	45.0	40.0	15.0	0.0	0.0	100.0
Jasdan	60.0	40.0	30.0	35.0	35.0	0.0	30.0	70.0
Lodhika	45.0	55.0	30.0	40.0	30.0	0.0	55.0	45.0
Morbi	85.0	15.0	50.0	45.0	5.0	0.0	20.0	80.0
Rajkot	55.0	45.0	40.0	55.0	5.0	1.8	32.9	65.4
Tankara	85.0	15.0	35.0	65.0	0.0	0.0	35.0	65.0
Wankaner	35.0	65.0	25.0	45.0	30.0	10.0	40.0	50.0
Gondal	15.0	85.0	35.0	65.0	0.0	0.0	20.0	80.0
Jetpur	30.0	70.0	25.0	75.0	0.0	10.0	50.0	40.0
Jam Kandorna	40.0	60.0	40.0	60.0	0.0	0.0	30.0	70.0
Upleta	25.0	75.0	30.0	70.0	0.0	0.0	40.0	60.0
Dhoraji	50.0	50.0	35.0	65.0	0.0	0.0	25.0	75.0
District as a whole	**51.4**	**48.6**	**33.6**	**51.8**	**14.6**	**1.8**	**32.9**	**65.4**

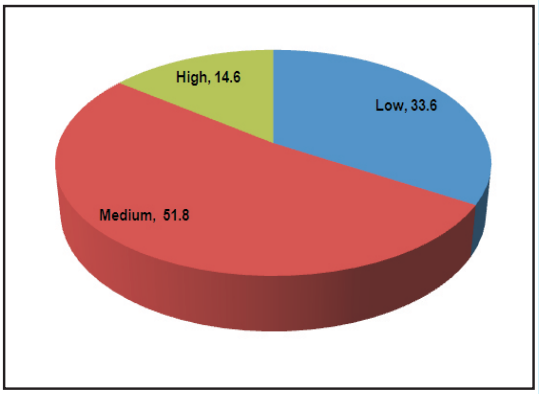
Table 2.6.1 Cont…

Taluka	Available Sulphur			Available Iron			Available Zinc		
	Low	Medium	High	Low	Medium	High	Low	Medium	High
Kotda Sangani	35.0	40.0	25.0	0.0	0.0	100.0	40.0	35.0	25.0
Paddhari	40.0	55.0	5.0	0.0	10.0	90.0	15.0	20.0	65.0
Maliya-Miyana	45.0	50.0	5.0	0.0	0.0	100.0	10.0	45.0	45.0
Jasdan	30.0	65.0	5.0	5.0	10.0	85.0	35.0	45.0	20.0
Lodhika	35.0	50.0	15.0	0.0	10.0	90.0	55.0	15.0	30.0
Morbi	35.0	40.0	35.0	0.0	5.0	95.0	20.0	35.0	45.0
Rajkot	32.1	44.6	23.2	0.0	0.0	100.0	25.0	45.0	30.0
Tankara	50.0	40.0	10.0	0.0	0.0	100.0	50.0	20.0	30.0
Wankaner	25.0	40.0	35.0	0.0	0.0	100.0	15.0	25.0	60.0
Gondal	30.0	35.0	35.0	30.0	65.0	5.0	80.0	15.0	5.0
Jetpur	30.0	35.0	35.0	80.0	20.0	0.0	0.0	85.0	15.0
Jam Kandorna	35.0	55.0	10.0	45.0	45.0	10.0	40.0	55.0	5.0
Upleta	10.0	15.0	75.0	95.0	5.0	0.0	45.0	55.0	0.0
Dhoraji	40.0	55.0	5.0	35.0	65.0	0.0	80.0	20.0	0.0
District as a whole	**32.1**	**44.6**	**23.2**	**20.7**	**16.8**	**62.5**	**36.4**	**36.8**	**26.8**

Source: D.F.R.S., J.A.U., Targhadia



Organic Carbon



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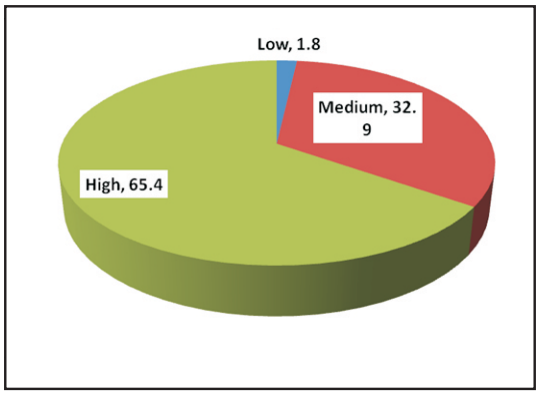

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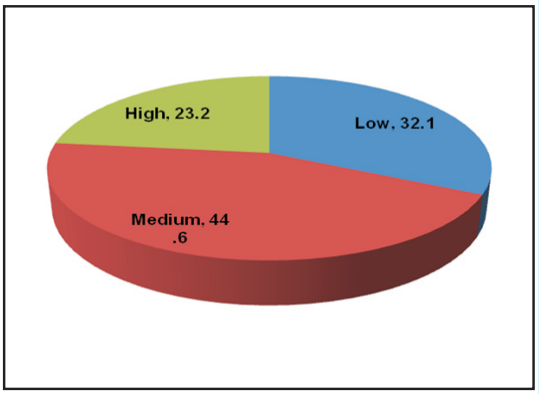

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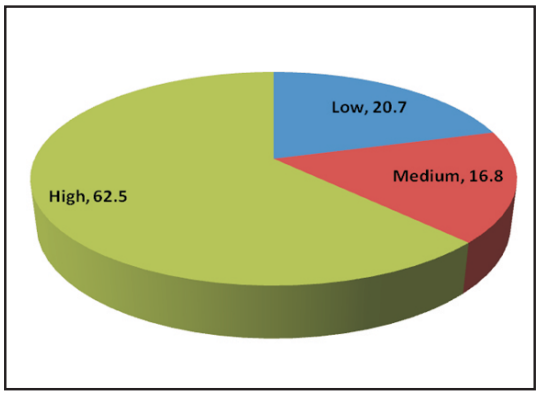

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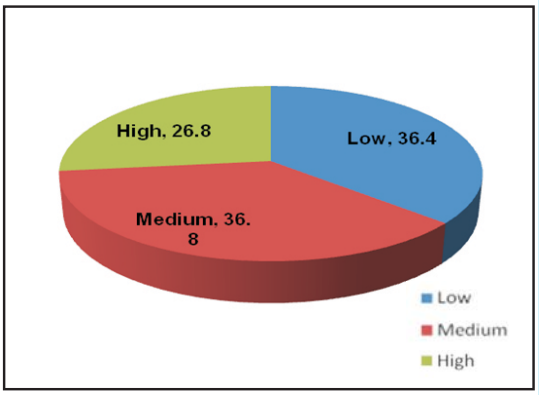


Available Zn

Fig. 2.6.1: Soil fertility status of Rajkot district

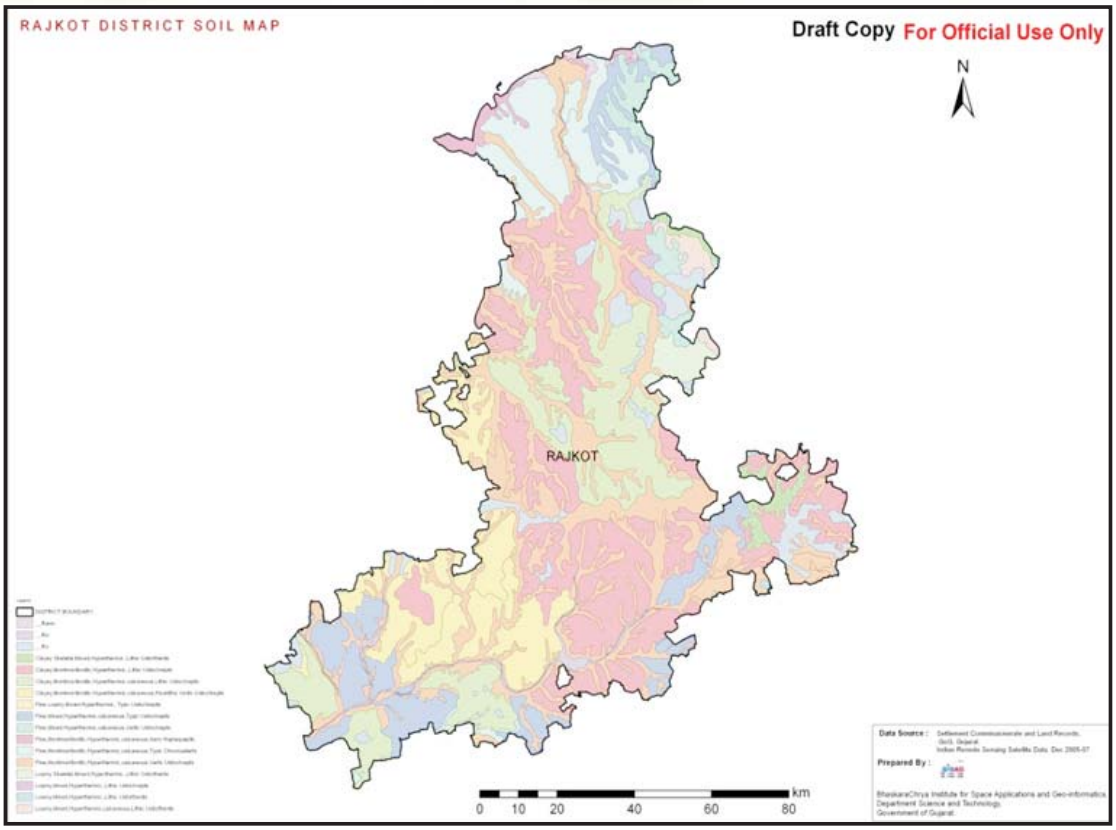


Fig. 2.6.2: Soil map of Rajkot district

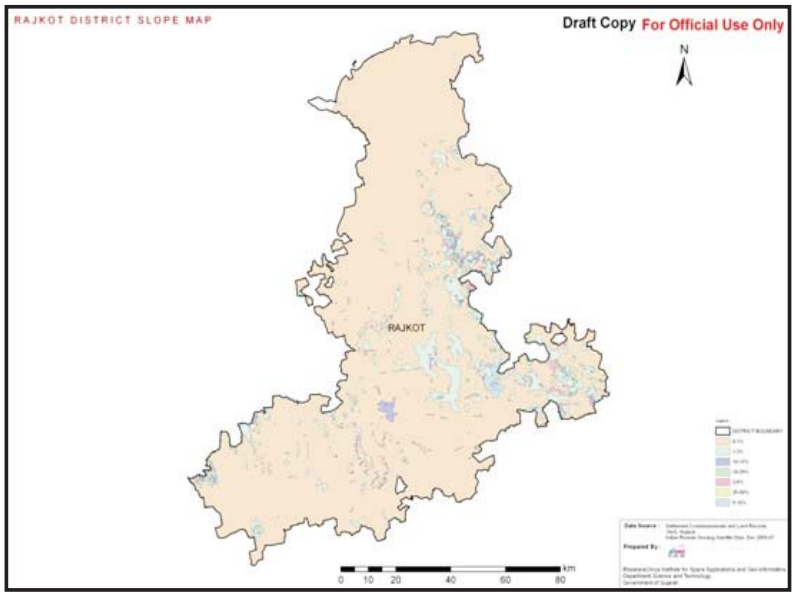


Fig. 2.6.3: Slope map of Rajkot district

2.6.2 Agro Climate Characteristics

The district is situated in the Saurashtra region of Gujarat State lies between North Latitude 20° 58' 56" and East Longitude of 71° 40' 53". Rajkot district was formerly called Madhya Saurashtra district as it occupied the central part of Saurashtra peninsula. The district falls in the North Saurashtra (10 Talukas), South Saurashtra (Three Talukas) and North-West (Maliya-Miyana) agro climatic Zones of Gujarat State. The district has three distinct geoghraphical regions, (1) Eastern hill region almost bordering on Jetpur, Rajkot and Wankaner cities (2) Alluvial plain of Bhadar valley on the west and south-west, (3) Northern plains, Rann of Kutch and swampy coastline. The entire area comes, predominantly, under the dry region viz., arid and semi-arid climates (73.4 per cent). The climate is usually hot and annual values of potential evapo-transpiration (PET) are far in excess of the precipitation. The maximum day time temperature remains at around 44 degree Celsius and minimum is around between the ranges of 3 to 12 degree Celsius. The district is part of North Saurashtra region of Gujarat state and falls under arid and semi arid regions. The record of rainfall data of last ten years in the district indicated that the maximum rainfall is received in the year 2009 (1113 mm) while minimum rainfall was in the year 2002(341 mm). Annual rainfall over different talukas of the district varies from 180 mm (Maliya Miyana-2002) to 1418 mm (Gondal-2010). The district receives rainfall during July to September; about 60 to 65 per cent of total rainfall is received in the narrow window of July and August.

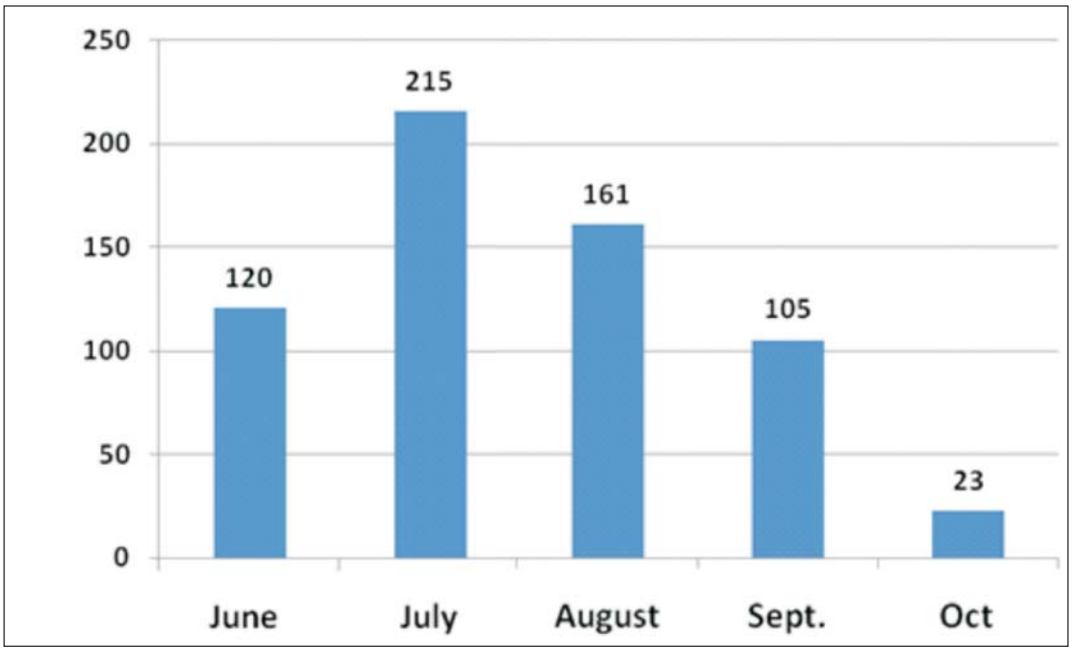


Fig. 2.6.4: Monthly rainfall of Rajkot district

Table 2.6.2: Taluka wise rain fall (mm) detail of Rajkot District (2001-2010)

Taluka	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Average
Rajkot	429	373	989	719	1072	913	1408	862	1356	1408	**953**
Jasdan	651	341	900	403	624	896	900	689	749	900	**705**
Lodhika	533	309	570	432	931	894	1268	754	1328	1268	**829**
Kotada Sangani	459	465	608	660	797	721	1170	970	1173	1170	**819**
Gondal	580	591	813	583	587	729	1418	816	960	1418	**849**
Jetpur	699	406	751	746	692	886	1037	1048	1200	1037	**850**
Dhoraji	657	336	723	544	851	1084	995	960	1368	995	**851**
Upleta	742	359	861	731	763	1205	1081	850	1939	995	**953**
Jam Kandorna	491	345	600	630	777	840	1122	887	1011	1122	**782**
Morbi	428	332	709	660	756	989	886	730	1048	886	**742**
Maliya Miyana	509	180	722	428	591	848	686	491	936	686	**608**
Paddhari	333	242	784	380	793	631	1149	713	872	1149	**705**
Wankaner	315	293	539	553	514	594	685	778	722	685	**568**
Tankara	298	205	612	344	597	575	845	623	919	845	**586**
Average	**509**	**341**	**727**	**558**	**739**	**843**	**1046**	**798**	**1113**	**1040**	**772**

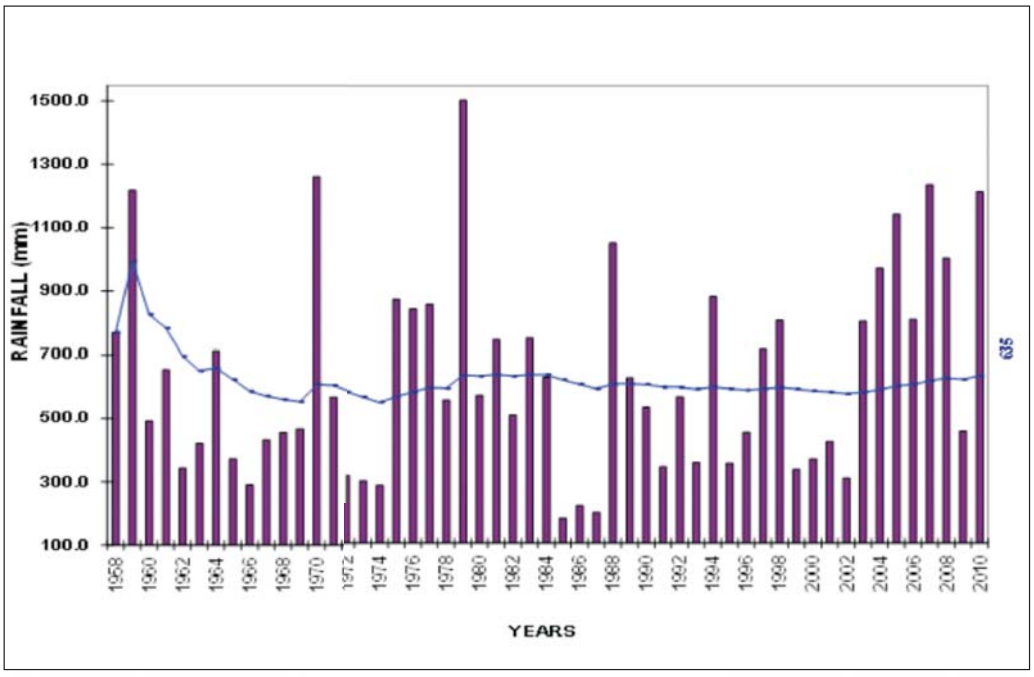


Fig. 2.6.5: Annual and average rainfall recorded at DFRS, Targhadia

2.6.3 Water Resources

The surface and groundwater available in the district is utilised for agriculture, animal husbandry, domestic and industrial uses. Out of 14 talukas, 13 talukas categorized as safe while only Maliya Miyana as saline category. The net available groundwater recharge in the district is 1139.57 MCM/Year; current gross ground water draft for irrigation is 726.52 MCM/Year and the groundwater balance is 308.71 MCM/Year (GWRE-2002 report).

2.6.3.1 Irrigation Facilities

The district is drained by three principal rivers the Bhadar, the Machhu and the Aji. The number of minor dams viz. Bhadar 1-2, Aji 2-3 Nyari 2, Machhu 1-2, Mitana, On all the rivers are catering the needs of irrigation to the Agricultural lands in different parts of the district has helped farmers for irrigating crops like groundnut, cotton, wheat, chickpea, cumin, castor etc. Out of total cultivated lands (764427 ha), about 31.44 % area is irrigated through different sources of irrigation. The existing medium and minor irrigation projects and from ground water, total net irrigated area is about 2,40,405 ha. Among the different talukas, the maximum areas under canal (11800 ha), well (31580 ha) and ponds/others (1151ha) are in Morbi, Gondal and Gondal, respectively. The maximum area (34181 hectares) under irrigation is in Gondal taluka. Maliya-Miyana taluka has least area under irrigation. In Maliya-Miyana talukas, only one per cent of cultivable is irrigated. Open well and bore well are the important source of irrigation In district. Seventy four per cent irrigated area under open well.

As regards irrigated area through different sources are varies in the district 80, 17 and 3 per cent under well, canal and lift, respectively.

Table 2.6.3: Total irrigated area (ha) under various sources in district

Sr.No.	Taluka	Canal	Well	Ponds/others	Total
1	Maliya-Miyana	10	975	0	985
2	Morbi	11800	17378	602	29780
3	Tankara	818	15065	467	16350
4	Wankaner	1810	17625	797	20232
5	Padadhari	2738	10694	472	13904
6	Rajkot	3172	249	785	4206
7	Lodhika	0	6306	279	6585
8	Kotada sangani	638	8977	376	9991
9	Jasdan	954	21360	944	23258
10	Gondal	1450	31580	1151	34181
11	Jam Kandorana	640	12695	431	13766
12	Upleta	10653	16750	648	28051
13	Dhoraji	2105	15613	421	18139
14	Jetpur	4800	15737	442	20979
	Total	**41588**	**191004**	**7813**	**240405**

Table 2.6.4: Details of medium irrigation dams of Rajkot District

Taluka	Name of Project	Area of cachment (Km^2)	G.C.A. (ha)	C.C.A. (ha)	Canal (km)		Maximum Irrigation	
					Length	Discharge	Year	Area(ha)
Maliya -miyana	-	-	-	-	-	-	-	-
Morbi	Demi-1	169	2271	2244	32.28	2.12	1998-99	2913
	Demi-2	247	4765	3108	10.06	2.03	1998-99	1910
	Machhu-2	1193	12424	10130	24.66	6.17	1996-97	7807
Tankara	-	-	-	-	-	-	-	-
Wankaner	Machhu-1	730	18218	10409	65.60	9.4	1997-98	7709
Padadhari	Dondi	52	1010	1010	5.23	0.79	-	-
	Khodapipar	53.07	1880	1340	8.69	0.74	2001-02	581
	Aji-3	-	8208	6635	24.66	4.5	1998-99	6386
	Nyari-2	156	4843	3138	14.50	3.06	-	-
Rajkot	Aji-1	142.45	Storage for drinking purpose					
	Aji-2	-	2680	2529	15.55	2.92	1998-99	5279
	Faldang-Beti	70.64	1517	1479	19.66	1.104	-	-
	Lalpari	142.45	Storage for drinking purpose					
Lodhika	-	-	-					
Kotada Sangani	Vachhapari	39.80	1020	324	3.35	0.85	-	-
Jasdan	Ghelo somnath	60.0	5184	-	19.80	0.396	-	-
Gondal	Bhadar-1	2406	36842	27530	76.61	14.33	1996-97	25823
	Chhaparvadi-1	91	1414	1133	-	-	-	-
	Motisar	34	336	275	2.75	0.85	-	-
Jam kandorana	Fofal-1	525	1197	912	-	-	-	-
	Sodvadar	48.22	906	663	6.23	0.70	-	-
Upleta	Moj	435	12140	8000	8.0	2.83	1997-98	5115
	Venu-2	562	9255	5253	8.0	3.93	1997-98	2855
Dhoraji	Bhadar-2	612.78	3608	9665	32.23	6.13	2006-07	439
Jetpur	Chhaparvadi(J)	284	4049	3562	1.5	3.31	1998-99	2089

Source: www.guj_nwrws.gov.in
G.C.A. = Gross command area, C.C.A. = Cultivable command area

Table 2.6.5: Irrigation potential of Rajkot District

Name of Talukas	Net Available GW Recharge (Ha.m/Yr)	GW Draft for Irrigation (Ha.m/Yr)	Allocation for domestic & Industrial Use (Ha.m/Yr)	GW Balance (Ha.m)	Balance Irrig. Potential from GW (Ha)	Level of GW Devel-opment	Category of Block
Maliya-Miyana	Saline	Saline	Saline	Saline	Saline	Saline	Saline
Morbi	10091	6434	1081	2576	5724	70.86	Safe
Tankara	7652	3777	342	3533	7852	52.32	Safe
Wankaner	13569	6972	650	5946	13214	54.55	Safe
Padadhari	7657	5259	296	2102	4671	71.24	Safe
Rajkot	10011	5301	2883	1827	4061	72.03	Safe
Lodhika	4063	2850	187	1026	2280	73.20	Safe
Kotada Sangani	5393	3326	324	1743	3872	65.66	Safe
Jasdan	11176	7131	1067	2978	6618	70.13	Safe
Gondal	11902	10577	1079	246	547	94.87	Safe
Jam Kandorana	7342	5120	307	1915	4255	72.50	Safe
Upleta	12081	7891	690	3500	7778	69.10	Safe
Dhoraji	5884	3593	924	1367	3038	71.46	Safe
Jetpur	7136	4421	603	2111	4691	67.56	Safe
Total	**113957**	**72652**	**10433**	**30870**	**68601**	**69.65**	**Safe**

Source: Report of National Bank for Agril. & Rural Development (2012-13)

Table 2.6.6: Quality of water as per analysis report

Taluka	Permissible C – 1	Moderately Safe C – 2	Moderately unsafe C – 3	Unsafe C – 4
Maliya-Miyana	0	0	20	80
Morbi	0	0	25	75
Tankara	0	25	40	35
Wankaner	0	30	40	30
Padadhari	0	30	40	30
Rajkot	0	25	40	35
Lodhika	5	25	40	30
Kotada Sangani	0	30	25	45
Jasdan	5	30	30	35
Gondal	0	15	45	40
Jam Kandorana	0	25	40	35
Upleta	0	15	30	55
Dhoraji	0	25	25	50
Jetpur	0	15	40	45

(For each taluka, 20 samples were analyzed)

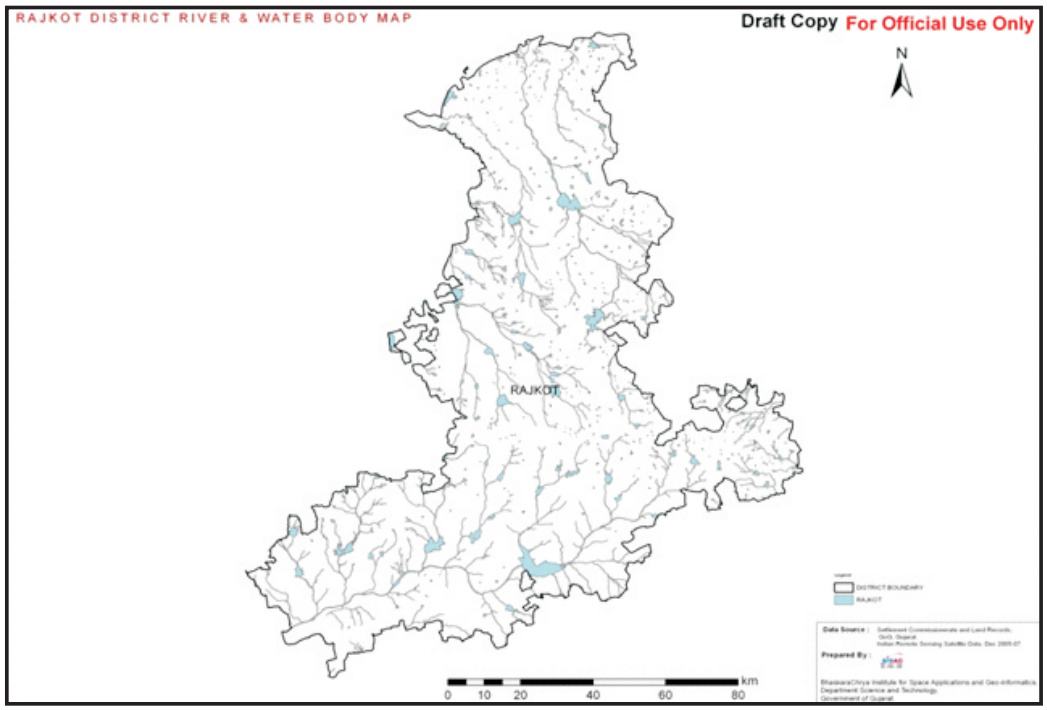


Fig. 2.6.6: River and water body map of Rajkot district

2.6.4 Coastal Area in Rajkot District

The district having sea coast only in Maliya-Miyana taluka in small area, hence there is less scope for brackish water fishery and Marine fishery. Inland fisheries or capture aquaculture is possible in ponds, reservoirs, dams and rivers. There is some scope to establish fresh water fishery activities which include reservoir fish catching and also lease of village ponds for the fishery. No hatchery or feed meal factory is available in the district.

The district has large number of village ponds which can be converted for such activities. As per the record of fisheries department, around 86 mechanized and 974 non-mechanized boats and 14427 fish nets as well as 6270 ha water spread area with brackish water and 208134 ha for fresh water. The production is only 3228000 tonnes of fish in Maliya-Miyana taluka in District.

2.6.5 Forest

The 9.66 percent of the total geographical area of Gujarat are under forest. While, only 3.27 % of the Rajkot district land is under forest. Looking at the degradation of the forest, land resources the district has been granted with watershed programme through different govt. department agencies. There is a need for massive time bound programme in afforestation of wasteland. With more afforestation it will help in supplementing income generation activities with minor forest based collection. The less than one per cent area under forest are in the Tankara, Padadhari, Kotada Sangani, Jam Kandorana, Upleta and Dhoraji talukas. The Maximum forest area (10157 ha) in the Maliya-Miyana taluka follow by Jasdan (8311ha) & Wankaner (7841 ha) taluka. Social forestry, tree plantation on field boundary and wasteland has great potentiality.

2.7 Natural Calamities

There was severe drought in years 1973 and 1987 in district. In August 1979, Morvi town was worst affected in flooding due to damage of Machhu -1 dam. On 26 January 2001, earthquake badly affected in Maliya Taluka in Rajkot District, they had lost 250 people, mostly women and children, to the earthquake and all their houses were destroyed.

2.8 Infrastructure

The Infrastructure facilities like road are adequately developed in the district. All the villages in the district have been connected by state bus service. A large portion of the district has cotton growing area hence a ginning mill and storage facilities may be at the district headquarter would be of great help for better return. Currently the district has 10 regulated markets (including Sub yards). The existing marketing infrastructure also needs to be strengthening with the facilities like good and wider roads, go downs etc. Availability of inadequate input supply and irrigation agriculture motivation and on value addition and post harvest storage facilities and processing units which is essential to fetch better price realization.

2.8.1 Railways

There is Railway track connecting Rajkot with other important centers, towns of Saurashtra & Ahmedabad. Rajkot is directly connected with Mumbai, Delhi, Jaipur, Chenai, Culcutta but frequency is very less and there are no dounle trac and electric train facility. Still to day, town and taluka head quarter like Tankara, Lodhika, Kotda Sanganiand Jasdan are not connected with railway service.

2.8.2 Roads

Rajkot is well connected to other cities through National Highways & State Highways. The district is connected to Ahmedabad (225 km), Vadodara (294 km), Surat (461 km), Mehsana (299 km), Bhavnagar (175 km), Jamnagar (92 km), Vapi (549 km) and Ankleshwar (388 km). The regional network includes NH -8a that links Kandla, NH -8b that links Porbandar and Gandhinagar and NH 8d that connects Jetpur,Veraval with Rajkot. As against the total net work of road in the district, the National Highway is 264 km, State Highway is 1240 km. There are 361 km; of Major district road, 97 Kms; of other district road and 227 Kms; of village road totalling 685 Kms of road length under in the District. All roads are B.T. surface pucca roads and most of the road is all weather proof roads. The district has 4009 km roads connecting 869 villages.

2.8.3 Post and Telegraph Facilities

There are 367 post and sub-post offices which cover 869 villages in the district. The STD facility is available in all talukas, This has made the communication faster and easier. The BSNL has started first stage of G.S.M. (Global Service Management) services in the district.

2.8.4 Airport

There is a domestic airport at Rajkot which provides Air service facilities to the district. Rajkot is linked by air with Mumbai. Indian Airlines, Jet Airways and Deccan are the airlines operating their fights for Mumbai.

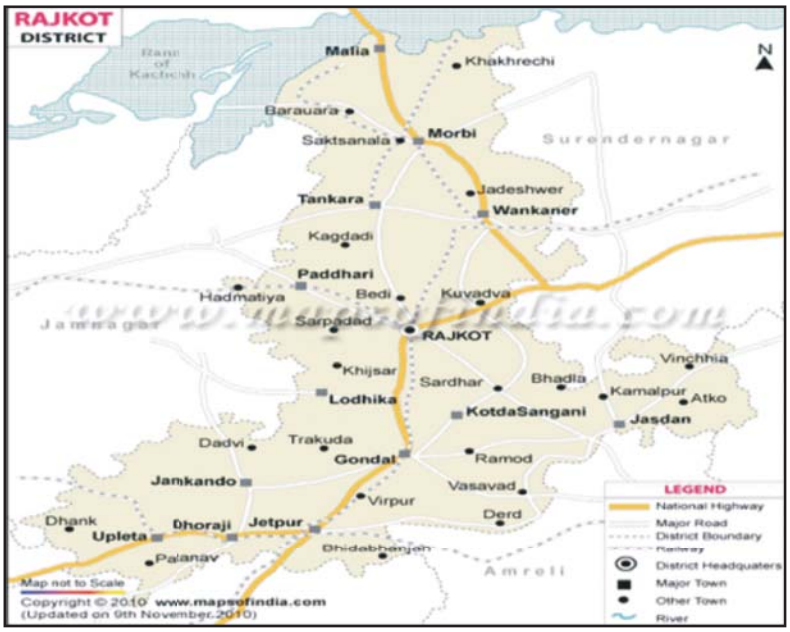


Fig. 2.8.1: Road map of Rajkot district

2.8.5 Marine Transport

Navlakhi, the only port in Rajkot has good rail and road connectivity. Navlakhi is an all-weather lighter age port located at inner side of Gulf of Kutch on the west coast of India & Gujarat. The port is connected to National highway at a distance of 45 kms at Morbi and through a broad gauge railway line with the rest of India via Maliya. The nearest airport is Rajkot is at a distance of 110 km. The main cargo handled at Navlakhi port is coal & coke, flourspar, pig iron and salt.

2.8.6 Power

All towns and villages have been electrified officially. There is no any village remained to be electrified.

2.8.7 Industries

There are around 73 medium scale / large scale industrial units in Rajkot. Majority of the industries are concentrated in Rajkot, Morbi and Kotda Sanghani talukas of the district. The industrial units are present across engineering, forging, casting, solvent plants, paper, milk products, ceramics, and electronics & pharmaceuticals sector. There are over 30,463 small scale industries operating in Rajkot district in the areas such as some of the main industries include machinery, textiles, food products, glass and ceramics, and metal products. Maximum number of SSI units (5,283 Units) belongs to machineries followed by textiles (4,389 Units).

Rajkot is one of the biggest centers for engineering industry. Special Economic Zone (SEZ) for engineering sector is proposed in the district, which will further boost the growth of engineering sector as well as increase the industrial output and exports of the district.

2.8.8 Marketing and APMCs

Remunerative price for agricultural produce is an essential incentive for sustaining agricultural production. Agricultural Produce Marketing Committees (APMCs) have been constituted at taluka level under Agricultural Produce Marketing Act, 1963. At present, there are 10 APMCs in the district. The existing facilities for storage and market yards in the district are considered inadequate, which are required to be strengthened. Farmers can derive benefits by storing of onion and garlic till the prices are increased. In order to extend the storage life of onion and garlic, special storage godowns are constructed which take care of ventilation and other post harvest technical requirements. Banks need to support these items of investment.

2.9 Bank Net Work and Co-operatives

2.9.1 Bank Net Work

The district has 14 commercial and 140 cooperative bank branches cater to the credit requirement for crop loans. The average 12.2 per cent of villages in the district is cover by the bank. The maximum 33.3 per cent villages according to as per number having banking facility in Dhoraji taluka which follows by Upaleta and Jam Kandorna taluka and minimum (3) in Maliya-Miyana taluka.

Table 2.9.1 Details of credit institutions in the district

Taluka	Number of institutions						
	Commercial Bank	RRBs	Cooperatives	PACSs	Co -operatives society	Others	Total
Maliya-Miyana	1	8	5	55	19	1	70
Morbi	1	7	9	41	40	2	60
Tankara	1	32	5	29	29	4	71
Wankaner	1	4	8	25	39	1	39
Padadhari	1	10	6	28	29	0	45
Rajkot	1	5	19	14	38	1	40
Lodhika	1	14	4	42	15	1	62
Kotada Sangani	1	10	6	60	17	2	79
.Jasdan	1	7	11	38	39	4	61
Gondal	1	6	17	37	41	2	63
Jam Kandorana	1	16	12	58	41	3	90
Upleta	1	5	14	52	30	0	72
Dhoraji	1	11	13	72	32	1	98
Jetpur	1	13	11	74	35	5	104
Total	**14**	**148**	**140**	**625**	**442**	**27**	**954**

Source: ATMA SREP Dist. Rajkot (2010-11)

2.9.2 Co-operatives:

The district has a total of 2315 co-operatives for 28 kinds of sectors, among them 829 co-operatives run in the Rajkot taluka followed by 197 in Padadhari taluka in the district. There are 52 Irrigation co-operative society, 10 APMC and 19 vegetables and fruits cooperative societies for developing agriculture and related sectors. The maximum (514) no. is of primary milk production co-operative society followed by co-operative society (493) and housing society (406) in Rajkot district (Table 2.9.2). The NABARD have identified the following thrust area in the Rajkot district: Increase in credit flow by way of agriculture term loans for minor irrigation, farm mechanization, dairy, and storage godown and market yard and land development. To bring more arable land under cultivation, cultivable waste land is available. Development of poultry and sheep/goat and covering all unbanked villages (population of 2000 and above) by providing banking outlets

Table 2.9.2 Co-operative societies functioning in the district

Sr. No	Nature of Co-operative Society Ltd	Total
1	District- central Bank	1
2	Co-operative society	493
3	Nagarik co operative bank	11
4	Sharafi employee	233
5	Shrafi general	215
6	Saving co-opertive society	7
7	Dist. Purchase/selling Co-op.Soci.	1
8	Taluka. Purchase/selling Co-op.Soci.	12
9	Vegetable /Fruit Producr Co-op.Soci.	19
10	Oil seed Production Co-op.Soci.	2
11	Seed Production Co-op.Soci.	0
12	Processing/ginning Co-op.Soci.	28
13	Animal Husbandry rearing Co-op.Soci.	27
14	Mass Agril. Co-op.Soci.	25
15	Fisheries Co-op.Soci.	18
16	Customer Store	1
17	Primary Customer Store/Hotel & canteen	37
18	Housing Soci.	406
19	Labour Construction Co-op.Soci.	172
20	Irrigation Co-op.Soci.	52
21	Service Co-op.Soci.	13
22	Transport Co-op.Soci.	6
23	Extension Education Comunity	1
24	District Co-op. Board	1
25	Milk Production District Community -Co.op.Soci.	1
26	Primary Milk Production Co-op.Soci.	514
27	Agril. Production Market Community (APMC)	10
28	Other	9
	Total	**2315**

Source: Registrar, Rajkot District, Rajkot

CHAPTER III

SWOT ANALYSIS

3.1 Introduction

The SWOT analysis method was applied which will provide a basic and straight forward tool that gives direction and serves as a basis for the development of an enterprise. It accomplishes this by assessing an enterprise Strengths (what an enterprise can do) and Weaknesses (what an enterprise can not do) in addition to Opportunities (potential favorable conditions for an enterprise) and Threats (potential unfavorable conditions for an enterprise). The role of SWOT analysis is to take the information from the concerned agencies and separate it into internal issues (strengths and weaknesses) and external issues (opportunities and threats).In applying the SWOT analysis in agriculture, it is necessary to minimize both weaknesses and threats. Weaknesses should be looked at in order to convert them into strengths. Likewise, threats should be converted into opportunities. The strengths and opportunities should be matched to optimize the potential production. Applying SWOT in this fashion can generate income for the farmers in sustainable manner.

3.2 SWOT Analysis of the Rajkot District

3.2.1 Strength:

Rajkot, the head-quarters of Rajkot District, well connected by rail, road and air routes to major towns of the states like Ahmedabad, Jamnagar, Bhavnagar, Surendranagar, Amreli, Porbandar, Bhuj(Kutchh),Vadodara, Surat and Gandhinagar. There is a good network of the roads within the district and its towns & villages.

- Majority of geographic area (68.23%) is under cultivation. The 77.96 % of the cultivable land under two main *kharif* crops i.e. groundnut and cotton.
- During the last decade, *rabi*/summer crops cultivation increased due to amount of rainfall increased.
- Abundance of solar & wind energy round the year.
- Farmers of the districts are hard working and desire to adopt new/recent technology.
- Major Talukas have their own APMC (Agricultural Produce Marketing Committee) and their marketing yards.
- There are over 30,000 Small Scale Industries operating in Rajkot district in sectors which includes auto parts, farm equipment, plastics, chemicals , electrical equipments food products, dairy, silveras well as processing of cotton, groundnut, sesame, castor, onion and repairing & servicing of farm equipments
- A good breed of Gir cows and Jafrabadi Buffaloes are reared as draught and milking animal.

3.2.2 Weakness:

Rajkot District has average annual rainfall of 635 mm and varies from 180 mm to 1418mm. Most of the rivers in this district remain dry in the winter and summer season. This enforced the over exploitation of ground water through open wells and deep bore wells, which has created the sea water

intrusion problem in coastal Maliya Miyana and Morbi, resulted in poor quality of groundwater and ultimately hampered the crops in the region.

- Large area under rain fed farming(82 percent)
- Cropping intensity is only 130.31 per cent
- Undulating and fragmented land holdings(23 per cent)
- Large number (56 percent)of marginal and small land holding(28 percent)
- Depletion of bio-diversity
- High rate of soil erosion
- Poor fertility of soils with low organic carbon and phosphorous and low moisture retention capacity
- Increasing micronutrient deficiencies in soils.
- Salinity problem in Maliya- Miyana taluka
- Lack of water harvesting and efficient management practices.
- Inadequate soil health and management practices.
- Improper management of cow dung and crop residue, poor adoption level of FYM, composting, vermin-compost and farm/ crop residue recycling.
- Critical technological gaps in specific area of crop like seed treatment, balanced use of fertilizers and insect pest and disease management.
- Poor genetic makeup of live stock and hence poor productivity.
- High rate of mortality and poor growth rate in calves.
- Lacking in scientific rearing of cattle particularly milch animals.
- Higher incidence of reproductive problems in animals *viz*. anoestrus, repeat breeding, long calving interval, higher age at first calving, long service period.
- Low availability of quality fodder for animals.
- Inadequate processing and cold chain facilities for horticultural produces.
- Low availability of inputs and quality planting material in time.
- Non- availability of sufficient labors at critical agril. operation.
- Poor infrastructure facilities like farm approach roads, rural godowns *etc.*
- Apathy towards poultry and inland fisheries.
- Poor infrastructure & social development indicates low investment capacity.

3.2.3 Opportunities:

There is a heavy demand for fruits, vegetables and flowers from Rajkot, Ahmedabad, Mumbai and other cities, farmers who cultivate these crops are much benefited. There is a need of value addition industry for various major commodities (groundnut, cotton, wheat and cumin) produces in the District. The industrial development opportunities are tremendous in the major towns of this district as there is a National Highway and rail track connectivity linking these towns with Ahmedabad, Mumbai and Kandala port. The specific opportunities for the district are

- Greater scope for rain water harvesting (ex-situ & in-situ) in the area and higher water productivity.
- Irrigation facilities may be increase in rain fed talukas through MIS.
- Improve water use efficiency from 50% to 80% through micro irrigation system (MIS) along with mulching and productivity enhancement of more than 25%.

- Greater scope for increasing cropping intensity by bringing more area under Mixed/Inter/Relay cropping system under rain fed conditions.
- The area under horticultural crops can be increased to a considerable extent.
- Scope for increasing area under medicinal and aromatic plants
- Biomass available from livestock, crop and farm residue can be used for maintaining proper soil health through recycling viz., in-situ use, preparation of enriched compost & vermin compost. Biomass and agricultural wastes utilization through Gobar gas and Gasifires
- Immense scope exists to tackle the resource degradation through integrated approaches of NRM, INM and IPM.
- Farm mechanization, reduction in cost of cultivation
- To raise the energy use at farm from present level of 1 kWh/ha to 3 kWh/ha through increasing the farm mechanization
- Forecasting of pest incidence based on weather parameters & cost effective corrective measures.
- Protected cultivation in green house and shed net (low cost) for off season vegetable cultivation, value added products from agriculture waste, fruit processing industries.
- Pack houses for vegetables and establishment of vegetables markets.
- Scope for dairy enterprises.
- Scope for export of processed food products.
- Opportunities for strengthening infrastructure and marketing facilities.

3.2.4 Threats:

Rajkot District is well connected to industrial cities like Ahmedabad, Surat, Morbi and Mumbai this has resulted in the large scale migration of farm laborers in various industries located in these towns. This has resulted in a great demand for agricultural laborers and the farmers in this district face a lot of problems in getting farm laborers. Over exploitation of groundwater in the region created a serious threat of sea water intrusion and salinity ingress and resulted in degradation of groundwater, soil and reduction of farm produce, which ultimately initiated the migration of the farmers from villages to Rajkot and other city.

- Uncertain, inadequate and insufficient rainfall.
- Migration of farm youth to Rajkot and other cities.
- Scanty of water for irrigation.
- Deforestation.
- Soil erosion.
- Soil degradation.
- Indiscriminate animal breeding practices (use of non- descript, poor graded bulls used for natural matting).
- Low/ shrinking pasture land.
- Less interest of rural young generation in agriculture.

Reasons for backwardness and issues impeding growth:

The major obstacles affecting the progress and productivity of different crops and enterprises of the district as identified by participatory approach are listed hereunder.

- Uncertain, inadequate and insufficient rainfall under rain fed conditions.
- Fragmented land holdings.
- Soil erosion and depletion of nutrients in soils.
- Weed, pest and disease problems
- Reddening of cotton.
- Indiscriminate NRM, INM, IPM and IDM practices.
- Migration of youth to cities.

3.3 SWOT Analysis of Farming Situation of Major Crops or Commodities and the Research and Extension Gaps Emerged and the Strategies to Bridge the Gaps

On the basis of primary and secondary information collected by the team members from representative Talukas, SWOT analysis was carried out with respect to existing farming systems. The details of SWOT analysis are given in table.

Table 3.3.1: Farming System: Agriculture

i. Cropping System : Bt. Cotton

Strength	**Weakness**
• Large area under cotton cultivation. • Soil of the district with irrigation facility during good monsoon year for cotton growing. • Cotton is a cash crop provides immediate income to farmers.	• Early withdrawal of monsoon affects yield of the crop. • Weeds are major problem in yield losses of the crop. • Imbalance use of fertilizer. • Insect pest problem especially sucking pests. • Reddening of cotton.
Opportunities	**Threats**
• Yield potential can be increased through proper nutrient management and pest management. • Chances for better income through organic farming. • Inter cropping is one of the important tools for minimizing the risk. • Use of drip irrigation with fertigation is one of the important tools for irrigated crop and reduces expenditure toward fertilization and improves quality of cotton.	• Cotton is being a long duration crop restrict only one growing season in a year. • Irregular rain restricts the crop growth and seed cotton yield. • Continuous rains create weed problem and affect growth. • Labour problems for plant protection operations and cotton picking. • Instability of market price of commodities. • Grazing of crops by stray animals i.e. Neel Gai and Bhund.

ii. Cropping System : Groundnut

Strength	Weakness
• Large area under groundnut cultivation. • Groundnut is an oilseed crop provides immediate income to farmers. • The crop provides edible oil, protein and fodder for animals.	• Dry spell during critical growth stages, late onset and early withdrawal of monsoon affect the yield of groundnut. • Weed is a major problem in rainfed area. • Insect pest problem especially aphid, jassids, thrips and stem rot, tikka and rust diseases affect yield.
Opportunities	**Threats**
• Yield potential can be increased through efficient use of rain water, proper fertilizer, micronutrient and insect pests and diseases management. • Chances for better income through integrated nutrient management. • Inter cropping is one of the important tools for minimizing the risk. • Values addition in groundnut has great scope.	• Irregular rain restricts the crop growth and yield • Weed and pests and diseases caused heavy losses in yield • Labor problems for plant protection and harvesting operations

iii. Cropping System : Castor

Strength	Weakness
• Castor is one of the major crop suitable to soil and climatic condition of the district. • Castor is oilseed & cash crop provides immediate income of farm.	• Low use of FYM and bio fertilizer • Imbalance nutrient management. • Insect pest especially semi-looper incidence. • Thinning of crops is important operation-high plant population results in poor branching and poor yield • Poor post harvest management.
Opportunities	**Threats**
• Intercropping with groundnut or pulses provides better soil health condition. • Castor can be grown under both irrigated and rain fed conditions. • There is great potential for increase yield through improved package of practices. • Value addition is great potential. • Castor cake is used as manure	• Irregular rains and limited irrigation limits the production. • Lack of knowledge about soil moisture conservation. • Low moisture holding capacity of soils.

iv. Cropping System : Wheat

Strength	Weakness
• Wheat is an important crop provides subsistence to the farmers • Farmers are growing wheat since ages. • Good wheat varieties suitable to the region are available.	• No seed treatment • High seed rate • Low use of FYM and bio-fertilizers • Imbalance nutrient management • Low price of produce & higher cost of cultivation
Opportunities	**Threats**
• Yield of wheat can be increase through proper seed rate. • Wheat fodder is very important for the milch animals .and mulching during *Kharif* crops • Yield & quality can be improved with proper nutrient management.	• Less irrigation facility. • Low ground water table in rain fed area. • Lack of awareness regarding newly recommend practices. • Grading of produce will be potential for higher price

Table 3.3.2: Farming System: Agro-horticulture

Strength	Weakness
• Good scopes for vegetable cultivation in the area having irrigation facilitates in Rabi and summer • The soil and climate are congenial for vegetable/horticulture production. • Farmers having small holding can also get better income.	• Limited irrigation. • Low availability of quality grafts and seedlings. • Poor fertilizer management. • Poor knowledge regarding cultivation practices of horticulture crops. • Marketing problem.
Opportunities	**Threats**
• Better scope for organic vegetable/ fruit cultivation. • Chilies, brinjal, tomato, onion, garlic, mango, citrus, ber, cluster apple, pomegranate, papaya, chiku have great scope of production. • Industries for processing and value addition. • Cold storage and transportation.	• Poor marketing facility and Lack of big markets in nearby area increases the transportation cost which reduces the profit margin for the farmers.

Table 3.3.3: Farming System: Agriculture + Animal husbandry

Strength	Weakness
• Animal husbandry is the only source of supplementary income to the small and marginal farmers. • The cooperative milk societies are now started their functioning. • Establishment of dairy help for higher price of milk • Gir cow/Jaffarabadi buffalo keeping is important source of supplementary income to the farmers and give good milk production. • Use of milk & ghee of cow are beneficial for human health.	• More than 90% livestock owners are sending their animals for grazing. (No stall feeding) • Large number of animals with low production capacity and health problems • Poor housing, feeding and health management • Lack of scientific calf rearing • Poor green fodder availability in *Rabi* and summer in rain fed area • Problem of sexual health: anoestrus, repeat breeding, metritis, cervicitis, • Higher age at first calving, longer calving interval and service period. • Indiscriminate breeding practices • Non-availability of graded bucks for natural services • Shrinking pastures / grazing lands or natural habitat • Lack of good quality feed and fodder
Opportunities	**Threats**
• Ample scope for breed improvement. • The milk production can be increased substantially through better health and feed management. • The strengthening of milk producer's cooperatives may provide good marketing facilities. • Ample scope for Breed improvement. • The milk production can be increased substantially through better health and feed management. • The strengthening of milk producer's cooperatives may provide good marketing facilities.	• There is very limited area under pasture and limited scope for bring area under pasture development. • Increasing milk production through breed improvement is a very long process. • Increasing milk production through breed improvement is a very long process. • Reducing large numbers of low yielding animals is also a bigger threat.

3.4 Regional Growth Drivers of the District

3.4.1 Agriculture:

- The economy of Rajkot is mainly based on agriculture. Increasing area under hybrids/ high yielding varieties in cotton, castor, sesame, cumin and improved variety in wheat.
- Seed treatment and enhancing seed replacement rate.
- Resource conservation technologies for sustaining and improving the productivity levels.
- Groundwater recharge and increasing water use efficiency using MIS.
- Demonstration and capacity building of field functionary and farmers for implementation of IPM, INM and IWM.
- Training the farmers, traders, and other stakeholders on micro irrigation, protected cultivation, grading, post harvest technologies, soil reclamation, value addition and market intelligence.
- Establishment of rural godown.
- Formation of commodity groups for groundnut, cotton and wheat crops as well as for cattle breeding.
- Encouraging contract farming and increasing cropping intensity through mechanization.
- Manufacturing and repairing units of agriculture equipments/ implements and agricultural machine parts.

3.4.2 Soil Health:

- Prevention of degradation of soil fertility using biomass available from livestock, crop & farm.
- Use of organic waste for enriched compost ,use of bio –fertilizer and alternate source of nutrients
- Integrated Nutrient Management
- Enhancement of productivity of low fertile soil as well as degraded soil
- Reclamation of saline and sodic soil.

3.4.3 Horticulture:

- Increasing area under fruits and vegetable crops by providing improved planting material.
- Implementation of IPM and INM.
- Demonstrations and trainings including farmers and field officials.
- High-tech green house for floriculture development.
- Hydroponic nursery rising in soil affected area.
- Harvesting and post harvesting techniques for fruit crops.
- Improvement in the processing and transportation technologies.

3.4.4 Forestry:

- Increasing area under forests through plantation in community lands.
- Increasing area under agro-forestry and plantation on farm bunds for wind breaks.
- Demonstrations and trainings including farmers and field officials
- Fodder and pasture land development.

3.4.5 Animal Husbandry:

- Breed improvement through community bulls and A.I. centers.
- Balanced feed and mineral mixture feeding.
- Demonstration and capacity building of field functionary and farmers.
- Animal feed industry

3.4.6 Fisheries:

- Renovation of village/town ponds for fisheries and making availability of good quality fish seed (Rearing unit/hatcheries)
- Capacity building of fish farmers and field functionary.







CHAPTER IV

DEVELOPMENT OF AGRICULTURE SECTOR

4.1: Introduction

Rajkot district is an agriculture dominating district with 78 per cent agriculture based population. The 89.9 per cent of the total population resides in villages and town and depends on the agriculture. The district is having North Saurashtra & South Saurashtra Agro-climatic Zones and six agro-ecological situations.The soil is poor in organic carbon, medium in phosphorous and medium & high in potash as well as scattered deficiency recorded of sulphur, zinc, iron due to intensive agriculturеare practices. The Padadhari, Dhoraji & Upleta, Gondal & Jetpur talukas enjoying good irrigation facilities and major source of irrigation is canal water from projects. The Jasdan, Wankaner, Kotada Sangani taluka having very limited irrigation facilities and major source of irrigation is wells. Majority of the farmers in district are growing cotton & groundnut since last five years, the farmers have the visualized the importance of scientific method of cultivation of crops and their hunger for such technologies have increased. There is tremendous potentiality for increasing growth of the district by diversifying the farming system, in favor of vegetables and fruits and efficient management of inputs.

4.2: Land Use

The land use statistics of the Rajkot district revealed that district having 71.34 per cent cultivated land while, only 3.20 per cent area is covered under forest .The district has only 28.71 per cent of waste land which includes pasture and non cultivable land. The district has very little scope to bring more area under cultivation. However, possibilities are there for pasture development regarding fodder production. Some parts of forest could be developed for plantation. Maximum area under forest, cultivable wasteland, permanent pasture and current fallows in wankaner and Jasdan takuka. Part of them could be developed for tree plantation, odder production and some are for field/horticultural/medicinal/aromatic crops.

Table 4.2.1: The land use statistics of Rajkot district (Area in hectares)

Sr. No.	Taluka	Geogra-phical Area	Forest Area	Non-agril. Use	Cultiv-able waste	Perma-nent pastures	Current Fallows	Net sown area
1	Maliya Miyana	76998	10157	6021	123	2490	1675	50300
2	Morbi	107770	2003	18065	461	4559	362	76867
3	Tankara	66771	200	3968	114	4550	1016	48015
4	Wankaner	111751	7841	8999	5010	13155	4694	57110
5	Paddhari	59934	529	4376	500	4160	591	43188
6	Rajkot	107225	3312	7905	2450	7655	6119	63220
7	Lodhika	37323	685	1531	20	3481	235	25823
8	Kotada Sangani	44703	435	737	20	4404	314	32810
9	Jasdan	132642	8311	6417	2310	6681	8933	87327
10	Gondal	119792	1285	8190	50	8589	2224	89218
11	Jam Kandorna	56029	340	3415	307	5272	1131	41003
12	Upleta	79254	430	9642	826	10392	421	57962
13	Dhoraji	54786	338	1588	219	4795	879	37257
14	Jetpur	65322	351	2790	682	5589	2005	50797
	Total	1120300	36618	75899	12981	87442	30602	764427

Source: Statistical Report of Rajkot District (2008-2009) & ATMA, SREP Dist Rajkot

4.3: Soil Type and Soil Health Management:

An analysis of the soils, in conjunction with the slope classification of the Rajkot district clearly demarcates that all the soils of the district are low in organic carbon and medium in available phosphorus. The deficiency of potash, sulphur, micronutrients zinc and iron is increasing day by day. Application of nutrients based on soil testing, use of bio-fertilizers, crop residue management, use of organic fertilizers and crop rotation will help in restoration of soil health.

Table 4.3.1: Major Soils (common names) of different talukas of Rajkot district

Taluka	Major soils	Area ('000 ha)	Per cent of total area of Taluka
Maliya-Miyana	Medium to Shallow Black (Silty clay to clay in texture, dark grayish brown to dark brown in colour,Ustocrepts-Inceptisol	42.126	85
	Saline Soil	7.616	15
Morbi	Medium & shallow Black (Silty clay to clay in texture,dark grayish brown todark brown in colour,Ustocrepts-Inceptisol)	54.018	70.80
	Coastal Alluvial	22.279	29.20
Tankara	Medium & shallow Black(Silty clay to clay in texture,dark grayish brown todark brown in colour,Ustocrepts-Inceptisol	48.018	100
Wankaner	Medium & shallow Black to Mixed Red & Black	45.974	80.50
	Mixed Red and Black	11.136	19.50
Padadhari	Medium to Shallow Black (Dark grayish brown to dark brown in colour,sandy clay loam to clayey in texture, inseptisol)	43.188	100
Rajkot	Shallow to Medium Black Depth 30cm to 60 cm Texture: sandy clay to clay loam Calcareous soil	63.220	100
Lodhika	Medium to Shallow Black (Silty clay to clay in texture,dark grayish brown todark brown in colour,Ustocrepts-Inceptisol	25.823	100
Kotada Sangani	Medium & shallow Black	44.703	100
Jasdan	Medium Black & Hilly soil (Depth 30cm to 60 cm) Texture: sandy clay to clay loam Calcareous soil)	91.394	100
Gondal	Medium & shallow Black (Silty clay to clay in texture, dark grayish brown to dark brown in colour, Ustocrepts-Inceptisol	102.080	100
Jam Kandorana	Medium to Shallow Black (Silty clay to clay in texture,dark grayish brown to dark brown in colour,Ustocrepts-Inceptisol)	35.20	85
	Sandy Soil	5.80	15
Upleta	Medium to Shallow Black (Silty clay to clay in texture,dark grayish brown todark brown in colour,Ustocrepts-Inceptisol)	49.46	84
	Saline	7.65	13
	Others (specify):	1.77	3
Dhoraji	Medium Black Soil	36.065	100
Jetpur	Medium to Shallow Black	50.797	100
Total		**788.317**	**100**

Source: District contingency plan of Rajkot district-2011.

4.4: Water Resource Management

The district is having total irrigated area is 240405 hectares. Among different sources of irrigation, the major source are wells (191004 ha.) followed by canal (41588 ha) and Ponds/others (7813 ha.). Even though, the district is receiving fairly good amount of rainfall (average 1040.29 mm in 2010-11), adoption of water harvesting practices during last ten years and hence area under irrigation is tremendously increased. The major scope for the development of agriculture in irrigated area is by increasing gross sown area and by adopting drip & micro irrigation system particularly in horticultural, cotton, castor, groundnut and vegetable crops. Specific extension activities are being proposed on these important aspects in the plan.

4.5: Major Crops and Varieties

4.5.1 : Major crops and their recommended & cultivated varieties

The major field crops cultivated in *Kharif* season are cotton, groundnut, sesamum pulses & castor. In Dhoraji, Jamkandona and Upleta cotton is mainly grown as irrigated crop while in other talukas it is both as irrigated and rain fed crop. Groundnut and sesame is grown in all the talukas. Sorghum is grown in four talukas as *Kharif* crops. Vegetable crops are grown in Rajkot, Wankaner and Paddhari talukas. Wheat, gram and cumin, onion and garlic are the important *rabi* crops of the area. There is need to evaluate and monitor the performance of released varieties and hybrids of field crops and vegetables. The major issues are the availability of quality seeds in time and. The measures to bridge the gaps have been suggested. Common varieties of major crops grown in Junagadh district are given Table 4.5.1.

Table 4.5.1: Major crops and their recommended & cultivated varieties

Sr.No.	Major crops	Varieties
1.	Groundnut	Bunch variety GG-2, GG-7, TAG-37A, TPG-41 Semi spreading variety GG-20, Spreading Variety GAUG-10, GG-11, GG-13
2.	Cotton	Bt. Cotton hybrids
3.	Wheat	Lok-1, GW-496, GW-366
4.	Bajra (Pearl Millet)	Kharif: GHB-558, GHB-538, Summer: GHB-558, GHB-526, GHB-732
5.	Pigeon Pea	GT-100, GT-101, BDN-2
6.	Gram	Gujarat Gram -1, Gujarat Gram - 2, Gujarat J Gram - 3
7.	Green gram	Guj. Mug-4, K-851
8.	Black gram	Guj. Urd-1, T-9
9.	Sesame	GT-2, GT-3, GT-10
10.	Castor	GAU-CH-1, GCH-6, GCH-7
11.	Sorghum	GFS-4. GFS-5, Gundhari, S-1049 (Fodder)
12.	Sugarcane	CoN 91132, CoN 5071, Co 86032, Co-6304, CoC-671
13.	Garlic	Gujarat Garlic-4, Gujarat Garlic-2, Gujarat Garlic-3, G-282
14.	Onion	Junagadh Local (Pilipatti), Gujarat White Onion-1, AFLR, AFDR
15.	Tomato	G.Tomato-1, Junagadh Tomato-3, Junagadh Ruby, Pvt. Hybrids.
16.	Brinjal	GBL-1, GBGR-1, GJB-2, GJB-3, Pvt. Hybrids.
17.	Okra	GO-2, GO-3, Parbhani Kranti, Pvt. Hybrids.
18.	Isabgul	Gujarat Isabgul-1, Gujarat Isabgul-2
19.	Fenugreek	Gujarat Methi-2

Cont.

20.	Cumin	GC-4
21.	Coriander	GC-2
22.	Coconut	D x T, T x D, Dwarf green, West coast tall, Orange
23.	Mango	Kesar
24.	Sapota(Chiku)	Kalipatti, Cricket ball
25.	Banana	Grand nain, Robusta , Harichhal
26.	Lemon	Kagji Lime
27.	Ber	Umran, Gola, Seb, Mehrun
28.	Papaya	Madhu Bindu, Taiwan-786
29.	Custard Apple	GJCA-1, Sindhan
30.	Pomegranate	Sindoori, Ganesh
31.	Guava	Dholka, L-49, Bhavnagar red, Allahabad safeda

4.5.2 Cropping Pattern

Major Cropping sequences in vogue in the district are given below:

1. Groundnut : Groundnut-Groundnut, Groundnut-Wheat, Groundnut-Cumin, Groundnut - Chick pea. Groundnut-Cotton, Groundnut-Sesame
2. Cotton : Cotton-Groundnut, Cotton-Sesame, Cotton-Cotton
3. Pearl millet : Pearl millet-Groundnut, Pearl millet-Black gram Pearl millet-Cumin, Pearl millet- Garlic.

Major intercropping systems followed in the zone are: groundnut + castor (3:1), groundnut + pigeon pea (3:1), groundnut + sesame (6:3), pearl millet + pigeon pea (2:1)and cotton + green gram/black gram/groundnut in paired row system.

4.6: Input Management

Besides improved seeds, the integrated nutrient, weed and pest management is essential to accelerate agricultural growth. At present, there exists a gap between the actual productivity and the attainable /achievable / potential productivity of the crops grown in the district. The proper and timely management of following inputs for crops is essential to fill this gap.

4.6.1. Quality Seed

Good quality seed is the most critical input in crop production. The government agencies are trying their level best for assured supply of good quality seeds, but the demand usually falls short of supply. Unfortunately, the district has no any seed farm. The only way is to produce certified seeds through seed village programme. Further, due to unavailability of improved seeds, the farmers are still using inferior quality. For high yielding varieties like cotton and bajra, the seed replacement ratio (SRR) should be 100% and for major crop groundnut and wheat, it is 15% and 35% respectively. Series of steps have been suggested in this plan to overcome the situation.

4.6.2. Manure/ Fertilizer (plant nutrition)

Next to irrigation, fertilizer is second most important input for the cultivation of crops. The timely availability of fertilizer is a major constrain. The reason is not the short supply, farmers rush to purchase at time of sowing. Due to continuous soil erosion in sloppy land area and growing cotton continuously in same field and use of concentrated fertilizers led to deficiencies in micronutrients like Zn and Fe & sulphur. Therefore, location specific integrated nutrient management, use of bio-fertilizers, cakes; FYM, organic/plant residue recycling as well as preparation of enriched compost and vermi-composting are required to be popularized for wider adoption.

The data on consumption of fertilizers in Rajkot district clearly shows increasing trend over years. The increase in consumption in nitrogen and phosporus were increasd in kharif but use of potash was deceased, the consumption of N, P, &K IN Rajkot is higher as compared to Gujarat. Consumption of phosphorous is higher as compared to meet recommendation of Agril. University for balanced nutrient. the requirement of fertilizers increased with the increasing awareness about use of fertilizers and availability in the market. The fertilizer consumption and NPK consumption of the district are presented in the Table 4.6.2.1 to Table 4.6.2.3 and fertilizer sale points in the district presented in the Table 4.6.2.4

Table 4.6.2.1: Consumption of N, P2O5 and K2O in the district (Tonnes)

Sr. No.	Name of contain	Rajkot						Gujarat		
		Kharif 2008	Rabi 2008-09	Total consum-ption	Kharif 2009	Rabi 2009-10	Total consum-ption	Kharif-2009	Rabi 2009-10	Total consum-ption
1	N	55445	49142	104587	60582	33585	94167	557660	543943	1101603
2	P2O5	35753	27151	62904	39490	21237	60727	276803	214664	491667
3	K2O	12228	7772	20000	9760	8688	18448	86295	1101603	206451
	Total	103426	84065	187491	109832	63510	173342	920758	878963	1799721

Source: Directorate of Agriculture, Gujrat

Table 4.6.2.2: Consumption of N, P2O5 and K2O per ha in the district (Tonnes).

Sr. No.	Name of contain	Rajkot			Gujarat		
		Kharif-2008-09	Rabi 2009-10	Total Consumption	Kharif-2008-09	Rabi 2009-10	Total Consumption
1	N	107.19	111.51	218.7	86.88	94.85	181.73
2	P2O5	64.47	71.91	136.38	37.81	42.33	80.14
3	K2O	20.50	21.85	42.35	14.87	17.78	32.65
	NPK	192.16	205.27	397.43	139.56	154.96	294.52
Gross cropped Area (ha)2009-10		844442			11614381		

Source: Fertiliser Statistics, Western Zone, Fertilizer association of India (2009-10)

Table 4.6.2.3: Fertilizer Consumption in the district (Tonnes)

Sr. No.	Name of fertilizer	2009-10	
		Rajkot	Gujarat
1	Urea	145524	1857103
2	DAP	104668	829612
3	MOP	18153	268970
4	SSP	5798	75333
5	CAN	4338	32560
6	AS	6499	128176
7	23:23:0	782	5340
8	20:20:0	10928	194247
9	15:15:15	1339	16283
10	12:32:16	22285	74302
11	10:10:26	14576	118228
12	MAP	185	1837
	Total	1235075	3601991

Source: Fertiliser Statistics, Western Zone, Fertilizer association of India (2009-10)

Table 4.6.2.4: Fertilizer sale Points in the district

Sr.No.	Name of Institute	Rajkot	Gujarat
		2008-09	2008-09
1	Co-Operative	557	6396
2	Agro Service Centers	68	1112
3	Company Depot	10	261
4	Private	1240	6565
5	Others	1	353
6	Total	1876	14687

Source: Directorate of Agriculture, Gujrat

4.6.3 Plant Protection Chemicals

The crop diseases, insect pests and weeds are other major problems in realizing optimum yield for all the crops in the district. The improper management of these control measures often results into increased cost of cultivation without much benefit in yield. In *Bt* cotton, cotton Jassids and other sucking pests including mealy bugs is major threat. Farmers are mainly depending on chemical control method with higher doses of chemicals. In vegetables, the farmers are depending mainly on chemical control with higher doses of chemicals, hence, integrated measures for control of insect/pests and, diseases, which required to be adopted for sustainability and profitability of crops. Amongst the plant protection chemicals, the major proportion is contributed by insecticides. Fungicide consumption is the lowest. The total pesticide consumption of the district in the year 2011-12 was 46931 kg or liter.

4.7. Integrated Weed Management (IWM)

Weed is a major problem in the rain fed farming situation, If continuous rain exist for several days, the farmers are unable to remove weed with help of human labour. Further, shortage of labours and high wages of labour weeding is become costlier. It is also observed that farmers are using poor spraying techniques thereby low efficiency of applied herbicides is achieved. Hence, it is proposed to train farmers by organizing trainings on spraying techniques and integrated weed management techniques and use and development of mechanized equipments are proposed in this chapter.

4.8: Existing Institutional Mechanism

The present institutional mechanism in government sector is centralized in nature with Top-down approach. This approach focuses on individual commodities / enterprises rather than on a holistic / integrated approach. The involvement of stakeholders is rather restricted in this ad-hoc mechanism where farmers are considered as receivers of benefits rather than as responsible persons who can influence the productions process. The public extension system is supply driven rather than demand driven.

- The institutional mechanism and conceptual frame work of Government sector extension is being gradually transformed under the Agricultural Technology Management Agency (ATMA) in the district. The impact of this transformation is yet to be seen in the actual working of different Government departments and others involved in it. Special and intensive transfer of technology uptot door stop and field level of farmers through e-connectivity as well as demand base requirements as participatory mode are suggested

Krishi Vigyan Kendra is one of the important institution in the district under Junagadh Agriculture University, which involved in transfer of technology related to agriculture and related occupations.

4.8.1: KRISHI VIGYAN KENDRA

- Conducting the "On farm testing" for identifying technologies in terms of location specific sustainable land use systems.
- Organize training to update the extension personnel with emerging advances in agricultural research on regular basis.
- Organize short and long term vocational training courses in agriculture and allied vocations for the farmers and rural youth with emphasis on "Learning by doing" for higher production and generating self employment.
- Organize the front line demonstration on various crops for generating production data and feedback information.
- KVKshould work as knowledge power centre foe the districts

4.9 Special project/Programmes on going in the district

State as well as centrally sponsored schemes are on in the state for farmers of weaker sections i.e., small and marginal farmer, backward and tribal farmers. The schemes are composed of component like adding of organic manures and bio-fertilizers, seed supply, pesticides and its appliances, distribution of improve implements, creation of irrigation facilities, harvesting etc,. are included to help individual farmers at in subsidize rates. The efficacy of those schemes is limited to certain groups of farmers. There is lacking of benefit to the other big farmers. So, there is a need of introduce schemes for the farmers comprehensively. The details of ongoing programmes are as below:

Department of agriculture (DAO)		District Rural Development Agency	
Sr. No	**Name of scheme**	**Sr. No.**	**Name of scheme**
1	AGR-1: Agril. Development.	1	Swarn Jayanti Gram Swarojgar Yojana (S.G.S.Y.)
2	AGR-2: IPM-marginal farmers	2	Indira Awaas Yojana (IAY)
3	AGR-3: Cotton Seed Distribution (Bt. Cotton)	3	Indira Awaas Yojana (IAY) (Up- gradation)
4	AGR-4: Promotion scheme for S.C. farmers for increasing Agril.producion	4	Nationa Rural employment Guarantee Act. (N.R.E.G.A.)
5	AGR-5: Intensive Cotton Dev. Project (Mini mission-2)	5	Total Sanitation Components Yojana (T.S.Y.)
6	AGR-6: ISOPOM (Oil seeds)	6	Gokul Gram Yojana (G.G.Y.)
7	AGR-6: ISOPOM (Pulses)	7	Sakhi Mandal Yojana
8	AGR-9: Work Plan Scheme		
9	MNR-4 : Irrigation facility for S.C.		
10	MNR-4: For marginal farmer (SC & ST)		

Department of Horticulture		Department of Animal Husbandary	
1	HRT-1- Normal	1	ANH-2 : Veterinary Dispensary Organization of animal healthcamps
2	HRT-2- Integrated Horticulture Development Programme	2	ANH-5 : a. Supply of liquid nitrogen & semen b. Infertility camp
3	HRT-3- Horticulture Mission mode – Assistant in non NHM district	3	ANH-8 : a. Health package for milk animals of SC b. Subsidy for milch unit : NABARD patterns
4	HRT-4 - Schedule cast	4	ANH-9 : Integrated fodder & gauchar development Scheme (SC) Distribution of fodder mini kits, subsidy for chaff cutter etc.
5	HRT -5- Training on fruit & vegetable preservation	5	ANH-12 : a. Subsidy for goat (10-1)SC b. Subsidy for goat (100-1)
6	HRT-7 - Promotion of medicinal & aromatic plant and floriculture in the district	6	DNM-1 (New): Cattle insurance for SC
7	HRT -8- Horticulture development in the state	7	DSM-1 (001) : Health package (Gen) Insurance for clean milk production

4.10: Constraint Analysis

The reasons for the yield gaps are identified and the requisite interventions are planned using participatory processes involving stakeholders. The major constraints leading to yield gaps are undulating land, uneven distribution and erratic nature of rain fall, higher evapo- transpiration in related to precipitation, cracking of soils, shallow soils, problematic soil in some parts of districts. low moisture retention capacity of soil, fragmented land holdings, limited irrigation facility, poor economic condition of the farmers, use of inferior quality seeds, lack of knowledge regarding scientific management of crops. Sloppy land and erratic rainfall led to continuous soil erosion resulted in low organic carbon content in the soil. Lack of proper management of water and non adoption of water saving system like drip irrigation growing of second season crop is not possible. Another important issue is the post harvest processing and the marketing of the produce. Farmers are selling their produce to the local dealers or marketing yards .Availability of seeds and other inputs in time is also one of the important constraints in the district. The poor farm mechanization even with the small farm implements is also important constraint for higher cost of cultivation. The analysis of sustainability issues and reasons for gaps in the productivity of major crops grown in the district are presented here.

4.10.1: Constraints in Agricultural Progress

The major obstacles affecting the progress and productivity of the district, as identified by participatory approach are listed here under.

- Erratic nature of rainfall & uneven distribution
- Limited irrigation facilities
- Rain fed farming in 74 % per cent area
- Low cropping intensity even in irrigated area

- Small farm holdings
- Degradation of land due to continuous soil erosion
- Soil is low in organic carbon and medium in phosphorus
- Depletion of potash, sulpher, zinc and iron status
- Low use of bio fertilizers and cakes.
- Weed problem
- Inadequate availability of inputs in time
- Inadequate availability of quality seeds in time
- Lack of knowledge regarding recent technology
- Lack of post harvest management of the produce
- Lack of rural godown and lack of knowledge regarding credit utilization
- Marketing intellegenceof the produce
- Crop grazing by wild animals i.e. 'Neel Gai' and Bhund (Pig)
- Lack of motivation in SHGs and FIGs with respect to income generation activities.

Table 4.10.1: Sustainability issues and gap analysis of productivity of different crops and resources

Sr. No.	Factors/Constrains leading to gap	Strategies	Approach and methodology	Performance indicators/ outputs
1.	**Cotton**			
a.	Imbalance use of fertilizer due to lack of knowledge	To popularize the integrated nutrient management practices	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Improvement in soil health and productivity enhancement (9-12%)
b.	Weed problem due to lack of knowledge about scientific weed management	To popularize integrated weed management practices	Creating awareness and adoption of IWM through demonstrations, training, shibir, literature etc.	Reduction in weed menace and increase in productivity (10-15%)
c.	Insect pest problem due to lack of knowledge of insect and their management options	Integrated Pest management	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Management of insect pests leads to increased yield (5-7%)
d.	Reddening of cotton due to micronutrient deficiency	Application of micronutrients, nitrate and potassium proper tillage	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc	Increase in productivity (10-15%)
e.	Non availability of seed selling center of Gujarat State Seed Corporation	Establishment of seed selling counters by Gujarat State seed Corporation at taluka level or strengthening co-operative structures	Creating awareness for quality seeds and establishment of seed selling counters	Timely sowing of quality seeds leads to better harvest (3-5%)

2.	Groundnut			
a.	Use of inferior quality seeds due to lack of awareness	Increase seed replacement ratio and quality seed production through seed village. Create awareness for proper storage of seeds	Create awareness about the importance of improved variety as worthiness of variety through demonstration. Innovate the progressive farmers for seed production at village level	Increased area under improved variety
b.	Little adoption of seed treatment due to lack of awareness and non-availability of seed treatment material	Popularize the importance of seed treatment with fungicides/ bio-pesticides	Educating and motivating farmers about importance of seed treatment and adoption through demonstrations, training, shibirs and field days,	Reduction in seed borne diseases of groundnut
c.	Imbalance use of fertilizer due to lack of knowledge,	To popularize the integrated nutrient management practices	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Improvement in soil health and productivity enhancement (8-10%)
d.	Weed problem due to lack of knowledge about scientific weed management	To popularize Integrated weed management	Creating awareness and adoption of IWM through demonstrations, training, shibir, literature etc.	Reduction in weed menace, labour saving, increase in productivity (15- 20%)
e.	Non availability of improved varieties of seeds	Establishment of seed selling centres	Creating awareness for quality seeds	Timely sowing, quality seeds and better harvest (10-15%)
f.	Insect pest problem due to lack of knowledge of insect pests and diseases their management options especially of sucking, leaf eating pests and seedling blight, stem rot, tikka and rust diseases	Integrated Pest management (IPM and IDM)	Creating awareness and adoption of IOM and IDM through demonstrations, training, shibir, literature etc.	Management of insect pests leads to increased yield
g.	Maintain plant population and land configuration, high seed rate and poor soil treatment	Sowing on ridge and furrow	Creating awareness and adoption of recommended seed rate and land configuration through demonstrations, training, shibir, literature etc	Increase in yield

h.	Post harvest management and marketing problem due to lack of proper marketing and processing units	Introduce the processing unit like oil mill at taluka level and linkage with appropriate market	Establishment of mini oil mill at village level on cooperative basis	Remunerative price of the produce
3.	**Gram**			
a.	Use of inferior quality seeds of local variety due to lack of awareness	Increase seed replacement ratio and quality seed production through seed village. Create awareness for proper storage of seeds	Create awareness about the importance of improved variety as worthiness of variety through demonstration. Supplying seeds as mini kits. Innovate the progressive farmers for seed production at village level	Increased area under improved variety
b.	Less adoption of seed treatment due to lack of awareness and non-availability of seed treatment material leading to wilt problem	Popularize the importance of seed treatment with fungicides/ bio-pesticides for managing wilt diseases	Educating and motivating farmers about importance of seed treatment and adoption through demonstrations, training, shibirs and field days,	Reduction in seed borne diseases
4.	**Sorghum**			
a.	Use of inferior quality seeds of local variety due to lack of awareness	Increase seed replacement ratio and quality seed production through seed village. Create awareness for proper storage of seeds	Create awareness about the importance of improved variety as worthiness of variety through demonstration. Supplying seeds as mini kits. Innovate the progressive farmers for seed production at village level	Increased area under improved variety
5.	**Green gram**			
a.	Problem of viral diseases due to use of susceptible local seeds, poor management practices	Popularize tolerant varieties of green gram and management practices	Creating awareness and increase adoption of tolerant varieties of green gram and disease management practices through demonstrations, training, shibir.	Increased production of pulses
6.	**Sesame**			
a.	Imbalance use of fertilizer due to lack of knowledge,	To popularize the integrated nutrient management practices	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Improvement in soil health and productivity enhancement

b.	Insect pest and problem of viral diseases due to poor management practices	Popularize tolerant varieties of sesame and management practices	Creating awareness and increase adoption of tolerant varieties of and disease management practices through demonstrations, training, shibir.	Increased production of sesame (20-25%)
c.	Low germination due to improper placement of seed and lack of knowledge about proper placement of seed	To popularize scientific package of practices	Creating awareness through demonstrations, training, *shibir*, literature etc.	Increased yield (5-8%)
d.	Low adoption of improved package practices due to lack of awareness	To popularize scientific package of practices	Creating awareness and adoption of scientific package of practices through demonstrations, training, field days, *shibir*, literature etc	Increase in the production (10-12%)
e.	Maintain plant population and land configuration High seed rate and sowing in flat land	Thinning and sowing on ridge and furrow	Creating awareness and adoption thinning and land configuration through demonstrations, training, *shibir*, literature etc	Increase in yield (2-5%)
7.	**Castor**			
a.	Imbalance use of fertilizer due to lack of knowledge,	To popularize the integrated nutrient management practices	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Improvement in soil health and productivity enhancement
b.	Insect pest problem due to lack of knowledge of insect and their management options	Integrated Pest management	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Management of insect pests leads to increased yield
8.	**Wheat**			
a.	Imbalance use of fertilizer due to lack of knowledge,	To popularize the integrated nutrient management practices	Creating awareness and adoption of INM through demonstrations, training, shibir, literature etc.	Improvement in soil health and productivity enhancement
b.	Use of inferior quality seeds of local variety due to lack of awareness	Increase seed replacement ratio and quality seed production through seed village. Create awareness for proper storage of seeds	Create awareness about the importance of improved variety as worthiness of variety through demonstration. Supplying seeds as mini kits. Innovate the progressive farmers for seed production at village level	Increased area under improved variety (5%)

c.	Limited irrigation facility due to lack of knowledge of critical stages	Application of water at critical stages	Create awareness about critical stages through demonstration	Increase in yield (10-12%)
d.	Weed problem due to lack of knowledge about scientific weed management	To popularize Integrated weed management	Creating awareness through demonstrations, training, *shibir*, literature etc.	Reduction in weed menace and increase in productivity (5-7%)
9.	**Cumin**			
a.	Disease problem due to poor management practices	Popularize tolerant varieties of cumin and management practices	Creating awareness and increase adoption of tolerant varieties of and disease management practices through demonstrations, training, shibir.	Increased production of cumin

Table 4.10.2: Bridging the gaps for realizing the vision in Agriculture sector

Sr.No.	Program	Activities
1.	**Thrust Areas/ Issues: Increase availability of quality seeds /Seed Production**	
	Seed planning and production	Identification of potential areas, Farmers led Participatory seed production of improved varieties of crops
		Motivating farmers to produce the seed of best Varieties. through Seed village programmes, capacity building of farmers and extension functionaries and exposure visits
	Seed distribution and seed storage	Establishment of seed selling units for timely distribution
		Construction of godowns at village and taluka level
	Variety Evaluation	Identification of high yielding varieties
	Seed treatments	Motivating farmers Capacity building of farmers and extension functionaries
		Chemical and non-chemical treatments
2.	**Increase in seed replacement rate**	
	Production of quality seeds as per area sown	Create awareness about the production of quality seeds of improved varieties
		Strengthen the linkage between supply agencies and the farmers
3.	**Soil health management**	
	Soil testing	Establishment of soil and water testing laboratory at taluka level and mobile soil testing laboratory
		Create awareness about the importance of soil testing
	Bio fertilizer	Popularize the use of bio-fertilizer through capacity building and demonstrations
	Green manuring	Popularize the green manuring practices through capacity building and demonstrations
	Enrichment of FYM	Popularize the methods of preparation of good quality FYM and vermi-compost
	Integrated Nutrient Management	Educating farmers about the use of balanced fertilizer

	Micronutrient	Identification of micronutrient deficient areas and Educating farmers about their importance
	Soil erosion	Land leveling and bund formation Growing cover crops and vertiver grasses
	Recycling of crop residues	Converting of crop residue in small pieces through shredders and using it for composting
	Crop-rotation	Suggesting suitable crop rotation for improving soil health
	IWM	Educate the farmers about integrated weed management practices
	Reclamation of problematic soils	Drainage system,use of different organic and inorganic materials, management practices
4.	**Water management**	
	Water harvesting	Establishment of rain water harvesting units and deepening of well and its recharging Khet talavadi/ village pond
	Water use efficiency	Popularize the micro irrigation systems, scheduling of irrigation and capacity building
		Introduction of the participatory irrigation management approach
		Moisture conservations through organic and plastic mulch
5.	**Plant health management**	
	Plant health clinic	Establishment of plant health clinic at KVK and mobile health clinic at taluka level
	IPM/IDM	Educating the farmers about various insect pest and diseases of crops and their IPM/IDM through demonstrations and trainings
	Proper use of plant protection equipments	Educate the farmers about proper use of plant protection equipments, provide necessary inputs to the farmers
6.	**Farm mechanization**	
	Improved hand tools and small implements	Survey for drudgery reduction Educating farmers for use of machines/ implements.
	Hand rotary weeder, Power tiller Shredder, Farm tractors, Mechanical harvesters, Oil engines , pumps, submersibles, Laser leveler, Bullock cart	Educate the farmers and providing units on co-operative basis and educate farmers for custom hiring
7.	**Value addition**	
	Processing Units, establishment of mini Dal mill/ oil extractor /cotton ginning/ grading and packaging units	Create awareness for value addition and educate farmers, provide units on co-operative basis, marketing awareness
8.	**Marketing**	
	Strengthening APMC and construction of ware houses at cluster and taluka levels	Establishment of ware house at cluster and taluka level
	Market linkage	Strengthening market linkage through AGMARK net
	Collection van	Units and monitoring

Table No. : 4.10.3: Taluka wise yield gap analysis

Sr. No	Taluka	Crop	Average yield in q/ha		
			Taluka	District	State
1	Maliya Miyana	Groundnut	5.25	10.48	14.14
		Cotton	15.33	8.11(lint)	5.54 (lint)
		Sesame	3.83	3.32	3.87
		Castor	11.50	27.18	19.83
		Millet	5.63	11.54	14.64
		Wheat	22.00	37.37	27.99
		Cumin	7.67	5.90	5.56
		Gram	6.40	15.61	10.38
2	Morbi	Groundnut	4.73	10.48	14.14
		Cotton	17.00	8.11(lint)	5.54 (lint)
		Sesame	2.67	3.32	3.87
		Castor	11.33	27.18	19.83
		Millet	8.00	11.54	14.64
		Wheat	37.33	37.37	27.99
		Cumin	8.13	5.90	5.56
		Gram	24.00	15.61	10.38
		Garlic	79.00	65.22	59.77
		Onion	243.33	289.54	275.00
		Sugarcane	83.33	75.00	69.66
3	Tankara	Groundnut	12.00	10.48	14.14
		Cotton	22.50	8.11(lint)	5.54 (lint)
		Sesame	3.17	3.32	3.87
		Castor	17.00	27.18	19.83
		Millet	10.67	11.54	14.64
		Wheat	36.33	37.37	27.99
		Cumin	8.37	5.90	5.56
		Gram	13.33	15.61	10.38
		Garlic	91.67	65.22	59.77
		Onion	95.33	289.54	275.00
4	Wankaner	Groundnut	13.67	10.48	14.14
		Cotton	20.00	8.11(lint)	5.54 (lint)
		Sesame	4.17	3.32	3.87
		Castor	17.67	27.18	19.83
		Millet	20.00	11.54	14.64
		Wheat	35.17	37.37	27.99
		Cumin	9.37	5.90	5.56
		Gram	3.67	15.61	10.38
		Garlic	14.00	65.22	59.77
		Onion	266.67	289.54	275.00
5	Paddhari	Groundnut	13.30	10.48	14.14
		Cotton	20.33	8.11(lint)	5.54 (lint)
		Sesame	2.87	3.32	3.87
		Castor	21.00	27.18	19.83
		Millet	10.67	11.54	14.64
		Wheat	38.33	37.37	27.99

		Cumin	5.50	5.90	5.56
		Gram	14.67	15.61	10.38
		Garlic	35.33	65.22	59.77
		Onion	195.00	289.54	275.00
		Sugarcane	76.00	75.00	70.76
6	Rajkot	Groundnut	11.21	10.48	14.14
		Cotton	23.98	8.11(lint)	5.54 (lint)
		Sesame	3.11	3.32	3.87
		Castor	20.25	27.18	19.83
		Millet	16.91	11.54	14.64
		Wheat	37.87	37.37	27.99
		Cumin	8.83	5.90	5.56
		Gram	12.72	15.61	10.38
		Garlic	80.14	65.22	59.77
		Onion	213.39	289.54	275.00
7	Lodhika	Groundnut	10.90	10.48	14.14
		Cotton	10.67	8.11(lint)	5.54 (lint)
		Sesame	4.27	3.32	3.87
		Castor	9.33	27.18	19.83
		Millet	10.67	11.54	14.64
		Wheat	33.50	37.37	27.99
		Cumin	6.23	5.90	5.56
		Gram	12.50	15.61	10.38
		Garlic	60.33	65.22	59.77
		Onion	296.00	289.54	275.00
		Sugarcane	28.33	75.00	70.76
8	Kotda Sangani	Groundnut	14.17	10.48	14.14
		Cotton	22.33	8.11(lint)	5.54 (lint)
		Sesame	4.58	3.32	3.87
		Castor	26.00	27.18	19.83
		Millet	7.00	11.54	14.64
		Wheat	35.50	37.37	27.99
		Cumin	6.25	5.90	5.56
		Gram	13.65	15.61	10.38
		Garlic	61.00	65.22	59.77
		Onion	295.67	289.54	275.00
		Sugarcane	28.33	75.00	70.76
9	Jasdan	Groundnut	13.13	10.48	14.14
		Cotton	25.00	8.11(lint)	5.54 (lint)
		Sesame	4.67	3.32	3.87
		Castor	8.00	27.18	19.83
		Millet	19.00	11.54	14.64
		Wheat	37.33	37.37	27.99
		Cumin	7.83	5.90	5.56
		Gram	12.33	15.61	10.38
		Garlic	59.00	65.22	59.77
		Onion	213.33	289.54	275.00
		Sugarcane	106.67	75.00	70.76

10	Gondal	Groundnut	16.55	10.48	14.14
		Cotton	21.33	8.11(lint)	5.54 (lint)
		Sesame	4.83	3.32	3.87
		Castor	27.67	27.18	19.83
		Millet	6.67	11.54	14.64
		Wheat	38.67	37.37	27.99
		Cumin	6.00	5.90	5.56
		Gram	12.75	15.61	10.38
		Garlic	75.00	65.22	59.77
		Onion	303.33	289.54	275.00
		Sugarcane	311.67	75.00	70.76
11	Jam Kandorna	Groundnut	12.97	10.48	14.14
		Cotton	22.00	8.11(lint)	5.54 (lint)
		Sesame	4.83	3.32	3.87
		Castor	27.33	27.18	19.83
		Millet	17.33	11.54	14.64
		Wheat	37.67	37.37	27.99
		Cumin	5.83	5.90	5.56
		Gram	15.00	15.61	10.38
		Garlic	74.33	65.22	59.77
		Onion	293.33	312.50	275.00
12	Upleta	Groundnut	14.08	10.48	14.14
		Cotton	22.33	8.11(lint)	5.54 (lint)
		Sesame	5.17	3.32	3.87
		Castor	31.67	27.18	19.83
		Millet	20.67	11.54	14.64
		Wheat	41.00	37.37	27.99
		Cumin	6.83	5.90	5.56
		Gram	16.67	15.61	10.38
		Garlic	62.17	65.22	59.77
		Onion	323.33	289.54	275.00
		Sugarcane	6.8.33	75.00	70.76
13	Dhoraji	Groundnut	15.58	10.48	14.14
		Cotton	25.00	8.11(lint)	5.54 (lint)
		Sesame	4.90	3.32	3.87
		Castor	31.67	27.18	19.83
		Millet	11.17	11.54	14.64
		Wheat	37.00	37.37	27.99
		Cumin	6.10	5.90	5.56
		Gram	12.37	15.61	10.38
		Garlic	66.00	65.22	59.77
		Onion	306.67	289.54	275.00
		Sugarcane	593.33	75.00	70.76
14	Jetpur	Groundnut	15.20	10.48	14.14
		Cotton	22.67	8.11(lint)	5.54 (lint)
		Sesame	4.87	3.32	3.87
		Castor	29.67	27.18	19.83
		Millet	19.00	11.54	14.64

		Wheat	34.33	37.37	27.99
		Cumin	4.25	5.90	5.56
		Gram	13.00	15.61	10.38
		Garlic	63.00	65.22	59.77
		Onion	283.33	289.54	275.00
		Sugarcane	280.00	75.00	70.76

4.10. 2 Area, Production &Productivity and Crop Diversification Plan

The Area, production and productivity of main crops of the district with the projected planning for 12th five year planning are presented in Tab. 4.10.4. During year 2010-11 major area was under cotton as 3,56,900 ha (irrigated & unirrigated) followed by kharif groundnut as 3,06,200 ha. In rabi season major area was under wheat crop (1,70,200 ha) followed by cumin (26,000) and gram as 8800 ha. Crop Diversification Plan was proposed for Pulse, Oilseeds, Fruits and Vegetables. Different crop production tools like improved variety, Seed treatment; Biofertiliser, IPM, INM, Gypsum, etc were proposed for pulses, oilseeds for higher seed production and to increase the awareness of farmers.

Table 4.10.4: Projection of area, production and productivity of main crops in the district

(A=000ha, P=000t, Y=kg/ha)

Crop	2012-13			2013-14			2014-15			2015-16			2016-17		
	A	P	Y	A	P	Y	A	P	Y	A	P	Y	A	P	Y
Kharif															
G.nut	319	5078	1592	330	486	1472	330	472	1427	320	464	1447	320	466	1457
Cotton	327	7334	2242	316	6714	2124	316	6611	2092	317	6689	2110	317	6729	2122
Sesame	22	85	372	22	84	370	23	87	376	24	92	382	24	92	384
Castor	18	444	2425	18	469	2530	18	471	2611	17	461	2710	17	468	2720
Pulses	10	67	672	12	86	711	12	87	698	12	85	682	12	84	692
Veg.	85	5144	5992	85	5271	6212	84	5077	6012	84	5169	6113	84	5274	6215
Grass	18	2263	12462	17	2198	12810	17	2164	12613	17	2134	12512	17	2151	12614
Rabi															
Wheat	99	3789	3817	99	3956	3962	98	3768	3812	94	3709	3910	94	3765	3982
Gram	9	155	1652	9	158	1712	9	168	1732	11	204	1742	12	217	181
Cumin	20	169	813	20	174	852	20	169	812	22	181	790	22	178	778
Summer															
G.nut	2	40	1812	21	388	1832	2	36	1810	1	33	1822	1	29	1806
Sesame	2	36	1625	2	39	1712	2	41	1704	2	44	1714	2	48	1712

4.11 Activities for Development of Agriculture Sector

Under the Development of Agriculture Sector different activities pertaining to training of agriculture staff, farmers, demonstrations on different latest technologies like IPM, IWM, INM, etc are given with financial planning for XII five year plan.

4.11.1 Training Proposal for Capacity Building of Agriculture Staff

Capacity Building of Agriculture Staff (at District level) was proposed with financial requirement of Rs. 6.0 lakh per year under recurring fund as presented in Table 4.11.1. Farmer Field School Projection in next 5 years with 24 numbers of FFS and 64 villages to be cover in one year (Table 4.11.2)

Table 4.11.1: Training proposal for capacity building of agriculture staff (At District level-KVK)

(Phy-No. of trainees, Fin. – Rs in lakh)

Name of department	Year-wise number of staff to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Agriculture	500	3.0	500	3.0	500	3.0	500	3.0	500	3.0	2500	15.0
Co-operatives & NGOs	250	1.5	250	1.5	250	1.5	250	1.5	250	1.5	1250	7.50
PRI staff & others	250	1.5	250	1.5	250	1.5	250	1.5	250	1.5	1250	7.50
Total	**1000**	**6.0**	**1000**	**6.0**	**1000**	**6.0**	**1000**	**6.0**	**1000**	**6.0**	**5000**	**30.00**

Table 4.11.2: Farmers field school (FFS) projection in next 5 years

Taluka	2012-13		2013-14		2014-15		2015-16		2016-17	
	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	No. of FFS	No. of villages to be covered
Maliya-Miyana	2	5	2	5	2	5	2	5	2	5
Morbi	1	3	1	3	1	3	1	3	1	3
Tankara	2	5	2	5	2	5	2	5	2	5
Wankaner	2	5	2	5	2	5	2	5	2	5
Padadhari	1	3	1	3	1	3	1	3	1	3
Rajkot	2	6	2	6	2	6	2	6	2	6
Lodhika	1	3	1	3	1	3	1	3	1	3
Kotada sangani	1	2	1	2	1	2	1	2	1	2
Jasdan	2	6	2	6	2	6	2	6	2	6
Gondal	2	4	2	4	2	4	2	4	2	4
Jam Kandorana	2	5	2	5	2	5	2	5	2	5
Upleta	2	6	2	6	2	6	2	6	2	6
Dhoraji	2	5	2	5	2	5	2	5	2	5
Jetpur	2	5	2	5	2	5	2	5	2	5
Total	**24**	**63**	**24**	**63**	**24**	**63**	**24**	**63**	**24**	**63**

4.11.3 Training proposal for capacity building of farmers on different technologies

Training Proposal for Capacity Building of Farmers at taluka level on different technologies is given in Tab. 4.11.3.1 to 4.11.3.14 and at district level with total financial outlay of Rs. 334.15 lakhs under different technologies like seed production, seed treatment, IPM, IWM, etc. is given in Tab.4.11.3.15

Table 4.11.3.1: Training proposal for capacity building of farmers at taluka level on seed production / seed replacement

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	62	0.18	62	0.18	62	0.18	62	0.18	62	0.18	310	0.90
2	Morbi	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
3	Tankara	72	0.22	72	0.22	72	0.22	72	0.22	72	0.22	360	1.10
4	Wankaner	144	0.43	144	0.43	144	0.43	144	0.43	144	0.43	720	2.15
5	Padhdhari	89	0.27	89	0.27	89	0.27	89	0.27	89	0.27	445	1.35
6	Rajkot	131	0.40	131	0.40	131	0.40	131	0.40	131	0.40	655	2.00
7	Lodhika	55	0.16	55	0.16	55	0.16	55	0.16	55	0.16	275	0.80
8	Kotda Sangani	59	0.18	59	0.18	59	0.18	59	0.18	59	0.18	295	0.90
9	Jasdan	145	0.43	145	0.43	145	0.43	145	0.43	145	0.43	725	2.15
10	Gondal	116	0.35	116	0.35	116	0.35	116	0.35	116	0.35	580	1.75
11	Jam Kandorna	72	0.22	72	0.22	72	0.22	72	0.22	72	0.22	360	1.10
12	Upleta	73	0.22	73	0.22	73	0.22	73	0.22	73	0.22	365	1.10
13	Dhoraji	43	0.13	43	0.13	43	0.13	43	0.13	43	0.13	215	0.65
14	Jetpur	69	0.21	69	0.21	69	0.21	69	0.21	69	0.21	345	1.05
	Total	**1250**	**3.76**	**1250**	**3.76**	**1250**	**3.76**	**1250**	**3.76**	**1250**	**3.76**	**6250**	**18.80**

Table 4.11.3.2: Training proposal for capacity building of farmers at taluka level on seed treatment.

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	49	0.15	49	0.15	49	0.15	49	0.15	49	0.15	245	0.75
2	Morbi	95	0.29	95	0.29	95	0.29	95	0.29	95	0.29	475	1.45
3	Tankara	58	0.18	58	0.18	58	0.18	58	0.18	58	0.18	290	0.90
4	Wankaner	115	0.35	115	0.35	115	0.35	115	0.35	115	0.35	575	1.75
5	Padhdhari	71	0.22	71	0.22	71	0.22	71	0.22	71	0.22	355	1.10
6	Rajkot	105	0.32	105	0.32	105	0.32	105	0.32	105	0.32	525	1.60
7	Lodhika	44	0.13	44	0.13	44	0.13	44	0.13	44	0.13	220	0.65
8	Kotda Sangani	47	0.14	47	0.14	47	0.14	47	0.14	47	0.14	235	0.70
9	Jasdan	117	0.35	117	0.35	117	0.35	117	0.35	117	0.35	585	1.75
10	Gondal	93	0.28	93	0.28	93	0.28	93	0.28	93	0.28	465	1.40
11	Jam Kandorna	58	0.18	58	0.18	58	0.18	58	0.18	58	0.18	290	0.90
12	Upleta	59	0.18	59	0.18	59	0.18	59	0.18	59	0.18	295	0.90
13	Dhoraji	35	0.11	35	0.11	35	0.11	35	0.11	35	0.11	175	0.55
14	Jetpur	55	0.17	55	0.17	55	0.17	55	0.17	55	0.17	275	0.85
	Total	**1001**	**3.05**	**1001**	**3.05**	**1001**	**3.05**	**1001**	**3.05**	**1001**	**3.05**	**5005**	**15.25**

Table 4.11.3.3: Training proposal for capacity building of farmers at taluka level on INM/ micronutrient.

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	124	0.37	124	0.37	124	0.37	124	0.37	124	0.37	620	1.85
2	Morbi	239	0.72	239	0.72	239	0.72	239	0.72	239	0.72	1195	3.60
3	Tankara	144	0.43	144	0.43	144	0.43	144	0.43	144	0.43	720	2.15
4	Wankaner	288	0.86	288	0.86	288	0.86	288	0.86	288	0.86	1440	4.30
5	Padhdhari	178	0.54	178	0.54	178	0.54	178	0.54	178	0.54	890	2.70
6	Rajkot	262	0.79	262	0.79	262	0.79	262	0.79	262	0.79	1310	3.95
7	Lodhika	109	0.33	109	0.33	109	0.33	109	0.33	109	0.33	545	1.65
8	Kotda Sangani	118	0.35	118	0.35	118	0.35	118	0.35	118	0.35	590	1.75
9	Jasdan	290	0.87	290	0.87	290	0.87	290	0.87	290	0.87	1450	4.35
10	Gondal	233	0.70	233	0.70	233	0.70	233	0.70	233	0.70	1165	3.50
11	Jam Kandorna	144	0.43	144	0.43	144	0.43	144	0.43	144	0.43	720	2.15
12	Upleta	147	0.44	147	0.44	147	0.44	147	0.44	147	0.44	735	2.20
13	Dhoraji	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
14	Jetpur	138	0.41	138	0.41	138	0.41	138	0.41	138	0.41	690	2.05
	Total	**2500**	**7.50**	**2500**	**7.50**	**2500**	**7.50**	**2500**	**7.50**	**2500**	**7.50**	**12500**	**37.50**

Table 4.11.3.4: Training proposal for capacity building of farmers at taluka level on soil health management / bio – fertilizer / green manuring.

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	148	0.45	148	0.45	148	0.45	148	0.45	148	0.45	740	2.25
2	Morbi	287	0.86	287	0.86	287	0.86	287	0.86	287	0.86	1435	4.30
3	Tankara	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
4	Wankaner	345	1.04	345	1.04	345	1.04	345	1.04	345	1.04	1725	5.20
5	Padhdhari	214	0.64	214	0.64	214	0.64	214	0.64	214	0.64	1070	3.20
6	Rajkot	314	0.94	314	0.94	314	0.94	314	0.94	314	0.94	1570	4.70
7	Lodhika	131	0.39	131	0.39	131	0.39	131	0.39	131	0.39	655	1.95
8	Kotda Sangani	142	0.42	142	0.42	142	0.42	142	0.42	142	0.42	710	2.10
9	Jasdan	349	1.05	349	1.05	349	1.05	349	1.05	349	1.05	1745	5.25
10	Gondal	280	0.84	280	0.84	280	0.84	280	0.84	280	0.84	1400	4.20
11	Jam Kandorna	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
12	Upleta	176	0.53	176	0.53	176	0.53	176	0.53	176	0.53	880	2.65
13	Dhoraji	104	0.31	104	0.31	104	0.31	104	0.31	104	0.31	520	1.55
14	Jetpur	166	0.50	166	0.50	166	0.50	166	0.50	166	0.50	830	2.50
	Total	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**15010**	**45.05**

Table 4.11.3.5: Training proposal for capacity building of farmers at taluka level on NRM

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.6: Training proposal for capacity building of farmers at taluka level on Farm west management/ enrichment of compost / vermin compost

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.7: Training proposal for capacity building of farmers at taluka level on Organic farming

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.8: Training proposal for capacity building of farmers at taluka level on enhacement productivity for low fertile and degraded soil

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.9: Training proposal for capacity building of farmers at taluka level on IPM

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	148	0.45	148	0.45	148	0.45	148	0.45	148	0.45	740	2.25
2	Morbi	287	0.86	287	0.86	287	0.86	287	0.86	287	0.86	1435	4.30
3	Tankara	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
4	Wankaner	345	1.04	345	1.04	345	1.04	345	1.04	345	1.04	1725	5.20
5	Padhdhari	214	0.64	214	0.64	214	0.64	214	0.64	214	0.64	1070	3.20
6	Rajkot	314	0.94	314	0.94	314	0.94	314	0.94	314	0.94	1570	4.70
7	Lodhika	131	0.39	131	0.39	131	0.39	131	0.39	131	0.39	655	1.95
8	Kotda Sangani	142	0.42	142	0.42	142	0.42	142	0.42	142	0.42	710	2.10
9	Jasdan	349	1.05	349	1.05	349	1.05	349	1.05	349	1.05	1745	5.25
10	Gondal	280	0.84	280	0.84	280	0.84	280	0.84	280	0.84	1400	4.20
11	Jam Kandorna	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
12	Upleta	176	0.53	176	0.53	176	0.53	176	0.53	176	0.53	880	2.65
13	Dhoraji	104	0.31	104	0.31	104	0.31	104	0.31	104	0.31	520	1.55
14	Jetpur	166	0.50	166	0.50	166	0.50	166	0.50	166	0.50	830	2.50
	Total	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**3002**	**9.01**	**15010**	**45.05**

Table 4.11.3.10: Training proposal for capacity building of farmers at taluka level on IWM

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.11: Training proposal for capacity building of farmers at taluka level on Micro Irrigation System

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	74	0.22	74	0.22	74	0.22	74	0.22	74	0.22	370	1.10
2	Morbi	143	0.43	143	0.43	143	0.43	143	0.43	143	0.43	715	2.15
3	Tankara	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
4	Wankaner	173	0.52	173	0.52	173	0.52	173	0.52	173	0.52	865	2.60
5	Padhdhari	107	0.32	107	0.32	107	0.32	107	0.32	107	0.32	535	1.60
6	Rajkot	157	0.47	157	0.47	157	0.47	157	0.47	157	0.47	785	2.35
7	Lodhika	66	0.20	66	0.20	66	0.20	66	0.20	66	0.20	330	1.00
8	Kotda Sangani	71	0.21	71	0.21	71	0.21	71	0.21	71	0.21	355	1.05
9	Jasdan	174	0.52	174	0.52	174	0.52	174	0.52	174	0.52	870	2.60
10	Gondal	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
11	Jam Kandorna	86	0.26	86	0.26	86	0.26	86	0.26	86	0.26	430	1.30
12	Upleta	88	0.26	88	0.26	88	0.26	88	0.26	88	0.26	440	1.30
13	Dhoraji	52	0.16	52	0.16	52	0.16	52	0.16	52	0.16	260	0.80
14	Jetpur	83	0.25	83	0.25	83	0.25	83	0.25	83	0.25	415	1.25
	Total	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Table 4.11.3.12: Training proposal for capacity building of farmers at taluka level on Farm mechanization

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	37	0.12	37	0.12	37	0.12	37	0.12	37	0.12	185	0.60
2	Morbi	72	0.24	72	0.24	72	0.24	72	0.24	72	0.24	360	1.20
3	Tankara	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
4	Wankaner	86	0.29	86	0.29	86	0.29	86	0.29	86	0.29	430	1.45
5	Padhdhari	54	0.18	54	0.18	54	0.18	54	0.18	54	0.18	270	0.90
6	Rajkot	79	0.26	79	0.26	79	0.26	79	0.26	79	0.26	395	1.30
7	Lodhika	33	0.11	33	0.11	33	0.11	33	0.11	33	0.11	165	0.55
8	Kotda Sangani	35	0.12	35	0.12	35	0.12	35	0.12	35	0.12	175	0.60
9	Jasdan	87	0.29	87	0.29	87	0.29	87	0.29	87	0.29	435	1.45
10	Gondal	70	0.23	70	0.23	70	0.23	70	0.23	70	0.23	350	1.15
11	Jam Kandorna	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
12	Upleta	44	0.15	44	0.15	44	0.15	44	0.15	44	0.15	220	0.75
13	Dhoraji	26	0.09	26	0.09	26	0.09	26	0.09	26	0.09	130	0.45
14	Jetpur	41	0.14	41	0.14	41	0.14	41	0.14	41	0.14	205	0.70
	Total	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**3750**	**12.50**

Table 4.11.3.13: Training proposal for capacity building of farmers at taluka level on Value addition processing Oil /Dal mill / Cotton / Vegetables

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	37	0.12	37	0.12	37	0.12	37	0.12	37	0.12	185	0.60
2	Morbi	72	0.24	72	0.24	72	0.24	72	0.24	72	0.24	360	1.20
3	Tankara	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
4	Wankaner	86	0.29	86	0.29	86	0.29	86	0.29	86	0.29	430	1.45
5	Padhdhari	54	0.18	54	0.18	54	0.18	54	0.18	54	0.18	270	0.90
6	Rajkot	79	0.26	79	0.26	79	0.26	79	0.26	79	0.26	395	1.30
7	Lodhika	33	0.11	33	0.11	33	0.11	33	0.11	33	0.11	165	0.55
8	Kotda Sangani	35	0.12	35	0.12	35	0.12	35	0.12	35	0.12	175	0.60
9	Jasdan	87	0.29	87	0.29	87	0.29	87	0.29	87	0.29	435	1.45
10	Gondal	70	0.23	70	0.23	70	0.23	70	0.23	70	0.23	350	1.15
11	Jam Kandorna	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
12	Upleta	44	0.15	44	0.15	44	0.15	44	0.15	44	0.15	220	0.75
13	Dhoraji	26	0.09	26	0.09	26	0.09	26	0.09	26	0.09	130	0.45
14	Jetpur	41	0.14	41	0.14	41	0.14	41	0.14	41	0.14	205	0.70
	Total	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**3750**	**12.50**

Table 4.11.3.14: Training proposal for capacity building of farmers at taluka level on Marketing intellegence /Co- operative / Association / Groups

(Phy. - No. of training, Fin. - Rs. in Lakhs)

Sr. No.	Name of Taluka	Number of Training and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	37	0.12	37	0.12	37	0.12	37	0.12	37	0.12	185	0.60
2	Morbi	72	0.24	72	0.24	72	0.24	72	0.24	72	0.24	360	1.20
3	Tankara	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
4	Wankaner	86	0.29	86	0.29	86	0.29	86	0.29	86	0.29	430	1.45
5	Padhdhari	54	0.18	54	0.18	54	0.18	54	0.18	54	0.18	270	0.90
6	Rajkot	79	0.26	79	0.26	79	0.26	79	0.26	79	0.26	395	1.30
7	Lodhika	33	0.11	33	0.11	33	0.11	33	0.11	33	0.11	165	0.55
8	Kotda Sangani	35	0.12	35	0.12	35	0.12	35	0.12	35	0.12	175	0.60
9	Jasdan	87	0.29	87	0.29	87	0.29	87	0.29	87	0.29	435	1.45
10	Gondal	70	0.23	70	0.23	70	0.23	70	0.23	70	0.23	350	1.15
11	Jam Kandorna	43	0.14	43	0.14	43	0.14	43	0.14	43	0.14	215	0.70
12	Upleta	44	0.15	44	0.15	44	0.15	44	0.15	44	0.15	220	0.75
13	Dhoraji	26	0.09	26	0.09	26	0.09	26	0.09	26	0.09	130	0.45
14	Jetpur	41	0.14	41	0.14	41	0.14	41	0.14	41	0.14	205	0.70
	Total	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**750**	**2.50**	**3750**	**12.50**

Table 4.11.3.15: Training proposal for capacity building of farmers at district level on different technologies.

(Phy- No. , Fin. – Rs in lakhs)

Name of Technology	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Seed production/ seed replacement	1250	3.76	1250	3.76	1250	3.76	1250	3.76	1250	3.76	6250	18.80
Seed treatment	1001	3.05	1001	3.05	1001	3.05	1001	3.05	1001	3.05	5005	15.25
INM/ micronutrients	2500	7.50	2500	7.50	2500	7.50	2500	7.50	2500	7.50	12500	37.50
Soil health management (soil testing/ bio-fertilizers / green manuring	3002	9.01	3002	9.01	3002	9.01	3002	9.01	3002	9.01	15010	45.05
NRM	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Farm waste management/ enrichment of compost/ vermicompost	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Organic farming	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Reclamation of problematic soils	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
IPM	3002	9.01	3002	9.01	3002	9.01	3002	9.01	3002	9.01	15010	45.05
IWM	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Micro irrigation system	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Farm mechanization	750	2.50	750	2.50	750	2.50	750	2.50	750	2.50	3750	12.5.
Value addition Processing Oil/Dalmill/ cotton/vegetables/	750	2.50	750	2.50	750	2.50	750	2.50	750	2.50	3750	12.5.
Marketing intellegence/ Co-operative/ association/ Groups	750	2.50	750	2.50	750	2.50	750	2.50	750	2.50	3750	12.5.
Total	**22005**	**66.83**	**22005**	**66.83**	**22005**	**66.83**	**22005**	**66.83**	**22005**	**66.83**	**110025**	**334.15**

4.11.4 Varietal Demonstration on different crops

Varietal Demonstrations in next five years at taluka level on different crops with 0.4 hectare per demonstration is given in Tab. 4.11.4.1 to 4.11.4.11 and at district level with total financial outlay of Rs. 1340 lakhs under different crops is given in Tab.4.11.4.12

Table 4.11.4.1 Varietal demonstration on cotton

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	1.3	46	1.3	46	1.3	46	1.3	46	1.3	230	6.5
Morbi	0.4	69	2.1	69	2.1	69	2.1	69	2.1	69	2.1	345	10.5
Tankara	0.4	44	1.2	44	1.2	44	1.2	44	1.2	44	1.2	220	6.0
Wankaner	0.4	52	1.7	52	1.7	52	1.7	52	1.7	52	1.7	260	8.5
Paddhari	0.4	40	1.3	40	1.3	40	1.3	40	1.3	40	1.3	200	6.5
Rajkot	0.4	58	2.0	58	2.0	58	2.0	58	2.0	58	2.0	290	10.0
Lodhika	0.4	24	0.8	24	0.8	24	0.8	24	0.8	24	0.8	120	4.0
Kotada Sangani	0.4	32	1.0	32	1.0	32	1.0	32	1.0	32	1.0	160	5.0
Jasdan	0.4	80	2.3	80	2.3	80	2.3	80	2.3	80	2.3	400	11.5
Gondal	0.4	82	2.5	82	2.5	82	2.5	82	2.5	82	2.5	410	12.5
Jam Kandorna	0.4	38	1.3	38	1.3	38	1.3	38	1.3	38	1.3	190	6.5
Upleta	0.4	53	1.9	53	1.9	53	1.9	53	1.9	53	1.9	265	9.5
Dhoraji	0.4	35	1.1	35	1.1	35	1.1	35	1.1	35	1.1	175	5.5
Jetpur	0.4	47	1.5	47	1.5	47	1.5	47	1.5	47	1.5	235	7.5
Total		700	22.0	700	22.0	700	22.0	700	22.0	700	22.0	3500	110

Table 4.11.4.2 Varietal demonstration on groudnut

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	66	2.97	66	2.97	66	2.97	66	2.97	66	2.97	330	14.9
Morbi	0.4	101	4.55	101	4.55	101	4.55	101	4.55	101	4.55	505	22.8
Tankara	0.4	63	2.84	63	2.84	63	2.84	63	2.84	63	2.84	315	14.2
Wankaner	0.4	75	3.38	75	3.38	75	3.38	75	3.38	75	3.38	375	16.8
Paddhari	0.4	57	2.55	57	2.55	57	2.55	57	2.55	57	2.55	285	12.7
Rajkot	0.4	83	3.75	83	3.75	83	3.75	83	3.75	83	3.75	415	18.8
Lodhika	0.4	34	1.53	34	1.53	34	1.53	34	1.53	34	1.53	170	7.7
Kotada Sangani	0.4	43	1.94	43	1.94	43	1.94	43	1.94	43	1.94	215	9.7
Jasdan	0.4	115	5.16	115	5.16	115	5.16	115	5.16	115	5.16	575	25.7
Gondal	0.4	117	5.28	117	5.28	117	5.28	117	5.28	117	5.28	585	26.4
Jam Kandorna	0.4	54	2.42	54	2.42	54	2.42	54	2.42	54	2.42	270	12.1
Upleta	0.4	76	3.43	76	3.43	76	3.43	76	3.43	76	3.43	380	17.2
Dhoraji	0.4	49	2.20	49	2.20	49	2.20	49	2.20	49	2.20	245	11.0
Jetpur	0.4	67	3.00	67	3.00	67	3.00	67	3.00	67	3.00	335	15.0
Total		1000	45	1000	45	1000	45	1000	45	1000	45	5000	225

Table 4.11.4.3 Varietal demonstration on sorghum

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	40	1.26	40	1.26	40	1.26	40	1.26	40	1.26	200	6.30
Morbi	0.4	61	1.91	61	1.91	61	1.91	61	1.91	61	1.91	305	9.55
Tankara	0.4	38	1.20	38	1.20	38	1.20	38	1.20	38	1.20	190	6.00
Wankaner	0.4	45	1.43	45	1.43	45	1.43	45	1.43	45	1.43	225	7.15
Paddhari	0.4	34	1.08	34	1.08	34	1.08	34	1.08	34	1.08	170	5.40
Rajkot	0.4	50	1.58	50	1.58	50	1.58	50	1.58	50	1.58	250	7.90
Lodhika	0.4	20	0.64	20	0.64	20	0.64	20	0.64	20	0.64	100	3.20
Kotada Sangani	0.4	26	0.82	26	0.82	26	0.82	26	0.82	26	0.82	130	4.10
Jasdan	0.4	69	2.18	69	2.18	69	2.18	69	2.18	69	2.18	345	10.90
Gondal	0.4	70	2.23	70	2.23	70	2.23	70	2.23	70	2.23	350	11.15
Jam Kandorna	0.4	32	1.02	32	1.02	32	1.02	32	1.02	32	1.02	160	5.10
Upleta	0.4	46	1.45	46	1.45	46	1.45	46	1.45	46	1.45	230	7.25
Dhoraji	0.4	29	0.93	29	0.93	29	0.93	29	0.93	29	0.93	145	4.65
Jetpur	0.4	40	1.27	40	1.27	40	1.27	40	1.27	40	1.27	200	6.35
Total		600	19.00	600	19.00	600	19.00	600	19.00	600	19.00	3000	95.00

Table 4.11.4.4 Varietal demonstration on maize

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	33	1.98	33	1.98	33	1.98	33	1.98	33	1.98	165	9.90
Morbi	0.4	50	3.03	50	3.03	50	3.03	50	3.03	50	3.03	250	15.00
Tankara	0.4	32	1.89	32	1.89	32	1.89	32	1.89	32	1.89	160	9.50
Wankaner	0.4	38	2.25	38	2.25	38	2.25	38	2.25	38	2.25	190	11.30
Paddhari	0.4	28	1.70	28	1.70	28	1.70	28	1.70	28	1.70	140	8.50
Rajkot	0.4	42	2.50	42	2.50	42	2.50	42	2.50	42	2.50	210	12.5
Lodhika	0.4	17	1.02	17	1.02	17	1.02	17	1.02	17	1.02	85	5.10
Kotada Sangani	0.4	22	1.29	22	1.29	22	1.29	22	1.29	22	1.29	110	6.50
Jasdan	0.4	57	3.44	57	3.44	57	3.44	57	3.44	57	3.44	285	17.10
Gondal	0.4	59	3.52	59	3.52	59	3.52	59	3.52	59	3.52	295	17.60
Jam Kandorna	0.4	27	1.62	27	1.62	27	1.62	27	1.62	27	1.62	135	8.10
Upleta	0.4	38	2.29	38	2.29	38	2.29	38	2.29	38	2.29	190	11.50
Dhoraji	0.4	24	1.47	24	1.47	24	1.47	24	1.47	24	1.47	120	7.40
Jetpur	0.4	33	2.00	33	2.00	33	2.00	33	2.00	33	2.00	165	10.0
Total		500	30.00	500	30.00	500	30.00	500	30.00	500	30.00	2500	150.00

Table 4.11.4.5 Varietal demonstration on soybean

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	1.19	46	1.19	46	1.19	46	1.19	46	1.19	230	5.95
Morbi	0.4	71	1.81	71	1.81	71	1.81	71	1.81	71	1.81	355	9.05
Tankara	0.4	44	1.14	44	1.14	44	1.14	44	1.14	44	1.14	220	5.70
Wankaner	0.4	53	1.35	53	1.35	53	1.35	53	1.35	53	1.35	265	6.75
Paddhari	0.4	40	1.02	40	1.02	40	1.02	40	1.02	40	1.02	200	5.10
Rajkot	0.4	58	1.50	58	1.50	58	1.50	58	1.50	58	1.50	290	7.50
Lodhika	0.4	24	0.61	24	0.61	24	0.61	24	0.61	24	0.61	120	3.05
Kotada Sangani	0.4	30	0.78	30	0.78	30	0.78	30	0.78	30	0.78	150	3.90
Jasdan	0.4	80	2.07	80	2.07	80	2.07	80	2.07	80	2.07	400	10.35
Gondal	0.4	82	2.11	82	2.11	82	2.11	82	2.11	82	2.11	410	10.55
Jam Kandorna	0.4	38	0.97	38	0.97	38	0.97	38	0.97	38	0.97	190	4.85
Upleta	0.4	53	1.37	53	1.37	53	1.37	53	1.37	53	1.37	265	6.85
Dhoraji	0.4	34	0.88	34	0.88	34	0.88	34	0.88	34	0.88	170	4.40
Jetpur	0.4	47	1.20	47	1.20	47	1.20	47	1.20	47	1.20	235	6.00
Total		700	18.00	700	18.00	700	18.00	700	18.00	700	18.00	3500	90.00

Table 4.11.4.6 Varietal demonstration on wheat

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	1.98	46	1.98	46	1.98	46	1.98	46	1.98	230	9.90
Morbi	0.4	71	3.03	71	3.03	71	3.03	71	3.03	71	3.03	355	15.15
Tankara	0.4	44	1.89	44	1.89	44	1.89	44	1.89	44	1.89	220	9.45
Wankaner	0.4	53	2.25	53	2.25	53	2.25	53	2.25	53	2.25	265	11.25
Paddhari	0.4	40	1.70	40	1.70	40	1.70	40	1.70	40	1.70	200	8.50
Rajkot	0.4	58	2.50	58	2.50	58	2.50	58	2.50	58	2.50	290	12.50
Lodhika	0.4	24	1.02	24	1.02	24	1.02	24	1.02	24	1.02	120	5.10
Kotada Sangani	0.4	30	1.29	30	1.29	30	1.29	30	1.29	30	1.29	150	6.45
Jasdan	0.4	80	3.44	80	3.44	80	3.44	80	3.44	80	3.44	400	17.20
Gondal	0.4	82	3.52	82	3.52	82	3.52	82	3.52	82	3.52	410	17.60
Jam Kandorna	0.4	38	1.62	38	1.62	38	1.62	38	1.62	38	1.62	190	8.10
Upleta	0.4	53	2.29	53	2.29	53	2.29	53	2.29	53	2.29	265	11.45
Dhoraji	0.4	34	1.47	34	1.47	34	1.47	34	1.47	34	1.47	170	7.35
Jetpur	0.4	47	2.00	47	2.00	47	2.00	47	2.00	47	2.00	235	10.00
Total		700	30.00	700	30.00	700	30.00	700	30.00	700	30.00	3500	150.00

Table 4.11.4.7 Varietal demonstration on gram

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	2.51	46	2.51	46	2.51	46	2.51	46	2.51	230	12.55
Morbi	0.4	71	3.83	71	3.83	71	3.83	71	3.83	71	3.83	355	19.15
Tankara	0.4	44	2.40	44	2.40	44	2.40	44	2.40	44	2.40	220	12.00
Wankaner	0.4	53	2.85	53	2.85	53	2.85	53	2.85	53	2.85	265	14.25
Paddhari	0.4	40	2.16	40	2.16	40	2.16	40	2.16	40	2.16	200	10.80
Rajkot	0.4	58	3.16	58	3.16	58	3.16	58	3.16	58	3.16	290	15.80
Lodhika	0.4	24	1.29	24	1.29	24	1.29	24	1.29	24	1.29	120	6.45
Kotada Sangani	0.4	30	1.64	30	1.64	30	1.64	30	1.64	30	1.64	150	8.20
Jasdan	0.4	80	4.36	80	4.36	80	4.36	80	4.36	80	4.36	400	21.80
Gondal	0.4	82	4.46	82	4.46	82	4.46	82	4.46	82	4.46	410	22.30
Jam Kandorna	0.4	38	2.05	38	2.05	38	2.05	38	2.05	38	2.05	190	10.25
Upleta	0.4	53	2.89	53	2.89	53	2.89	53	2.89	53	2.89	265	14.45
Dhoraji	0.4	34	1.86	34	1.86	34	1.86	34	1.86	34	1.86	170	9.30
Jetpur	0.4	47	2.54	47	2.54	47	2.54	47	2.54	47	2.54	235	12.70
Total		700	38.00	700	38.00	700	38.00	700	38.00	700	38.00	3500	190.00

Table 4.11.4.8 Varietal demonstration on castor

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	33	1.45	33	1.45	33	1.45	33	1.45	33	1.45	165	7.25
Morbi	0.4	50	2.21	50	2.21	50	2.21	50	2.21	50	2.21	250	11.05
Tankara	0.4	32	1.39	32	1.39	32	1.39	32	1.39	32	1.39	160	6.95
Wankaner	0.4	38	1.65	38	1.65	38	1.65	38	1.65	38	1.65	190	8.25
Paddhari	0.4	28	1.25	28	1.25	28	1.25	28	1.25	28	1.25	140	6.25
Rajkot	0.4	42	1.83	42	1.83	42	1.83	42	1.83	42	1.83	210	9.15
Lodhika	0.4	17	0.75	17	0.75	17	0.75	17	0.75	17	0.75	85	3.75
Kotada Sangani	0.4	22	0.95	22	0.95	22	0.95	22	0.95	22	0.95	110	4.75
Jasdan	0.4	57	2.52	57	2.52	57	2.52	57	2.52	57	2.52	285	12.60
Gondal	0.4	59	2.58	59	2.58	59	2.58	59	2.58	59	2.58	295	12.90
Jam Kandorna	0.4	27	1.19	27	1.19	27	1.19	27	1.19	27	1.19	135	5.95
Upleta	0.4	38	1.68	38	1.68	38	1.68	38	1.68	38	1.68	190	8.40
Dhoraji	0.4	24	1.08	24	1.08	24	1.08	24	1.08	24	1.08	120	5.40
Jetpur	0.4	33	1.47	33	1.47	33	1.47	33	1.47	33	1.47	165	7.35
Total		500	22.00	500	22.00	500	22.00	500	22.00	500	22.00	2500	110.00

Table 4.11.4.9 Varietal Demonstration on green gram

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	0.79	46	0.79	46	0.79	46	0.79	46	0.79	230	3.95
Morbi	0.4	71	1.20	71	1.20	71	1.20	71	1.20	71	1.20	355	6.00
Tankara	0.4	44	0.76	44	0.76	44	0.76	44	0.76	44	0.76	220	3.80
Wankaner	0.4	53	0.90	53	0.90	53	0.90	53	0.90	53	0.90	265	4.50
Paddhari	0.4	40	0.68	40	0.68	40	0.68	40	0.68	40	0.68	200	3.40
Rajkot	0.4	58	1.00	58	1.00	58	1.00	58	1.00	58	1.00	290	5.00
Lodhika	0.4	24	0.41	24	0.41	24	0.41	24	0.41	24	0.41	120	2.05
Kotada Sangani	0.4	30	0.52	30	0.52	30	0.52	30	0.52	30	0.52	150	2.60
Jasdan	0.4	80	1.38	80	1.38	80	1.38	80	1.38	80	1.38	400	6.90
Gondal	0.4	82	1.41	82	1.41	82	1.41	82	1.41	82	1.41	410	7.05
Jam Kandorna	0.4	38	0.65	38	0.65	38	0.65	38	0.65	38	0.65	190	3.25
Upleta	0.4	53	0.91	53	0.91	53	0.91	53	0.91	53	0.91	265	4.55
Dhoraji	0.4	34	0.59	34	0.59	34	0.59	34	0.59	34	0.59	170	2.95
Jetpur	0.4	47	0.80	47	0.80	47	0.80	47	0.80	47	0.80	235	4.00
Total		700	12.00	700	12.00	700	12.00	700	12.00	700	12.00	3500	60.00

Table 4.11.4.10 Varietal demonstration on blackgram

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	46	0.79	46	0.79	46	0.79	46	0.79	46	0.79	230	3.95
Morbi	0.4	71	1.20	71	1.20	71	1.20	71	1.20	71	1.20	355	6.00
Tankara	0.4	44	0.76	44	0.76	44	0.76	44	0.76	44	0.76	220	3.80
Wankaner	0.4	53	0.90	53	0.90	53	0.90	53	0.90	53	0.90	265	4.50
Paddhari	0.4	40	0.68	40	0.68	40	0.68	40	0.68	40	0.68	200	3.40
Rajkot	0.4	58	1.00	58	1.00	58	1.00	58	1.00	58	1.00	290	5.00
Lodhika	0.4	24	0.41	24	0.41	24	0.41	24	0.41	24	0.41	120	2.05
Kotada Sangani	0.4	30	0.52	30	0.52	30	0.52	30	0.52	30	0.52	150	2.60
Jasdan	0.4	80	1.38	80	1.38	80	1.38	80	1.38	80	1.38	400	6.90
Gondal	0.4	82	1.41	82	1.41	82	1.41	82	1.41	82	1.41	410	7.05
Jam Kandorna	0.4	38	0.65	38	0.65	38	0.65	38	0.65	38	0.65	190	3.25
Upleta	0.4	53	0.91	53	0.91	53	0.91	53	0.91	53	0.91	265	4.55
Dhoraji	0.4	34	0.59	34	0.59	34	0.59	34	0.59	34	0.59	170	2.95
Jetpur	0.4	47	0.80	47	0.80	47	0.80	47	0.80	47	0.80	235	4.00
Total		700	12.00	700	12.00	700	12.00	700	12.00	700	12.00	3500	60.00

Table 4.11.4.11 Varietal demonstration on cumin

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya Miyana	0.4	33	1.32	33	1.32	33	1.32	33	1.32	33	1.32	165	6.60
Morbi	0.4	50	2.01	50	2.01	50	2.01	50	2.01	50	2.01	250	10.05
Tankara	0.4	32	1.26	32	1.26	32	1.26	32	1.26	32	1.26	160	6.30
Wankaner	0.4	38	1.50	38	1.50	38	1.50	38	1.50	38	1.50	190	7.50
Paddhari	0.4	28	1.14	28	1.14	28	1.14	28	1.14	28	1.14	140	5.70
Rajkot	0.4	42	1.66	42	1.66	42	1.66	42	1.66	42	1.66	210	8.30
Lodhika	0.4	17	0.68	17	0.68	17	0.68	17	0.68	17	0.68	85	3.40
Kotada Sangani	0.4	22	0.86	22	0.86	22	0.86	22	0.86	22	0.86	110	4.30
Jasdan	0.4	57	2.30	57	2.30	57	2.30	57	2.30	57	2.30	285	11.50
Gondal	0.4	59	2.35	59	2.35	59	2.35	59	2.35	59	2.35	295	11.75
Jam Kandorna	0.4	27	1.08	27	1.08	27	1.08	27	1.08	27	1.08	135	5.40
Upleta	0.4	38	1.52	38	1.52	38	1.52	38	1.52	38	1.52	190	7.60
Dhoraji	0.4	24	0.98	24	0.98	24	0.98	24	0.98	24	0.98	120	4.90
Jetpur	0.4	33	1.34	33	1.34	33	1.34	33	1.34	33	1.34	165	6.70
Total		500	20.00	500	20.00	500	20.00	500	20.00	500	20.00	2500	100.00

Table: 4.11.4.12 Varietal demonstration (Crop-wise – for District as a whole)

(Phy- No. of demonstrations, Fin – Rs. in lakhs)

Name of Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Cotton	0.4	700	22.0	700	22.0	700	22.0	700	22.0	700	22.0	3500	110.00
Groundnut	0.4	1000	45.0	1000	45.0	1000	45.0	1000	45.0	1000	45.0	5000	225.00
Sorghum	O.4	600	19.00	600	19.00	600	19.00	600	19.00	600	19.00	3000	95.00
Maize	0.4	500	30.0	500	30.0	500	30.0	500	30.0	500	30.0	2500	150.00
Soybean	0.4	700	18.00	700	18.00	700	18.00	700	18.00	700	18.00	3500	90.00
Wheat	0.4	700	30.0	700	30.0	700	30.0	700	30.0	700	30.0	3500	150.00
Gram	0.4	700	38.00	700	38.00	700	38.00	700	38.00	700	38.00	3500	190.00
Castor	0.4	500	22.00	500	22.00	500	22.00	500	22.00	500	22.00	2500	110.00
Green gram	0.4	700	12.00	700	12.00	700	12.00	700	12.00	700	12.00	3500	60.00
Urid	0.4	700	12.00	700	12.00	700	12.00	700	12.00	700	12.00	3500	60.00
Cumin	0.4	500	20.0	500	20.0	500	20.0	500	20.0	500	20.0	3500	100.0
Total	---	7300	268	7300	268	7300	268	7300	268	7300	268	37500	1340

4.11.5 Seed quantity requirement and SRR

The seed quantity requirement of different crops and SRR for next five year is presented in Table 4.11.5.1.

Table: 4.11.5.1 Requirement of seed and SRR

Crop	Area, ('000 ha)	Seed rate kg/ha	Total Seed quantity, tonne	SRR	Seed quantity Required, tonne				
					2012-13	2013-14	2014-15	2015-16	2016-17
Bt. Cotton	330	2.5	825	100	825	825	825	825	825
Groundnut	301	120	36120	20	7224	8308	8669	9030	9030
Castor	15	6	90	100	90	110	130	140	150
Sesame	19	3	57	50	25	26	7	27	28
Gram	11	60	660	12	79	92	92	106	119
pulses	9.5	12	114	15	17	19	16	24	26

4.11.6 Demonstrations on Plant health management

Demonstrations on Plant health management in next five years at taluka level on different crops with 0.4 hectare per demonstration is given in Tab. 4.11.6.1 to 4.11.6.6 and at district level with total financial outlay of Rs. 409.50 lakhs under different crops is given in Tab.4.11.6.7

Table 4.11.6.1: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for groundnut.

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	20	0.36	20	0.36	20	0.36	20	0.36	20	0.36	100	1.80
Morbi	0.4	75	1.35	75	1.35	75	1.35	75	1.35	75	1.35	375	6.75
Tankara	0.4	60	1.08	60	1.08	60	1.08	60	1.08	60	1.08	300	5.40
Wankaner	0.4	20	0.36	20	0.36	20	0.36	20	0.36	20	0.36	100	1.80
Padadhari	0.4	70	1.26	70	1.26	70	1.26	70	1.26	70	1.26	350	6.30
Rajkot	0.4	100	1.80	100	1.80	100	1.80	100	1.80	100	1.80	500	9.00
Lodhika	0.4	55	0.99	55	0.99	55	0.99	55	0.99	55	0.99	275	4.95
Kotada Sangani	0.4	55	0.99	55	0.99	55	0.99	55	0.99	55	0.99	275	4.95
Jasdan	0.4	100	1.8	100	1.80	100	1.80	100	1.80	100	1.80	500	9.00
Gondal	0.4	135	2.43	135	2.43	135	2.43	135	2.43	135	2.43	675	12.15
Jam Kandorana	0.4	65	1.17	65	1.17	65	1.17	65	1.17	65	1.17	325	5.85
Upleta	0.4	110	1.98	110	1.98	110	1.98	110	1.98	110	1.98	550	9.90
Dhoraji	0.4	60	1.08	60	1.08	60	1.08	60	1.08	60	1.08	300	5.40
Jetpur	0.4	75	1.35	75	1.35	75	1.35	75	1.35	75	1.35	375	6.75
Total		1000	18.00	1000	18.0	1000	18.0	1000	18.0	1000	18.0	5000	90.00

Table 4.11.6.2: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for cotton.

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	67	1.34	67	1.34	67	1.34	67	1.34	67	1.34	335	6.70
Morbi	0.4	62	1.24	62	1.24	62	1.24	62	1.24	62	1.24	310	6.20
Tankara	0.4	46	0.92	46	0.92	46	0.92	46	0.92	46	0.92	230	4.60
Wankaner	0.4	82	1.64	82	1.64	82	1.64	82	1.64	82	1.64	410	8.20
Padadhari	0.4	26	0.52	26	0.52	26	0.52	26	0.52	26	0.52	130	2.60
Rajkot	0.4	48	0.96	48	0.96	48	0.96	48	0.96	48	0.96	240	4.80
Lodhika	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
Kotada Sangani	0.4	30	0.60	30	0.60	30	0.60	30	0.60	30	0.60	150	3.00
Jasdan	0.4	75	1.50	75	1.50	75	1.50	75	1.50	75	1.50	375	7.5
Gondal	0.4	90	1.80	90	1.80	90	1.80	90	1.80	90	1.80	450	9.00
Jam Kandorana	0.4	37	0.74	37	0.74	37	0.74	37	0.74	37	0.74	185	3.70
Upleta	0.4	32	0.64	32	0.64	32	0.64	32	0.64	32	0.64	160	3.20
Dhoraji	0.4	40	0.80	40	0.80	40	0.80	40	0.80	40	0.80	200	4.00
Jetpur	0.4	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
Total		700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00

Table 4.11.6.3: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for pulses.

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	18	0.36	18	0.36	18	0.36	18	0.36	18	0.36	90	1.80
Morbi	0.4	94	1.88	94	1.88	94	1.88	94	1.88	94	1.88	470	9.40
Tankara	0.4	35	0.70	35	0.70	35	0.70	35	0.70	35	0.70	175	3.50
Wankaner	0.4	30	0.60	30	0.60	30	0.60	30	0.60	30	0.60	150	3.00
Padadhari	0.4	84	1.68	84	1.68	84	1.68	84	1.68	84	1.68	420	8.40
Rajkot	0.4	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
Lodhika	0.4	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.00
Kotada Sangani	0.4	35	0.70	35	0.70	35	0.70	35	0.70	35	0.70	175	3.50
Jasdan	0.4	177	3.54	177	3.54	177	3.54	177	3.54	177	3.54	885	17.70
Gondal	0.4	6	0.12	6	0.12	6	0.12	6	0.12	6	0.12	30	0.60
Jam Kandorana	0.4	9	0.18	9	0.18	9	0.18	9	0.18	9	0.18	45	0.90
Upleta	0.4	23	0.46	23	0.46	23	0.46	23	0.46	23	0.46	115	2.30
Dhoraji	0.4	51	1.02	51	1.02	51	1.02	51	1.02	51	1.02	255	5.10
Jetpur	0.4	38	0.76	38	0.76	38	0.76	38	0.76	38	0.76	190	3.80
Total		700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00

Table 4.11.6.4: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for sesame

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	89	1.602	89	1.602	89	1.602	89	1.602	89	1.602	445	8.01
Morbi	0.4	236	4.248	236	4.248	236	4.248	236	4.248	236	4.248	1180	21.24
Tankara	0.4	33	0.594	33	0.594	33	0.594	33	0.594	33	0.594	165	2.97
Wankaner	0.4	45	0.810	45	0.810	45	0.810	45	0.810	45	0.810	225	4.05
Padadhari	0.4	12	0.216	12	0.216	12	0.216	12	0.216	12	0.216	60	1.08
Rajkot	0.4	17	0.306	17	0.306	17	0.306	17	0.306	17	0.306	85	1.53
Lodhika	0.4	3	0.054	3	0.054	3	0.054	3	0.054	3	0.054	15	0.27
Kotada Sangani	0.4	3	0.054	3	0.054	3	0.054	3	0.054	3	0.054	15	0.27
Jasdan	0.4	36	0.648	36	0.648	36	0.648	36	0.648	36	0.648	180	3.24
Gondal	0.4	2	0.036	2	0.036	2	0.036	2	0.036	2	0.036	10	0.18
Jam Kandorana	0.4	8	0.144	8	0.144	8	0.144	8	0.144	8	0.144	40	0.72
Upleta	0.4	4	0.072	4	0.072	4	0.072	4	0.072	4	0.072	20	0.36
Dhoraji	0.4	8	0.144	8	0.144	8	0.144	8	0.144	8	0.144	40	0.72
Jetpur	0.4	4	0.072	4	0.072	4	0.072	4	0.072	4	0.072	20	0.36
Total		500	9.00	500	9.00	500	9.00	500	9.00	500	9.00	2500	45.00

Table 4.11.6.5: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for gram.

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	6	0.12	6	0.12	6	0.12	6	0.12	6	0.12	30	0.60
Morbi	0.4	5	0.10	5	0.10	5	0.10	5	0.10	5	0.10	25	0.50
Tankara	0.4	223	4.46	223	4.46	223	4.46	223	4.46	223	4.46	1115	22.30
Wankaner	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
Padadhari	0.4	85	1.70	85	1.70	85	1.70	85	1.70	85	1.70	425	8.50
Rajkot	0.4	56	1.12	56	1.12	56	1.12	56	1.12	56	1.12	280	5.60
Lodhika	0.4	19	0.38	19	0.38	19	0.38	19	0.38	19	0.38	95	1.90
Kotada Sangani	0.4	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.30
Jasdan	0.4	88	1.76	88	1.76	88	1.76	88	1.76	88	1.76	440	8.80
Gondal	0.4	115	2.30	115	2.30	115	2.30	115	2.30	115	2.30	575	11.50
Jam Kandorana	0.4	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.00
Upleta	0.4	29	0.58	29	0.58	29	0.58	29	0.58	29	0.58	145	2.90
Dhoraji	0.4	11	0.22	11	0.22	11	0.22	11	0.22	11	0.22	55	1.10
Jetpur	0.4	28	0.56	28	0.56	28	0.56	28	0.56	28	0.56	140	2.80
Total		700	14	700	14	700	14	700	14	700	14	3500	70.00

Table 4.11.6.6: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for wheat

(Phy – Number of demonstarions, Fin – Rs. in Lakhs)

Name of taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.4	2	0.034	2	0.034	2	0.034	2	0.034	2	0.034	10	0.170
Morbi	0.4	16	0.272	16	0.272	16	0.272	16	0.272	16	0.272	80	1.360
Tankara	0.4	51	0.867	51	0.867	51	0.867	51	0.867	51	0.867	255	4.335
Wankaner	0.4	45	0.765	45	0.765	45	0.765	45	0.765	45	0.765	225	3.825
Padadhari	0.4	120	2.040	120	2.040	120	2.040	120	2.040	120	2.040	600	10.20
Rajkot	0.4	81	1.377	81	1.377	81	1.377	81	1.377	81	1.377	405	6.885
Lodhika	0.4	10	0.170	10	0.170	10	0.170	10	0.170	10	0.170	50	0.850
Kotada Sangani	0.4	12	0.204	12	0.204	12	0.204	12	0.204	12	0.204	60	1.020
Jasdan	0.4	61	1.037	61	1.037	61	1.037	61	1.037	61	1.037	305	5.185
Gondal	0.4	45	0.765	45	0.765	45	0.765	45	0.765	45	0.765	225	3.825
Jam Kandorana	0.4	31	0.527	31	0.527	31	0.527	31	0.527	31	0.527	155	2.635
Upleta	0.4	85	1.445	85	1.445	85	1.445	85	1.445	85	1.445	425	7.225
Dhoraji	0.4	70	1.190	70	1.190	70	1.190	70	1.190	70	1.190	350	5.950
Jetpur	0.4	71	1.207	71	1.207	71	1.207	71	1.207	71	1.207	355	6.035
Total		700	11.90	700	11.90	700	11.90	700	11.90	700	11.90	3500	59.50

Table : 4.11.6.7: Demonstrations on plant health management to be conducted including seed treatment with bio-pesticides for different crops.

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Name of Crop	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Cotton	0.4	700	15.00	700	15.00	700	15.00	700	15.00	700	15.00	3500	75.00
Groundnut	0.4	1000	18.00	1000	18.00	1000	18.00	1000	18.00	1000	18.00	5000	90.00
Pulses	0.4	700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00
Sesame	0.4	500	9.00	500	9.00	500	9.00	500	9.00	500	9.00	2500	45.00
Gram	0.4	700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00
Wheat	0.4	700	11.90	700	11.90	700	11.90	700	11.90	700	11.90	3500	59.50
Total	---	4300	81.90	4300	81.90	4300	81.90	4300	81.90	4300	81.90	21500	409.50

4.11.7 Demonstrations on soil health management

Demonstrations on soil health management in next five years at taluka level for different crops, crop diversification and soil reclamation with 0.4 hectare per demonstration is given in Tab. 4.11.7.1 to 4.11.7.9 and at district level with total financial outlay of Rs. 520 lakhs for different crops,crop diversification and soil reclamation is given in Tab.4.11.7.10

Table 4.11.7.1: Demonstrations on soil health management use of bio fertilizers and bio compost for cotton.

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	155	3.08	155	3.08	155	3.08	155	3.08	155	3.08	775	15.40
2	Morbi	0.4	140	2.82	140	2.82	140	2.82	140	2.82	140	2.82	700	14.10
3	Tankara	0.4	105	2.10	105	2.10	105	2.10	105	2.10	105	2.10	525	10.50
4	Wankaner	0.4	190	3.80	190	3.80	190	3.80	190	3.80	190	3.80	950	19.00
5	Paddhari	0.4	60	1.20	60	1.20	60	1.20	60	1.20	60	1.20	300	6.00
6	Rajkot	0.4	110	2.20	110	2.20	110	2.20	110	2.20	110	2.20	550	11.00
7	Lodhika	0.4	30	0.60	30	0.60	30	0.60	30	0.60	30	0.60	150	3.00
8	Kotada Sangani	0.4	70	1.40	70	1.40	70	1.40	70	1.40	70	1.40	350	7.00
9	Jasdan	0.4	170	3.40	170	3.40	170	3.40	170	3.40	170	3.40	850	17.00
10	Gondal	0.4	205	4.10	205	4.10	205	4.10	205	4.10	205	4.10	1025	20.50
11	Jam Kandorna	0.4	85	1.70	85	1.70	85	1.70	85	1.70	85	1.70	425	8.50
12	Upleta	0.4	75	1.50	75	1.50	75	1.50	75	1.50	75	1.50	375	7.50
13	Dhoraji	0.4	90	1.80	90	1.80	90	1.80	90	1.80	90	1.80	450	9.00
14	Jetpur	0.4	115	2.30	115	2.30	115	2.30	115	2.30	115	2.30	575	11.50
	Total		1600	32	1600	32	1600	32	1600	32	1600	32	8000	160.00

Table 4.11.7.2: Demonstrations on soil health management use of bio fertilizers and bio compost for groundnut

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	25	0.5	25	0.5	25	0.5	25	0.5	25	0.5	125	2.5
2	Morbi	0.4	150	3.00	150	3.00	150	3.00	150	3.00	150	3.00	750	15.0
3	Tankara	0.4	110	2.2	110	2.2	110	2.2	110	2.2	110	2.2	550	11.0
4	Wankaner	0.4	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3.0
5	Paddhari	0.4	110	2.2	110	2.2	110	2.2	110	2.2	110	2.2	550	11.0
6	Rajkot	0.4	170	3.4	170	3.4	170	3.4	170	3.4	170	3.4	850	17.0
7	Lodhika	0.4	90	1.8	90	1.8	90	1.8	90	1.8	90	1.8	450	9.0
8	Kotada Sangani	0.4	90	1.8	90	1.8	90	1.8	90	1.8	90	1.8	450	9.0
9	Jasdan	0.4	170	3.4	170	3.4	170	3.4	170	3.4	170	3.4	850	17.0
10	Gondal	0.4	225	4.5	225	4.5	225	4.5	225	4.5	225	4.5	1125	22.5
11	Jam Kandorna	0.4	110	2.2	110	2.2	110	2.2	110	2.2	110	2.2	550	11.0
12	Upleta	0.4	190	3.8	190	3.8	190	3.8	190	3.8	190	3.8	950	19.0
13	Dhoraji	0.4	100	2	100	2	100	2	100	2	100	2	500	10.0
14	Jetpur	0.4	130	2.6	130	2.6	130	2.6	130	2.6	130	2.6	650	13.0
	Total		1700	34	1700	34	1700	34	1700	34	1700	34	8500	170.00

Table 4.11.7.3: Demonstrations on soil health management use of bio fertilizers and bio compost for sesame

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	35	0.7	35	0.7	35	0.7	35	0.7	35	0.7	175	3.5
2	Morbi	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2.0
3	Tankara	0.4	25	0.5	25	0.5	25	0.5	25	0.5	25	0.5	125	2.5
4	Wankaner	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2.0
5	Paddhari	0.4	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3.0
6	Rajkot	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1.0
7	Lodhika	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2.0
8	Kotada Sangani	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1.0
9	Jasdan	0.4	15	0.3	15	0.3	15	0.3	15	0.3	15	0.3	75	1.5
10	Gondal	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
11	Jam Kandorna	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
12	Upleta	0.4	0	0	0	0	0	0	0	0	0	0	0	0.
13	Dhoraji	0.4	0	0	0	0	0	0	0	0	0	0	0	0
14	Jetpur	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
	Total		200	4	200	4	200	4	200	4	200	4	1000	20

Table 4.11.7.4: Demonstrations on soil health management use of bio fertilizers and bio compost for castor

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3
2	Morbi	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2
3	Tankara	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
4	Wankaner	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
5	Paddhari	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
6	Rajkot	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
7	Lodhika	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
8	Kotada Sangani	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
9	Jasdan	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
10	Gondal	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
11	Jam Kandorna	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
12	Upleta	0.4	80	1.6	80	1.6	80	1.6	80	1.6	80	1.6	400	8
13	Dhoraji	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
14	Jetpur	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
	Total		200	4	200	4	200	4	200	4	200	4	1000	20

Table 4.11.7.5: Demonstrations on soil health management use of bio fertilizers and bio compost for wheat

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.50
2	Morbi	0.4	50	1	50	1	50	1	50	1	50	1	250	5.00
3	Tankara	0.4	50	1	50	1	50	1	50	1	50	1	250	5.00
4	Wankaner	0.4	45	0.9	45	0.9	45	0.9	45	0.9	45	0.9	225	4.50
5	Paddhari	0.4	80	1.6	80	1.6	80	1.6	80	1.6	80	1.6	400	8.00
6	Rajkot	0.4	80	1.6	80	1.6	80	1.6	80	1.6	80	1.6	400	8.00
7	Lodhika	0.4	15	0.3	15	0.3	15	0.3	15	0.3	15	0.3	75	1.50
8	Kotada Sangani	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2.00
9	Jasdan	0.4	60	1.2	60	1.2	60	1.2	60	1.2	60	1.2	300	6.00
10	Gondal	0.4	40	0.8	40	0.8	40	0.8	40	0.8	40	0.8	200	4.00
11	Jam Kandorna	0.4	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3.00
12	Upleta	0.4	85	1.7	85	1.7	85	1.7	85	1.7	85	1.7	425	8.50
13	Dhoraji	0.4	70	1.4	70	1.4	70	1.4	70	1.4	70	1.4	350	7.00
14	Jetpur	0.4	70	1.4	70	1.4	70	1.4	70	1.4	70	1.4	350	7.00
	Total		700	14	700	14	700	14	700	14	700	14	3500	70.00

Table 4.11.7.6: Demonstrations on soil health management use of bio fertilizers and bio compost for gram

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.2
2	Morbi	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2
3	Tankara	0.4	60	1.2	60	1.2	60	1.2	60	1.2	60	1.2	300	6
4	Wankaner	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
5	Paddhari	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2
6	Rajkot	0.4	15	0.3	15	0.3	15	0.3	15	0.3	15	0.3	75	1.5
7	Lodhika	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
8	Kotada Sangani	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
9	Jasdan	0.4	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3
10	Gondal	0.4	20	0.4	20	0.4	20	0.4	20	0.4	20	0.4	100	2
11	Jam Kandorna	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
12	Upleta	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
13	Dhoraji	0.4	3	0.06	3	0.06	3	0.06	3	0.06	3	0.06	15	0.3
14	Jetpur	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
	Total		200	4	200	4	200	4	200	4	200	4	1000	20

Table 4.11.7.7: Demonstrations on soil health management use of bio fertilizers and bio compost for pulses

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
2	Morbi	0.4	18	0.36	18	0.36	18	0.36	18	0.36	18	0.36	90	1.8
3	Tankara	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
4	Wankaner	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
5	Paddhari	0.4	25	0.5	25	0.5	25	0.5	25	0.5	25	0.5	125	2.5
6	Rajkot	0.4	22	0.44	22	0.44	22	0.44	22	0.44	22	0.44	110	2.2
7	Lodhika	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
8	Kotada Sangani	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
9	Jasdan	0.4	50	1	50	1	50	1	50	1	50	1	250	5
10	Gondal	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
11	Jam Kandorna	0.4	5	0.1	5	0.1	5	0.1	5	0.1	5	0.1	25	0.5
12	Upleta	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
13	Dhoraji	0.4	15	0.3	15	0.3	15	0.3	15	0.3	15	0.3	75	1.5
14	Jetpur	0.4	10	0.2	10	0.2	10	0.2	10	0.2	10	0.2	50	1
	Total		200	4	200	4	200	4	200	4	200	4	1000	20

Table 4.11.7.8: Demonstrations on soil health management use of bio fertilizers and bio compost for crop diversification

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.30
2	Morbi	0.4	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.00
3	Tankara	0.4	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.30
4	Wankaner	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
5	Paddhari	0.4	11	0.22	11	0.22	11	0.22	11	0.22	11	0.22	55	1.10
6	Rajkot	0.4	17	0.34	17	0.34	17	0.34	17	0.34	17	0.34	85	1.70
7	Lodhika	0.4	7	0.14	7	0.14	7	0.14	7	0.14	7	0.14	35	0.70
8	Kotada Sangani	0.4	9	0.18	9	0.18	9	0.18	9	0.18	9	0.18	45	0.90
9	Jasdan	0.4	23	0.46	23	0.46	23	0.46	23	0.46	23	0.46	115	2.30
10	Gondal	0.4	23	0.46	23	0.46	23	0.46	23	0.46	23	0.46	115	2.30
11	Jam Kandorna	0.4	11	0.22	11	0.22	11	0.22	11	0.22	11	0.22	55	1.10
12	Upleta	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
13	Dhoraji	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
14	Jetpur	0.4	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.30
	Total		200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.00

Table 4.11.7.9: Demonstrations on soil health management use of bio fertilizers and bio compost for soil reclamation

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	130	2.6	130	2.6	130	2.6	130	2.6	130	2.6	650	13
2	Morbi	0.4	70	1.4	70	1.4	70	1.4	70	1.4	70	1.4	350	7
3	Tankara	0.4	0	0	0	0	0	0	0	0	0	0	0	0
4	Wankaner	0.4	0	0	0	0	0	0	0	0	0	0	0	0
5	Paddhari	0.4	0	0	0	0	0	0	0	0	0	0	0	0
6	Rajkot	0.4	0	0	0	0	0	0	0	0	0	0	0	0
7	Lodhika	0.4	0	0	0	0	0	0	0	0	0	0	0	0
8	Kotada Sangani	0.4	0	0	0	0	0	0	0	0	0	0	0	0
9	Jasdan	0.4	0	0	0	0	0	0	0	0	0	0	0	0
10	Gondal	0.4	0	0	0	0	0	0	0	0	0	0	0	0
11	Jam Kandorna	0.4	0	0	0	0	0	0	0	0	0	0	0	0
12	Upleta	0.4	0	0	0	0	0	0	0	0	0	0	0	0
13	Dhoraji	0.4	0	0	0	0	0	0	0	0	0	0	0	0
14	Jetpur	0.4	0	0	0	0	0	0	0	0	0	0	0	0
	Total		200	4	200	4	200	4	200	4	200	4	1000	20

Table 4.11.7.10: Demonstrations on soil health management to be conducted during plan period including use of bio fertilizers and bio compost.

(Phy – Number of demonstarions, Fin – Rs. In lakhs)

Name of crop	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Cotton	0.4	1600	32.00	1600	32.00	1600	32.00	1600	32.00	1600	32.00	8000	160.0
Groundnut	0.4	1700	34.00	1700	34.00	1700	34.00	1700	34.00	1700	34.00	8500	170.0
Sesame	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
castor	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Wheat	0.4	700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.0
Gram	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
pluses	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Crop diver-sification	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Soil Reclamation	0.4	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Total	---	5200	104	5200	104	5200	104	5200	104	5200	104	26000	520

4.11.8 Demonstrations on IWM (Integrated weed management)

Demonstrations **on** integrated weed management in next five years at taluka level for different crops with 0.4 hectare per demonstration is given in Tab. 4.11.8.1 to 4.11.8.4 and at district level with total financial outlay of Rs. 220 lakhs for different crops is given in Tab.4.11.8.5

Table 4.11.8.1: Demonstrations on IWM (Integrated weed management) for cotton

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	67	1.34	67	1.34	67	1.34	67	1.34	67	1.34	335	6.70
2	Morbi	0.4	62	1.24	62	1.24	62	1.24	62	1.24	62	1.24	310	6.20
3	Tankara	0.4	46	0.92	46	0.92	46	0.92	46	0.92	46	0.92	230	4.60
4	Wankaner	0.4	82	1.64	82	1.64	82	1.64	82	1.64	82	1.64	410	8.20
5	Paddhari	0.4	26	0.52	26	0.52	26	0.52	26	0.52	26	0.52	130	2.60
6	Rajkot	0.4	48	0.96	48	0.96	48	0.96	48	0.96	48	0.96	240	4.80
7	Lodhika	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
8	Kotada Sangani	0.4	30	0.60	30	0.60	30	0.60	30	0.60	30	0.60	150	3.00
9	Jasdan	0.4	75	1.50	75	1.50	75	1.50	75	1.50	75	1.50	375	7.50
10	Gondal	0.4	90	1.80	90	1.80	90	1.80	90	1.80	90	1.80	450	9.00
11	Jam Kandorna	0.4	37	0.74	37	0.74	37	0.74	37	0.74	37	0.74	185	3.70
12	Upleta	0.4	32	0.64	32	0.64	32	0.64	32	0.64	32	0.64	160	3.20
13	Dhoraji	0.4	40	0.80	40	0.80	40	0.80	40	0.80	40	0.80	200	4.00
14	Jetpur	0.4	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
	Total		700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00

Table 4.11.8.2: Demonstrations on IWM (Integrated weed management) for groundnut

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
2	Morbi	0.4	11	0.22	11	0.22	11	0.22	11	0.22	11	0.22	55	1.10
3	Tankara	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
4	Wankaner	0.4	3	0.06	3	0.06	3	0.06	3	0.06	3	0.06	15	0.30
5	Paddhari	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
6	Rajkot	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
7	Lodhika	0.4	8	0.16	8	0.16	8	0.16	8	0.16	8	0.16	40	0.80
8	Kotada Sangani	0.4	8	0.16	8	0.16	8	0.16	8	0.16	8	0.16	40	0.80
9	Jasdan	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
10	Gondal	0.4	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.00
11	Jam Kandorna	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
12	Upleta	0.4	17	0.34	17	0.34	17	0.34	17	0.34	17	0.34	85	1.70
13	Dhoraji	0.4	9	0.18	9	0.18	9	0.18	9	0.18	9	0.18	45	0.90
14	Jetpur	0.4	12	0.24	12	0.24	12	0.24	12	0.24	12	0.24	60	1.20
	Total		150	3.00	150	3.00	150	3.00	150	3.00	150	3.00	750	15.00

Table 4.11.8.3: Demonstrations on IWM (Integrated weed management) for sesame

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.50
2	Morbi	0.4	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.00
3	Tankara	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
4	Wankaner	0.4	12	0.24	12	0.24	12	0.24	12	0.24	12	0.24	60	1.20
5	Paddhari	0.4	8	0.16	8	0.16	8	0.16	8	0.16	8	0.16	40	0.80
6	Rajkot	0.4	4	0.08	4	0.08	4	0.08	4	0.08	4	0.08	20	0.40
7	Lodhika	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
8	Kotada Sangani	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
9	Jasdan	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
10	Gondal	0.4	5	0.10	5	0.10	5	0.10	5	0.10	5	0.10	25	0.50
11	Jam Kandorna	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
12	Upleta	0.4	5	0.10	5	0.10	5	0.10	5	0.10	5	0.10	25	0.50
13	Dhoraji	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
14	Jetpur	0.4	3	0.06	3	0.06	3	0.06	3	0.06	3	0.06	15	0.30
	Total		100	2.0	100	2.0	100	2.0	100	2.0	100	2.0	500	10.00

Table 4.11.8.4: Demonstrations on IWM (Integrated weed management) for wheat

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Sr. No.	Taluka	Area of Demon. in ha	Number of demonstrations and financial requirements											
			2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	0.4	2	0.04	2	0.04	2	0.04	2	0.04	2	0.04	10	0.20
2	Morbi	0.4	16	0.32	16	0.32	16	0.32	16	0.32	16	0.32	80	1.60
3	Tankara	0.4	51	1.02	51	1.02	51	1.02	51	1.02	51	1.02	255	5.10
4	Wankaner	0.4	45	0.90	45	0.90	45	0.90	45	0.90	45	0.90	225	4.50
5	Paddhari	0.4	120	2.40	120	2.40	120	2.40	120	2.40	120	2.40	600	12.00
6	Rajkot	0.4	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
7	Lodhika	0.4	10	0.20	10	0.20	10	0.20	10	0.20	10	0.20	50	1.00
8	Kotada Sangani	0.4	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.30
9	Jasdan	0.4	61	1.22	61	1.22	61	1.22	61	1.22	61	1.22	305	6.10
10	Gondal	0.4	45	0.90	45	0.90	45	0.90	45	0.90	45	0.90	225	4.50
11	Jam Kandorna	0.4	31	0.62	31	0.62	31	0.62	31	0.62	31	0.62	155	3.10
12	Upleta	0.4	85	1.70	85	1.70	85	1.70	85	1.70	85	1.70	425	8.50
13	Dhoraji	0.4	70	1.40	70	1.40	70	1.40	70	1.40	70	1.40	350	7.00
14	Jetpur	0.4	71	1.42	71	1.42	71	1.42	71	1.42	71	1.42	355	7.10
	Total		700	14	700	14	700	14	700	14	700	14	3500	70.00

Table 4.11.8.5: Demonstrations on IWM (Integrated weed management) to be conducted during plan period (District as a whole)

(Phy – Number of demonstarions, Fin – Rs. in lakhs)

Name of Crop	Area of Demon. in ha	Number of demonstrations and financial requirements											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Cotton	0.4	700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00
Groundnut	0.4	150	3.00	150	3.00	150	3.00	150	3.00	150	3.00	750	15.00
Sesame	0.4	100	2.00	100	2.00	100	2.00	100	2.00	100	2.00	500	10.00
Wheat	0.4	700	14.00	700	14.00	700	14.00	700	14.00	700	14.00	3500	70.00
Total	---	2200	44	2200	44	2200	44	2200	44	2200	44	11000	220.00

4.11.9 Seed production enhancement:

Seed planning/ Seed village programme (Seed production enhancement) in next five years at taluka level for different crops is given in Tab. 4.11.9.1 to 4.11.9.6 and at district level with total financial outlay of Rs. 125 lakhs for different crops is given in Tab.4.11.9.7

Table 4.11.9.1: Seed planning/ seed village programme for groundnut

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Taluka	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	3	0.06	3	0.06	3	0.06	3	0.06	3	0.06	15	0.3
Morbi	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.5
Tankara	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.3
Wankaner	4	0.08	4	0.08	4	0.08	4	0.08	4	0.08	20	0.4
Padadhari	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.3
Rajkot	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.0
Lodhika	11	0.22	11	0.22	11	0.22	11	0.22	11	0.22	55	1.1
Kotada Sangani	12	0.24	12	0.24	12	0.24	12	0.24	12	0.24	60	1.2
Jasdan	20	0.40	20	0.40	20	0.40	20	0.40	20	0.40	100	2.0
Gondal	27	0.54	27	0.54	27	0.54	27	0.54	27	0.54	135	2.7
Jam Kandorana	13	0.26	13	0.26	13	0.26	13	0.26	13	0.26	65	1.3
Upleta	22	0.44	22	0.44	22	0.44	22	0.44	22	0.44	110	2.2
Dhoraji	12	0.24	12	0.24	12	0.24	12	0.24	12	0.24	60	1.2
Jetpur	15	0.30	15	0.30	15	0.30	15	0.30	15	0.30	75	1.5
Total	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20

Table 4.11.9.2: Seed planning/ seed village programme for gram

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Taluka	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Morbi	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Tankara	15.5	0.31	15.5	0.31	15.5	0.31	15.5	0.31	15.5	0.31	77.5	1.55
Wankaner	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Padadhari	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	30	0.60
Rajkot	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	20	0.40
Lodhika	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	5.0	0.10
Kotada Sangani	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	5.0	0.10
Jasdan	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	32.5	0.65
Gondal	8.0	0.16	8.0	0.16	8.0	0.16	8.0	0.16	8.0	0.16	40	0.80
Jam Kandorana	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Upleta	2.0	0.04	2.0	0.04	2.0	0.04	2.0	0.04	2.0	0.04	10.0	0.20
Dhoraji	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	5.0	0.10
Jetpur	2.0	0.04	2.0	0.04	2.0	0.04	2.0	0.04	2.0	0.04	10.0	0.20
Total	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00

Table 4.11.9.3: Seed planning/ seed village programme for wheat

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Taluka	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Morbi	5.0	0.10	5.0	0.10	5.0	0.10	5.0	0.10	5.0	0.10	25.0	0.50
Tankara	14.5	0.29	14.5	0.29	14.5	0.29	14.5	0.29	14.5	0.29	72.5	1.45
Wankaner	13.0	0.26	13.0	0.26	13.0	0.26	13.0	0.26	13.0	0.26	65.0	1.30
Padadhari	34.0	0.68	34.0	0.68	34.0	0.68	34.0	0.68	34.0	0.68	170.0	3.40
Rajkot	23.5	0.47	23.5	0.47	23.5	0.47	23.5	0.47	23.5	0.47	117.5	2.35
Lodhika	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	12.5	0.25
Kotada Sangani	3.5	0.07	3.5	0.07	3.5	0.07	3.5	0.07	3.5	0.07	17.5	0.35
Jasdan	17.5	0.35	17.5	0.35	17.5	0.35	17.5	0.35	17.5	0.35	87.5	1.75
Gondal	13.0	0.26	13.0	0.26	13.0	0.26	13.0	0.26	13.0	0.26	65.0	1.30
Jam Kandorana	9.0	0.18	9.0	0.18	9.0	0.18	9.0	0.18	9.0	0.18	45.0	0.90
Upleta	24.0	0.48	24.0	0.48	24.0	0.48	24.0	0.48	24.0	0.48	120.0	2.40
Dhoraji	20.0	0.40	20.0	0.40	20.0	0.40	20.0	0.40	20.0	0.40	100.0	2.00
Jetpur	20.0	0.40	20.0	0.40	20.0	0.40	20.0	0.40	20.0	0.40	100.0	2.00
Total	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.00

Table 4.11.9.4: Seed planning/ seed village programme for cumin

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Taluka	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	13.5	0.27
Morbi	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	13.5	0.27
Tankara	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	32.5	0.65
Wankaner	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	20.0	0.40
Padadhari	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Rajkot	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Lodhika	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	3.0	0.06
Kotada Sangani	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Jasdan	7.5	0.15	7.5	0.15	7.5	0.15	7.5	0.15	7.5	0.15	37.5	0.75
Gondal	9.0	0.18	9.0	0.18	9.0	0.18	9.0	0.18	9.0	0.18	45.0	0.9
Jam Kandorana	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Upleta	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	30.0	0.60
Dhoraji	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Jetpur	3.5	0.07	3.5	0.07	3.5	0.07	3.5	0.07	3.5	0.07	17.5	0.35
Total	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00

Table 4.11.9.5: Seed planning/ seed village programme for other pulses

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Taluka	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Morbi	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	6.5	0.13	32.5	0.65
Tankara	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	12.5	0.25
Wankaner	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	12.5	0.25
Padadhari	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	6.0	0.12	30.0	0.60
Rajkot	5.5	0.11	5.5	0.11	5.5	0.11	5.5	0.11	5.5	0.11	27.5	0.55
Lodhika	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	1.0	0.02	5.0	0.10
Kotada Sangani	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	2.5	0.05	12.5	0.25
Jasdan	12.5	0.25	12.5	0.25	12.5	0.25	12.5	0.25	12.5	0.25	62.5	1.25
Gondal	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Jam Kandorana	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	0.5	0.01	2.5	0.05
Upleta	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	1.5	0.03	7.5	0.15
Dhoraji	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	4.0	0.08	20.0	0.40
Jetpur	3.0	0.06	3.0	0.06	3.0	0.06	3.0	0.06	3.0	0.06	15.0	0.30
Total	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00

Table 4.11.9.6: Seed planning/ seed village programme for Monitoring area

(Fin – Rs. in lakhs)

Name of Taluka	financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Morbi	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Tankara	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Wankaner	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Padadhari	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Rajkot	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Lodhika	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Kotada Sangani	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Jasdan	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Gondal	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Jam Kandorana	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Upleta	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Dhoraji	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Jetpur	0	1.0	0	1.0	0	1.0	0	1.0	0	1.0	0	5.0
Total	0	14.0	0	14.0	0	14.0	0	14.0	0	14.0	0	70.0

Table 4.11.9.7: Seed planning/ seed village programme (District as a whole)

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of Crop	Area under seed production in ha. and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Groundnut	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Gram	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	200	5.0
Wheat	200	4.00	200	4.00	200	4.00	200	4.00	200	4.00	1000	20.0
Cumin	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	200	5.0
Other pulses	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	200	5.0
Monitoring	0	14.0	0	14.0	0	14.0	0	14.0	0	14.0	0	70.0
	550	25.0	550	25.0	550	25.0	550	25.0	550	25.0	2600	125.0

4.11.10 Seed storage at University /Panchayat level and taluka level

The seed storage University /Panchayat level and taluka level are proposed as 242 units with total financial requirements of Rs.890 lakhs. (Table 4.11.10)

Table 4.11.10: Seed storage at University /Panchayat level and taluka level

(Phy – No. of unit Fin – Rs. in lakhs)

Particulars	Number of storage godowns and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Modernization of University farms	3	75	-	-	-	-	-	-	-	-	3	75
Panchayat level	45	135	45	135	45	135	45	135	45	135	225	675
Taluka level	2	20	3	30	3	30	3	30	3	30	14	140
Total	50	230	48	165	48	165	48	165	48	165	242	890

4.11.11 Establishment of soil and water testing laboratory and mobile plant health clinic

The soil and water testing laboratory and mobile soil testing and plant health clinic van at taluka level are proposed in Table 4.11.11.1 to 4.11.11.3 with the total financial requirement of Rs.1260 lakhs.

Table 4.11.11.1: Establishment of soil and water testing laboratory at taluka level

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Taluka	Establishment of soil and water testing laboratory											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	1	25	-	5	-	5	-	5	-	5	1	45
2	Morbi	1	25	-	5	-	5	-	5	-	5	1	45
3	Tankara	1	25	-	5	-	5	-	5	-	5	1	45
4	Wankaner	1	25	-	5	-	5	-	5	-	5	1	45
5	Paddhari	1	25	-	5	-	5	-	5	-	5	1	45
6	Rajkot	1	25	-	5	-	5	-	5	-	5	1	45
7	Lodhika	1	25	-	5	-	5	-	5	-	5	1	45
8	Kotada Sangani	1	25	-	5	-	5	-	5	-	5	1	45
9	Jasdan	1	25	-	5	-	5	-	5	-	5	1	45
10	Gondal	1	25	-	5	-	5	-	5	-	5	1	45
11	Jam Kandorna	1	25	-	5	-	5	-	5	-	5	1	45
12	Upleta	1	25	-	5	-	5	-	5	-	5	1	45
13	Dhoraji	1	25	-	5	-	5	-	5	-	5	1	45
14	Jetpur	1	25	-	5	-	5	-	5	-	5	1	45
	Total	14	350	-	70	-	70	-	70	-	70	14	630

Table 4.11.11.2: Mobile soil testing and plant health clinic van at taluka level

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Taluka	Mobile soil testing and plant health clinic van											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Maliya Miyana	1	25	-	5	-	5	-	5	-	5	1	45
2	Morbi	1	25	-	5	-	5	-	5	-	5	1	45
3	Tankara	1	25	-	5	-	5	-	5	-	5	1	45
4	Wankaner	1	25	-	5	-	5	-	5	-	5	1	45
5	Paddhari	1	25	-	5	-	5	-	5	-	5	1	45
6	Rajkot	1	25	-	5	-	5	-	5	-	5	1	45
7	Lodhika	1	25	-	5	-	5	-	5	-	5	1	45
8	Kotada Sangani	1	25	-	5	-	5	-	5	-	5	1	45
9	Jasdan	1	25	-	5	-	5	-	5	-	5	1	45
10	Gondal	1	25	-	5	-	5	-	5	-	5	1	45
11	Jam Kandorna	1	25	-	5	-	5	-	5	-	5	1	45
12	Upleta	1	25	-	5	-	5	-	5	-	5	1	45
13	Dhoraji	1	25	-	5	-	5	-	5	-	5	1	45
14	Jetpur	1	25	-	5	-	5	-	5	-	5	1	45
	Total	14	350	-	70	-	70	-	70	-	70	14	630

Table 4.11.11.3: Establishment of soil and water testing laboratory and mobile plant health clinic

(Phy – No. of units, Fin – Rs. in lakhs)

Particulars	Number of soil and water testing laboratory and mobile plant health clinic and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Soil and water testing lab	14	350	-	70	-	70	-	70	-	70	14	630
Mobile soil testing and plant health clinic van	14	350	-	70	-	70	-	70	-	70	14	630
Total	28	700	-	140	-	140	-	140	-	140	28	1260

Table 4.11.11.4: Planning for soil testing programme (2012-13 to 2016-17)

Sr. No.	Taluka	Item	No. of villages	Total sample to be analysed	Amount Rs. in lakh for 5 years
1	MaliyaMiyana	General soil sample	43	21500	32.25
		Micronutrient soil sample		200	2.00
		Water sample		50	0.13
2	Morbi	General soil sample	83	41500	62.25
		Micronutrient soil sample		400	4.00
		Water sample		300	0.75
3	Tankara	General soil sample	50	25000	37.50
		Micronutrient soil sample		250	2.50
		Water sample		350	0.88
4	Wankaner	General soil sample	89	44500	66.75
		Micronutrient soil sample		450	4.50
		Water sample		600	1.50

Sr. No.	Taluka	Item	No. of villages	Total sample to be analysed	Amount Rs. in lakh for 5 years
5	Padadhari	General soil sample	60	30000	45.00
		Micronutrient soil sample		300	3.00
		Water sample		350	0.88
6	Rajkot	General soil sample	91	45500	68.25
		Micronutrient soil sample		450	4.50
		Water sample		550	1.38
7	Lodhika	General soil sample	38	19000	28.50
		Micronutrient soil sample		200	2.00
		Water sample		250	0.63
8	Kotada sangani	General soil sample	41	20500	30.75
		Micronutrient soil sample		200	2.00
		Water sample		300	0.75
9	Jasdan	General soil sample	101	50500	75.75
		Micronutrient soil sample		500	5.00
		Water sample		450	1.13
10	Gondal	General soil sample	81	40500	60.75
		Micronutrient soil sample		400	4.00
		Water sample		450	1.13
11	Jam Kandorana	General soil sample	50	25000	37.50
		Micronutrient soil sample		250	2.50
		Water sample		300	0.75
12	Upleta	General soil sample	51	25500	38.25
		Micronutrient soil sample		250	2.50
		Water sample		320	0.80
13	Dhoraji	General soil sample	30	15000	22.50
		Micronutrient soil sample		150	1.50
		Water sample		240	0.60
14	Jetpur	General soil sample	48	24000	36.00
		Micronutrient soil sample		200	2.00
		Water sample		360	0.88
	Total	General soil sample	915	428000	642.00
		Micronutrient soil sample		4200	42.00
		Water sample		4870	12.15
		Grand Total of all samples		**437070**	**696.15**

	Year wise soil testing programme (Rs. in lakhs)					
	2012-13	2013-14	2014-15	2015-16	2016-17	**Total**
Amount Rs. in lakh	**139.23**	**139.23**	**139.23**	**139.23**	**139.23**	**696.15**

4.11.12 Farm Mechanization/Farm Equipments-

The adoption of farm mechanization in district is good. The district having 9130 tractors/ trailers, 30285 agricultural pump sets and 71184 energized pump sets. There is an immense scope for farm mechanization in the district. There is still need to introduce and more adoption of bullock and tractor drawn implements

Table 4.11.12: Farm mechanization status of Rajkot district

Sr. No.	Taluka	Tractor	Pump Set	Diesel Engine
1	Maliya-Miyana	796	61	458
2	Morbi	2214	1004	4057
3	Tankara	1143	547	3009
4	Wankaner	1243	1804	2718
5	Padadhari	569	2552	5459
6	Rajkot	833	4657	5217
7	Lodhika	303	701	2559
8	Kotada Sangani	394	541	3052
9	Jasdan	648	2655	9995
10	Gondal	31	4470	13021
11	Jam Kandorana	0	1161	5770
12	Upleta	440	3415	4199
13	Dhoraji	174	3492	4158
14	Jetpur	342	3225	7512
	Total	9130	30285	71184

The requirement of farm mechanization (implements/equipments) in the different talukas of district is proposed in Table 4.11.12.1 to 4.11.12.20. The total requirement of farm mechanization (implements/equipments) of district with the financial requirement of Rs. 5953 lakhs is given in Table 4.11.12.21.

Table 4.11.12.1: Requirement of mini tractor in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
2	Gondal	10	23.00	10	23.00	10	23.00	10	23.00	10	23.00	50	115.00
3	Jam-kandona	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
4	Jasdan	10	23.00	10	23.00	10	23.00	10	23.00	10	23.00	50	115.00
5	Jetpur	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
6	Kotada-sangani	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
7	Lodhika	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
8	Maliya	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
9	Morbi	10	23.00	10	23.00	10	23.00	10	23.00	10	23.00	50	115.00
10	Paddhari	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
11	Rajkot	10	23.00	10	23.00	10	23.00	10	23.00	10	23.00	50	115.00
12	Tankara	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
13	Upleta	5	11.50	5	11.50	5	11.50	5	11.50	5	11.50	25	57.50
14	Wankaner	10	23.00	10	23.00	10	23.00	10	23.00	10	23.00	50	115.00
	Total	**95**	**218.50**	**95**	**218.50**	**95**	**218.50**	**95**	**218.50**	**95**	**218.50**	**475**	**1092.50**

Unit cost Rs.2.30 lakhs

Table 4.11.12.2: Requirement of power tiller in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
2	Gondal	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
3	Jam-kandona	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
4	Jasdan	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
5	Jetpur	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
6	Kotada-sangani	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
7	Lodhika	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
8	Maliya	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
9	Morbi	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
10	Paddhari	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
11	Rajkot	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
12	Tankara	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
13	Upleta	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
14	Wankaner	5	7.50	5	7.50	5	7.50	5	7.50	5	7.50	25	37.50
	Total	**70**	**105.00**	**70**	**105.00**	**70**	**105.00**	**70**	**105.00**	**70**	**105.00**	**350**	**525.00**

Unit cost Rs.1.50 lakhs

Table 4.11.12.3: Requirement of rotavator in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
2	Gondal	15	11.25	15	11.25	15	11.25	15	11.25	15	11.25	75	56.25
3	Jam-kandona	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
4	Jasdan	15	11.25	15	11.25	15	11.25	15	11.25	15	11.25	75	56.25
5	Jetpur	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
6	Kotada-sangani	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
7	Lodhika	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
8	Maliya	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
9	Morbi	15	11.25	15	11.25	15	11.25	15	11.25	15	11.25	75	56.25
10	Paddhari	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
11	Rajkot	15	11.25	15	11.25	15	11.25	15	11.25	15	11.25	75	56.25
12	Tankara	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
13	Upleta	10	7.50	10	7.50	10	7.50	10	7.50	10	7.50	50	37.50
14	Wankaner	15	11.25	15	11.25	15	11.25	15	11.25	15	11.25	75	56.25
	Total	**165**	**123.75**	**165**	**123.75**	**165**	**123.75**	**165**	**123.75**	**165**	**123.75**	**825**	**618.75**

Unit cost Rs.0.75 lakhs

Table 4.11.12.4: Requirement of mobile chopper in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
2	Gondal	10	13.00	10	13.00	10	13.00	10	13.00	10	13.00	50	65.00
3	Jam-kandona	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
4	Jasdan	10	13.00	10	13.00	10	13.00	10	13.00	10	13.00	50	65.00
5	Jetpur	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
6	Kotada-sangani	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
7	Lodhika	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
8	Maliya	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
9	Morbi	10	13.00	10	13.00	10	13.00	10	13.00	10	13.00	50	65.00
10	Paddhari	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
11	Rajkot	10	13.00	10	13.00	10	13.00	10	13.00	10	13.00	50	65.00
12	Tankara	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
13	Upleta	5	6.50	5	6.50	5	6.50	5	6.50	5	6.50	25	32.50
14	Wankaner	10	13.00	10	13.00	10	13.00	10	13.00	10	13.00	50	65.00
	Total	**95**	**123.50**	**95**	**123.50**	**95**	**123.50**	**95**	**123.50**	**95**	**123.50**	**475**	**617.50**

Unit cost Rs.1.30 lakhs

Table 4.11.12.5: Requirement of shredder (Tractor PTO operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
2	Gondal	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
3	Jam-kandona	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
4	Jasdan	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
5	Jetpur	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
6	Kotada-sangani	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
7	Lodhika	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
8	Maliya	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
9	Morbi	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
10	Paddhari	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
11	Rajkot	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
12	Tankara	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
13	Upleta	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
14	Wankaner	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	25	25.00
	Total	**70**	**70.00**	**70**	**70.00**	**70**	**70.00**	**70**	**70.00**	**70**	**70.00**	**350**	**350.00**

Unit cost Rs .1.00 lakhs

Table 4.11.12.6: Requirement of reversible MB plough in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
	Total	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**475**	**237.50**

Unit cost Rs .0.50 lakhs

Table 4.11.12.7: Requirement of chisel plough in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
2	Gondal	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
3	Jam-kandona	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
4	Jasdan	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
5	Jetpur	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
6	Kotada-sangani	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
7	Lodhika	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
8	Maliya	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
9	Morbi	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
10	Paddhari	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
11	Rajkot	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
12	Tankara	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
13	Upleta	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
14	Wankaner	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
	Total	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**475**	**142.50**

Unit cost Rs .0.30 lakhs

Table 4.11.12.8: Requirement of groundnut decorticator in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
	Total	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**400**	**200.00**

Unit cost Rs .0.50 lakhs

Table 4.11.12.9: Requirement of manual drawn automatic seed drill in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
2	Gondal	80	2.00	80	2.00	80	2.00	80	2.00	80	2.00	400	10.00
3	Jam-kandona	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
4	Jasdan	80	2.00	80	2.00	80	2.00	80	2.00	80	2.00	400	10.00
5	Jetpur	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
6	Kotada-sangani	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
7	Lodhika	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
8	Maliya	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
9	Morbi	80	2.00	80	2.00	80	2.00	80	2.00	80	2.00	400	10.00
10	Paddhari	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
11	Rajkot	80	2.00	80	2.00	80	2.00	80	2.00	80	2.00	400	10.00
12	Tankara	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
13	Upleta	50	1.25	50	1.25	50	1.25	50	1.25	50	1.25	250	6.25
14	Wankaner	80	2.00	80	2.00	80	2.00	80	2.00	80	2.00	400	10.00
	Total	**850**	**21.25**	**850**	**21.25**	**850**	**21.25**	**850**	**21.25**	**850**	**21.25**	**4250**	**106.25**

Unit cost Rs .0.025 lakhs

Table 4.11.12.10: Requirement of bullock drawn automatic seed drill in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
2	Gondal	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
3	Jam-kandona	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
4	Jasdan	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
5	Jetpur	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
6	Kotada-sangani	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
7	Lodhika	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
8	Maliya	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
9	Morbi	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
10	Paddhari	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
11	Rajkot	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
12	Tankara	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
13	Upleta	30	2.40	30	2.40	30	2.40	30	2.40	30	2.40	150	12.00
14	Wankaner	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
	Total	**520**	**41.60**	**520**	**41.60**	**520**	**41.60**	**520**	**41.60**	**520**	**41.60**	**2600**	**208.00**

Unit cost Rs .0.08 lakhs

Table 4.11.12.11: Requirement of tractor drawn automatic seed-cum-fertilizer drill in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
	Total	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**475**	**237.50**

Unit cost Rs .0.50 lakhs

Table 4.11.12.12: Requirement of manual operated seed dressing drum in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
2	Gondal	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
3	Jam-kandona	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
4	Jasdan	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
5	Jetpur	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
6	Kotada-sangani	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
7	Lodhika	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
8	Maliya	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
9	Morbi	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
10	Paddhari	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
11	Rajkot	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
12	Tankara	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
13	Upleta	50	1.00	50	1.00	50	1.00	50	1.00	50	1.00	250	5.00
14	Wankaner	80	1.60	80	1.60	80	1.60	80	1.60	80	1.60	400	8.00
	Total	**850**	**17.00**	**850**	**17.00**	**850**	**17.00**	**850**	**17.00**	**850**	**17.00**	**4250**	**85.00**

Unit cost Rs .0.02 lakhs

Table 4.11.12.13: Requirement of rotary weeder in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
2	Gondal	10	3.50	10	3.50	10	3.50	10	3.50	10	3.50	50	17.50
3	Jam-kandona	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
4	Jasdan	10	3.50	10	3.50	10	3.50	10	3.50	10	3.50	50	17.50
5	Jetpur	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
6	Kotada-sangani	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
7	Lodhika	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
8	Maliya	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
9	Morbi	10	3.50	10	3.50	10	3.50	10	3.50	10	3.50	50	17.50
10	Paddhari	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
11	Rajkot	10	3.50	10	3.50	10	3.50	10	3.50	10	3.50	50	17.50
12	Tankara	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
13	Upleta	5	1.75	5	1.75	5	1.75	5	1.75	5	1.75	25	8.75
14	Wankaner	10	3.50	10	3.50	10	3.50	10	3.50	10	3.50	50	17.50
	Total	**95**	**33.25**	**95**	**33.25**	**95**	**33.25**	**95**	**33.25**	**95**	**33.25**	**475**	**166.25**

Unit cost Rs .0.35 lakhs

Table 4.11.12.14: Requirement of knapsack Sprayer (Battery operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
2	Gondal	80	2.40	80	2.40	80	2.40	80	2.40	80	2.40	400	12.00
3	Jam-kandona	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
4	Jasdan	80	2.40	80	2.40	80	2.40	80	2.40	80	2.40	400	12.00
5	Jetpur	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
6	Kotada-sangani	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
7	Lodhika	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
8	Maliya	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
9	Morbi	80	2.40	80	2.40	80	2.40	80	2.40	80	2.40	400	12.00
10	Paddhari	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
11	Rajkot	80	2.40	80	2.40	80	2.40	80	2.40	80	2.40	400	12.00
12	Tankara	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
13	Upleta	50	1.50	50	1.50	50	1.50	50	1.50	50	1.50	250	7.50
14	Wankaner	80	2.40	80	2.40	80	2.40	80	2.40	80	2.40	400	12.00
	Total	**850**	**25.50**	**850**	**25.50**	**850**	**25.50**	**850**	**25.50**	**850**	**25.50**	**4250**	**127.50**

Unit cost Rs .0.35 lakhs

Table 4.11.12.15: Requirement of power sprayer (Tractor mounted) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
	Total	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**95**	**47.50**	**475**	**237.50**

Unit cost Rs .0.50 lakhs

Table 4.11.12.16: Requirement of groundnut digger (Tractor operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
	Total	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**400**	**200.00**

Unit cost Rs .0.50 lakhs

Table 4.11.12.17: Requirement of cotton picker (Battery operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
2	Gondal	80	6.40	80	6.40	80	6.40	80	6.40	80	6.40	400	32.00
3	Jam-kandona	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
4	Jasdan	80	6.40	80	6.40	80	6.40	80	6.40	80	6.40	400	32.00
5	Jetpur	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
6	Kotada-sangani	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
7	Lodhika	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
8	Maliya	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
9	Morbi	80	6.40	80	6.40	80	6.40	80	6.40	80	6.40	400	32.00
10	Paddhari	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
11	Rajkot	80	6.40	80	6.40	80	6.40	80	6.40	80	6.40	400	32.00
12	Tankara	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
13	Upleta	50	4.00	50	4.00	50	4.00	50	4.00	50	4.00	250	20.00
14	Wankaner	80	6.40	80	6.40	80	6.40	80	6.40	80	6.40	400	32.00
	Total	**850**	**68.00**	**850**	**68.00**	**850**	**68.00**	**850**	**68.00**	**850**	**68.00**	**4250**	**340.00**

Unit cost Rs .0.08 lakhs

Table 4.11.12.18: Requirement of thresher in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
2	Gondal	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
3	Jam-kandona	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
4	Jasdan	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
5	Jetpur	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
6	Kotada-sangani	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
7	Lodhika	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
8	Maliya	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
9	Morbi	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
10	Paddhari	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
11	Rajkot	10	5.00	10	5.00	10	5.00	10	5.00	10	5.00	50	25.00
12	Tankara	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
13	Upleta	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
14	Wankaner	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	25	12.50
	Total	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**80**	**40.00**	**400**	**200.00**

Unit cost Rs .0.50 lakhs

Table 4.11.12.19: Requirement of small grader machine (Power operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
2	Gondal	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
3	Jam-kandona	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
4	Jasdan	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
5	Jetpur	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
6	Kotada-sangani	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
7	Lodhika	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
8	Maliya	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
9	Morbi	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
10	Paddhari	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
11	Rajkot	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
12	Tankara	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
13	Upleta	5	1.50	5	1.50	5	1.50	5	1.50	5	1.50	25	7.50
14	Wankaner	10	3.00	10	3.00	10	3.00	10	3.00	10	3.00	50	15.00
	Total	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**95**	**28.50**	**475**	**142.50**

Unit cost Rs .0.30 lakhs

Table 4.11.12.20: Requirement of chaff cutter (Power operated) in the district

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Name of block	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Dhoraji	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
2	Gondal	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	12.50
3	Jam-kandona	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
4	Jasdan	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	12.50
5	Jetpur	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
6	Kotada-sangani	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
7	Lodhika	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
8	Maliya	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
9	Morbi	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	12.50
10	Paddhari	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
11	Rajkot	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	12.50
12	Tankara	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
13	Upleta	5	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25
14	Wankaner	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	12.50
	Total	**95**	**23.75**	**95**	**23.75**	**95**	**23.75**	**95**	**23.75**	**95**	**23.75**	**475**	**118.75**

Unit cost Rs .0.25 lakhs






Table 4.11.12.21: Total requirement of farm mechanization (implements/equipments) in the district

Sr. No	Project component	Unit cost Rs. in lacs	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
1	Mini Tractor	2.30	95	218.50	95	218.50	95	218.50	95	218.50	95	218.50	475	1092.50
2	Power tiller	1.50	70	105.00	70	105.00	70	105.00	70	105.00	70	105.00	350	525.00
3	Rotavator	0.75	165	123.75	165	123.75	165	123.75	165	123.75	165	123.75	825	618.75
4	Mobile chopper	1.30	95	123.50	95	123.50	95	123.50	95	123.50	95	123.50	475	617.50
5	Shredder (Tractor PTO operated)	1.00	70	70.00	70	70.00	70	70.00	70	70.00	70	70.00	350	350.00
6	Reversible MB plough	0.50	95	47.50	95	47.50	95	47.50	95	47.50	95	47.50	475	237.50
7	Chisel plough	0.30	95	28.50	95	28.50	95	28.50	95	28.50	95	28.50	475	142.50
8	Groundnut decorticator	0.50	80	40.00	80	40.00	80	40.00	80	40.00	80	40.00	400	200.00
9	Manual drawn automatic seed drill	0.025	850	21.25	850	21.25	850	21.25	850	21.25	850	21.25	4250	106.25
10	Bullock drawn automatic seed drill	0.08	520	41.60	520	41.60	520	41.60	520	41.60	520	41.60	2600	208.00
11	Tractor drawn automatic seed-cum-fertilizer drill	0.50	95	47.50	95	47.50	95	47.50	95	47.50	95	47.50	475	237.50
12	Manual operated seed dressing drum	0.02	850	17.00	850	17.00	850	17.00	850	17.00	850	17.00	4250	85.00
13	Rotary weeder	0.35	95	33.25	95	33.25	95	33.25	95	33.25	95	33.25	475	166.25
14	Knapsack Sprayer (Battery operated)	0.03	850	25.50	850	25.50	850	25.50	850	25.50	850	25.50	4250	127.50
15	Power sprayer (Tractor mounted)	0.50	95	47.50	95	47.50	95	47.50	95	47.50	95	47.50	475	237.50
16	Groundnut digger (Tractor operated)	0.50	80	40.00	80	40.00	80	40.00	80	40.00	80	40.00	400	200.00
17	Cotton picker (Battery operated)	0.08	850	68.00	850	68.00	850	68.00	850	68.00	850	68.00	4250	340.00
18	Thresher	0.50	80	40.00	80	40.00	80	40.00	80	40.00	80	40.00	400	200.00
19	Small grader machine (Power operated)	0.30	95	28.50	95	28.50	95	28.50	95	28.50	95	28.50	475	142.50
20	Chaff cutter (Power operated)	0.25	95	23.75	95	23.75	95	23.75	95	23.75	95	23.75	475	118.75
	TOTAL		**5320**	**1190.60**	**5320**	**1190.60**	**5320**	**1190.60**	**5320**	**1190.60**	**5320**	**1190.60**	**26600**	**5953.00**

4.11.13 Micro irrigation system

The physical and the financial requirement of drip and sprinkler for the protective micro irrigation are presented in Table 4.11.13.1 and Table 4.11.13.2, respectively. For the micro irrigation total financial requirement is proposed as Rs.12211.74 lakh.

Table 4.11.13.1: Protective micro irrigation plan for drip

(Phy- Area in ha, Fin-Rs. in lakhs)

Sr. No.	Name of Taluka	Area in hectare and financial requriment											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	15	13.5	19	17.1	24	21.6	30	27	38	34.2	126	113.4
2	Morbi	55	49.5	69	62.1	86	77.4	108	97.2	135	121.5	453	407.7
3	Tankara	85	76.5	106	95.4	133	119.7	166	149.4	208	187.2	698	628.2
4	Wankaner	80	72	100	90	125	112.5	156	140.4	195	175.5	656	590.4
5	Padhdhari	65	58.5	81	72.9	101	90.9	126	113.4	158	142.2	531	477.9
6	Rajkot	130	117	163	146.7	204	183.6	255	229.5	319	287.1	1071	963.9
7	Lodhika	25	22.5	31	27.9	39	35.1	49	44.1	61	54.9	205	184.5
8	Kotda Sangani	45	40.5	56	50.4	70	63	88	79.2	110	99	369	332.1
9	Jasdan	40	36	50	45	63	56.7	79	71.1	99	89.1	331	297.9
10	Gondal	130	117	163	146.7	204	183.6	255	229.5	319	287.1	1071	963.9
11	Jam Kandorna	55	49.5	69	62.1	86	77.4	108	97.2	135	121.5	453	407.7
12	Upleta	140	126	175	157.5	219	197.1	274	246.6	343	308.7	1151	1035.9
13	Dhoraji	55	49.5	69	62.1	86	77.4	108	97.2	135	121.5	453	407.7
14	Jetpur	45	40.5	56	50.4	70	63	88	79.2	110	99	369	332.1
	Total	**965**	**868.5**	**1207**	**1086.3**	**1510**	**1359**	**1890**	**1701**	**2365**	**2128.5**	**7937**	**7143.3**

Cost @ Rs 0.90 lakh/ha

Table 4.11.13.1: Protective micro irrigation plan for sprinkler

(Phy- Area in ha, Fin-Rs. in lakhs)

Sr. No.	Name of Taluka	Area in hectare and financial requriment											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	30	11.4	38	14.44	48	18.24	60	22.8	75	28.5	251	95.38
2	Morbi	100	38	125	47.5	157	59.66	196	74.48	245	93.1	823	312.74
3	Tankara	90	34.2	113	42.94	141	53.58	176	66.88	220	83.6	740	281.2
4	Wankaner	140	53.2	175	66.5	219	83.22	274	104.12	343	130.34	1151	437.38
5	Padhdhari	80	30.4	100	38	125	47.5	156	59.28	195	74.1	656	249.28
6	Rajkot	170	64.6	213	80.94	224	85.12	280	106.4	350	133	1237	470.06
7	Lodhika	70	26.6	88	33.44	110	41.8	138	52.44	173	65.74	579	220.02
8	Kotda Sangani	100	38	125	47.5	157	59.66	197	74.86	246	93.48	825	313.5
9	Jasdan	180	68.4	225	85.5	281	106.78	351	133.38	439	166.82	1476	560.88
10	Gondal	250	95	313	118.94	391	148.58	489	185.82	611	232.18	2054	780.52
11	Jam Kandorna	100	38	125	47.5	157	59.66	196	74.48	245	93.1	823	312.74
12	Upleta	170	64.6	213	80.94	224	85.12	280	106.4	350	133	1237	470.06
13	Dhoraji	70	26.6	88	33.44	110	41.8	138	52.44	173	65.74	579	220.02
14	Jetpur	110	41.8	138	52.44	173	65.74	216	82.08	270	102.6	907	344.66
	Total	**1660**	**630.8**	**2070**	**790.02**	**2519**	**956.46**	**3147**	**1195.86**	**3935**	**1495.3**	**13338**	**5068.44**

Cost @ Rs 0.38 lakh/ha

4.11.14: Food processing and storage

The planning of processing units and establishment of godowns with its financial requirement are presented in Table 4.11.14.1 to 4.11.14.6.

Table 4.11.14.1: Number of processing units and financial requirements for dal mill

(Phy- No. of units, Fin-Rs. in lakhs)

Sr. No.	Name of Taluka	Number of Processing units and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Morbi	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
3	Tankara	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
4	Wankaner	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
5	Padhdhari	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
6	Rajkot	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
7	Lodhika	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
8	Kotda Sangani	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
9	Jasdan	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
10	Gondal	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
11	Jam Kandorna	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
12	Upleta	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
13	Dhoraji	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
14	Jetpur	1	3.00	1	3.00	1	3.00	1	3.00	1	3.00	5	15.00
	Total	10	30.00	10	30.00	10	30.00	10	30.00	10	30.00	50	150.00

Table 4.11.14.2: Number of processing units and financial requirements for cotton ginning

(Phy- No. of units, Fin-Rs. in lakhs)

Sr. No.	Name of Taluka	Number of Processing units and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	7	14	7	14	7	14	7	14	7	14	35	70
2	Morbi	6	12	6	12	6	12	6	12	6	12	30	60
3	Tankara	5	10	5	10	5	10	5	10	5	10	25	50
4	Wankaner	8	16	8	16	8	16	8	16	8	16	40	80
5	Padhdhari	3	6	3	6	3	6	3	6	3	6	15	30
6	Rajkot	5	10	5	10	5	10	5	10	5	10	25	50
7	Lodhika	1	2	1	2	1	2	1	2	1	2	5	10
8	Kotda Sangani	3	6	3	6	3	6	3	6	3	6	15	30
9	Jasdan	7	14	7	14	7	14	7	14	7	14	35	70
10	Gondal	9	18	9	18	9	18	9	18	9	18	45	90
11	Jam Kandorna	4	8	4	8	4	8	4	8	4	8	20	40
12	Upleta	3	6	3	6	3	6	3	6	3	6	15	30
13	Dhoraji	4	8	4	8	4	8	4	8	4	8	20	40
14	Jetpur	5	10	5	10	5	10	5	10	5	10	25	50
	Total	70	140	70	140	70	140	70	140	70	140	350	700

Table 4.11.14.3: Number of processing units and financial requirements for groundnut oil mill

(Phy- No. of units, Fin-Rs. in lakhs)

Sr. No.	Name of Taluka	Number of Processing units and financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Maliya-Miyana	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
2	Morbi	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
3	Tankara	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
4	Wankaner	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
5	Padhdhari	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
6	Rajkot	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
7	Lodhika	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
8	Kotda Sangani	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
9	Jasdan	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
10	Gondal	2	10.00	2	10.00	2	10.00	2	10.00	2	10.00	10	50.00
11	Jam Kandorna	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
12	Upleta	2	10.00	2	10.00	2	10.00	2	10.00	2	10.00	10	50.00
13	Dhoraji	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00
14	Jetpur	1	5.00	1	5.00	1	5.00	1	5.00	1	5.00	5	25.00
	Total	10	50	10	50	10	50	10	50	10	50	50	250

Table 4.11.14.4: Number of processing units and financial requirements

(Phy – No. of units, Fin – Rs. in lakhs)

Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Dal mill	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cotton ginning	70	140.0	70	140.0	70	140.0	70	140.0	70	140.0	350	700.0
Groundnut oil mill	10	50.0	10	50.00	10	50.0	10	50.0	10	50.0	50	250.0
Total	90	220	90	220	90	220	90	220	90	220	450	1100



Table 4.11.14.5: Establishment of rural godowns

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No.	Taluka	2012-13		20013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Dhoraji	25	82.5	25	82.5	25	82.5	25	82.5	25	82.5	125	412.5
2	Gondal	62	204.6	62	204.6	62	204.6	62	204.6	62	204.6	310	1023.0
3	Jam-kkandorna	29	95.7	29	95.7	29	95.7	29	95.7	29	95.7	145	478.5
4	Jasdan	25	82.5	25	82.5	25	82.5	25	82.5	25	82.5	125	412.5
5	Jetpur	17	56.1	17	56.1	17	56.1	17	56.1	17	56.1	85	280.5
6	Kotda-sangani	16	52.8	16	52.8	16	52.8	16	52.8	16	52.8	80	264.0
7	Lodhika	18	59.4	18	59.4	18	59.4	18	59.4	18	59.4	90	297.0
8	Maliya-miyana	5	16.5	5	16.5	5	16.5	5	16.5	5	16.5	25	82.5
9	Morbi	24	79.2	24	79.2	24	79.2	24	79.2	24	79.2	120	396.0
10	Tankara	12	39.6	12	39.6	12	39.6	12	39.6	12	39.6	60	198.0
11	Paddhari	20	66	20	66	20	66	20	66	20	66	100	330.0
12	Rajkot	35	115.5	35	115.5	35	115.5	35	115.5	35	115.5	175	577.5
13	Upleta	25	82.5	25	82.5	25	82.5	25	82.5	25	82.5	125	412.5
14	Wankaner	18	59.4	18	59.4	18	59.4	18	59.4	18	59.4	90	297.0
	District Total	331	1092.3	331	1092.3	331	1092.3	331	1092.3	331	1092.3	1655	5461.5

Unit Cost 3 3 (Rs In Lakh)

Table 4.11.14.6: Establishment of onion godown

(Phy – No. of units, Fin – Rs. in lakhs)

Sr. No	Taluka	2012-13		20013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Dhoraji	1	5	1	5	1	5	1	5	1	5	5	25.0
2	Gondal	1	5	1	5	1	5	1	5	1	5	5	25.0
3	Jam-kandorna	1	5	1	5	1	5	1	5	1	5	5	25.0
4	Jasdan	1	5	1	5	1	5	1	5	1	5	5	25.0
5	Jetpur	1	5	1	5	1	5	1	5	1	5	5	25.0
6	Kotda-sangani	1	5	1	5	1	5	1	5	1	5	5	25.0
7	Lodhika	2	10	2	10	2	10	2	10	2	10	10	50.0
8	Maliya-miyana	1	5	1	5	1	5	1	5	1	5	5	25.0
9	Morbi	2	10	2	10	2	10	2	10	2	10	10	50.0
10	Tankara	1	5	1	5	1	5	1	5	1	5	5	25.0
11	Paddhari	0	0	0	0	1	5	1	5	1	5	3	15.0
12	Rajkot	2	10	2	10	2	10	2	10	2	10	10	50.0
13	Upleta	3	15	3	15	3	15	3	15	3	15	15	75.0
14	Wankaner	2	10	2	10	2	10	3	15	3	15	12	60.0
	District Total	19	95	19	95	20	100	21	105	21	105	100	500

Unit Cost=5 (Rs. In Lakh)

4.11.15 Strengthening of APMC

To establish the better marketing facilities, the strengthening of APMC is necessary in the district. Therefore the planning and the financial requirement are presented in Table 4.11.15.

Table 4.11.15: Strengthening of APMC

(Phy - No.of units, Fin - Rs. In Lakhs)

Particulars	Number of collection van and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Collection van	10	140	-	-	-	-	-	-	-	-	10	140
e-connectivity	10	28	-	-	-	-	-	-	-	-	10	28
Total	20	168	-	-	-	-	-	-	-	-	20	168

4.11.16 Crop loan disbursement (Short term credit)

Crop loan disbursement for investment credit during XII Five year plan is presented in Table 4.11.16.

Table 4.11.16: Crop loan disbursement for investment credit during XII Five year plans

(Rs in Lakh)

Sr. No.	Taluka	Loan disbursement target					
		2012-13	2013-14	2014-15	2015-16	2016-17	Total
1	Maliya-miyana	7545.48	7922.75	8318.89	8734.83	9171.58	41693.53
2	Morbi	17051.54	17904.12	18799.33	19739.30	20726.26	94220.55
3	Tankara	16772.33	17610.95	18491.50	19416.08	20386.88	92677.74
4	Wankaner	17346.68	18214.01	19124.71	20080.95	21084.99	95851.34
5	Paddhari	16834.01	17675.71	18559.50	19487.48	20461.85	93018.55
6	Rajkot	21217.81	22278.70	23392.64	24562.27	25790.39	117241.81
7	Lodhika	7517.68	7893.56	8288.24	8702.65	9137.78	41539.91
8	Kotda-sangani	10204.95	10715.20	11250.96	11813.51	12404.18	56388.8
9	Jasdan	23004.43	24154.65	25362.38	26630.50	27962.03	127113.99
10	Gondal	31929.68	33526.16	35202.47	36962.59	38810.72	176431.62
11	Jam-kandorna	14665.13	15398.39	16168.31	16976.73	17825.57	81034.13
12	Upleta	22583.10	23712.26	24897.87	26142.76	27449.90	124785.89
13	Dhoraji	15328.78	16095.22	16901.03	17746.08	18633.38	84704.49
14	Jetpur	19890.48	20885.00	21929.25	23025.71	24177	109907.44
	District Total	**241892.08**	**253986.68**	**266687.08**	**280021.44**	**294022.51**	**1336609.79**

4.11.17: Watershed mangement

The watershed development programme is implemented in the district by various agencies viz. DRDA, GSLDC Ltd., Jilla Panchayat, Department of Forest and NGOs. The planning of Soil Survey Programme (Topographical survey) and the projected area available for watershed development are presented in Table 4.11.17.1 and Table 4.11.17.2, respectively. The planning of land leveling, Khet talawadi and water harvesting kachcha structure are presented in Table 4.11.17.3 to 4.11.17.5.

Table 4.11.17.1: Planning of soil survey programme (Topographical survey)

Sr. No.	Name of Taluka	Geographical area of watershed		Area surveyed since beginning to 2011-12		Area to be deleted from survey area		Area to be surveyed in year 2012-13 to 2016-17		Amount Required for 5 years Rs. in lakh
		No. of villages	Area in ha	No. of villages	Area in ha	No. of villages	Area in ha	No. of villages	Area in ha	
1	Maliya-Miyana	43	76998	43	46198.8	43	7699.8	43	23099.4	69.3
2	Morbi	83	107770	83	64662	83	10777	83	32331	97.0
3	Tankara	50	66771	50	40062.6	50	6677.1	50	20031.3	60.1
4	Wankaner	89	111751	89	67050.6	89	11175.1	89	33525.3	100.6
5	Paddhari	60	59934	60	35960.4	60	5993.4	60	17980.2	53.9
6	Rajkot	91	107225	91	64335	91	10722.5	91	32167.5	96.5
7	Lodhika	38	37323	38	22393.8	38	3732.3	38	11196.9	33.6
8	Kotadasangani	41	44703	41	26821.8	41	4470.3	41	13410.9	40.2
9	Jasdan	101	132642	101	79585.2	101	13264.2	101	39792.6	119.4
10	Gondal	81	119792	81	71875.2	81	11979.2	81	35937.6	107.8
11	Jam Kandorna	50	56029	50	33617.4	50	5602.9	50	16808.7	50.4
12	Upleta	51	79254	51	47552.4	51	7925.4	51	23776.2	71.3
13	Dhoraji	30	54786	30	32871.6	30	5478.6	30	16435.8	49.3
14	Jetpur	48	65322	48	39193.2	48	6532.2	48	19596.6	58.8
	Total	869	1120300	869	672180	869	112030	869	336090	1008.2

Table 4.11.17.2: Area available for watershed development and plan

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

Taluka	Geographical area (ha)	Area in ha					
		2012-13	2013-14	2014-15	2015-16	2016-17	Total
Maliya-Miyana	76998	700	700	700	700	700	3500
Morbi	107770	1300	1300	1300	1300	1300	6500
Tankara	66771	1000	1000	1000	1000	1000	5000
Wankaner	111751	2900	2900	2900	2900	2900	14500
Paddhari	59934	900	900	900	900	900	4500
Rajkot	107225	1800	1800	1800	1800	1800	9000
Lodhika	37323	600	600	600	600	600	3000
Kotada sangani	44703	900	900	900	900	900	4500
Jasdan	132642	3100	3100	3100	3100	3100	15500
Gondal	119792	1500	1500	1500	1500	1500	7500
Jam Kandorna	56029	1200	1200	1200	1200	1200	6000
Upleta	79254	950	950	950	950	950	4750
Dhoraji	54786	650	650	650	650	650	3250
Jetpur	65322	750	750	750	750	750	3750
Total	**1120300**	**18250**	**18250**	**18250**	**18250**	**18250**	**91250**
Amount Rs. in lakh	**-**	**912.5**	**912.5**	**912.5**	**912.5**	**912.5**	**4562.5**

Table 4.11.17.3: Project proposal for land leveling by GLDC

(Phy – Area in ha, Fin – Rs. in lakhs)

Name of block	Number of worker and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Dhoraji	150	450	150	450	150	450	150	450	150	450	750	2250
Gondal	150	450	150	450	150	450	150	450	150	450	750	2250
Jamkandona	150	450	150	450	150	450	150	450	150	450	750	2250
Jasdan	150	450	150	450	150	450	150	450	150	450	750	2250
Jetpur	150	450	150	450	150	450	150	450	150	450	750	2250
Kotadasangani	150	450	150	450	150	450	150	450	150	450	750	2250
Lodhika	150	450	150	450	150	450	150	450	150	450	750	2250
Maliya	150	450	150	450	150	450	150	450	150	450	750	2250
Morbi	150	450	150	450	150	450	150	450	150	450	750	2250
Paddhari	150	450	150	450	150	450	150	450	150	450	750	2250
Rajkot	150	450	150	450	150	450	150	450	150	450	750	2250
Tankara	150	450	150	450	150	450	150	450	150	450	750	2250
Upleta	150	450	150	450	150	450	150	450	150	450	750	2250
Wankaner	150	450	150	450	150	450	150	450	150	450	750	2250
Total	2100	6300	2100	6300	2100	6300	2100	6300	2100	6300	10500	31500

Table 4.11.17.4: Project proposal for khet talawadi by GLDC

(Phy – No. of units, Fin – Rs. in lakhs)

Name of block	Number of worker and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Dhoraji	30	9.0	30	9.0	30	9.0	30	9.0	30	9.0	150	45.0
Gondal	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	125	37.5
Jamkandona	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Jasdan	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Jetpur	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	125	37.5
Kotada sangani	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Lodhika	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Maliya	30	9.0	30	9.0	30	9.0	30	9.0	30	9.0	150	45.0
Morbi	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	125	37.5
Paddhari	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Rajkot	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	125	37.5
Tankara	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	125	37.5
Upleta	30	9.0	30	9.0	30	9.0	30	9.0	30	9.0	150	45.0
Wankaner	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	200	60.0
Total	455	136.5	455	136.5	455	136.5	455	136.5	455	136.5	2275	682.5

Table 4.11.17.5: Proposal for water harvesting kachcha structure by GLDC

(Phy – No. of units, Fin – Rs. in lakhs)

Name of block	Number of collection van and financial requirements (Rs. in lakhs)											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Dhoraji	35	2.1	35	2.1	35	2.1	35	2.1	35	2.1	175	10.5
Gondal	45	2.7	45	2.7	45	2.7	45	2.7	45	2.7	225	13.5
Jamkandona	60	3.6	60	3.6	60	3.6	60	3.6	60	3.6	300	18.0
Jasdan	70	4.2	70	4.2	70	4.2	70	4.2	70	4.2	350	21.0
Jetpur	65	3.9	65	3.9	65	3.9	65	3.9	65	3.9	325	19.5
Kotadasangani	70	4.2	70	4.2	70	4.2	70	4.2	70	4.2	350	21.0
Lodhika	50	3.0	50	3.0	50	3.0	50	3.0	50	3.0	250	15.0
Maliya	40	2.4	40	2.4	40	2.4	40	2.4	40	2.4	200	12.0
Morbi	40	2.4	40	2.4	40	2.4	40	2.4	40	2.4	200	12.0
Paddhari	50	3.0	50	3.0	50	3.0	50	3.0	50	3.0	250	15.0
Rajkot	30	1.8	30	1.8	30	1.8	30	1.8	30	1.8	150	9.0
Tankara	40	2.4	40	2.4	40	2.4	40	2.4	40	2.4	200	12.0
Upleta	30	1.8	30	1.8	30	1.8	30	1.8	30	1.8	150	9.0
Wankaner	45	2.7	45	2.7	45	2.7	45	2.7	45	2.7	225	13.5
Total	670	40.2	670	40.2	670	40.2	670	40.2	670	40.2	3350	201

4.11.18: Renewable Energy Programmes

The future of humanity lies in harnessing solar energy; 1% of sunlight received by the earth can meet humanity's demand for power for another 20 years. This will fuel the capital markets and pay itself many times over by creating a world which is not only prosperous but much more equitable, greener, cleaner and sustainable. The proposed number of renewable energy units and its financial requirements are presented in Tab. 4.11.18.

Table 4.11.18: Number of renewable energy units and financial requirements per year

(Phy – No. of units, Fin – Rs. in Lakh)

Taluka	Community biogas plant		Solar cooker		Solar Street light		Solar cum wind submersible pump		Total Fin
	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
Maliya-Miyana	12	84.00	230	3.45	90	22.5	1	4.0	113.95
Morbi	8	56.00	260	3.90	110	27.5	1	4.0	91.40
Tankara	10	70.00	250	3.75	100	25.0	1	4.0	102.75
Wankaner	15	105.00	290	4.35	116	29.0	1	4.0	142.35
Padadhari	7	49.00	240	3.60	80	20.0	1	4.0	76.60
Rajkot	10	70.0	320	4.80	120	30.0	1	4.0	108.80
Lodhika	7	49.00	220	3.30	100	25.0	1	4.0	81.30
Kotada sangani	6	42.00	210	3.15	90	22.5	1	4.0	71.65
Jasdan	10	70.00	300	4.50	126	31.5	1	4.0	110.00
Gondal	12	84.00	330	4.95	130	32.5	1	4.0	125.45
Jam Kandorana	10	70.00	280	4.20	120	30.0	1	4.0	108.20
Upleta	8	56.00	250	3.75	100	25.0	1	4.0	88.75
Dhoraji	12	84.00	290	4.35	110	27.5	1	4.0	119.85
Jetpur	8	56.00	300	4.50	120	30.0	1	4.0	94.50
Total	**135**	**945**	**3770**	**56.55**	**1512**	**378**	**14**	**56**	**1435.55**

CHAPTER V

DEVELOPMENT OF ALLIED SECTORS

5.1 Introduction

Allied agricultural sectors i.e., Animal Husbandry, Fisheries development, Irrigation, Co-operation, Watershed development, Vermi-composting, etc. may perform active role in the sustainable development of agriculture and rural economy. These sectors offer good alternatives/opportunities for livelihood of rural people as well as employment generation. Also relevant to landless people of the district, Farmers of Rajkot district are actively engaged in cultivation of allied enterprises to meet their own home requirements and subsequently for the market. The thrust in the district has been on dairy and horticulture (especially fruit, vegetable & spices crops).

5.2 Horticulture

The importance of fruits, vegetable & spices crops in improving the nutritional status and farm economy needs no elaboration. It offers excellent alternative for diversification in agriculture by ensuring balanced use of land, water and other resources for promoting sustainable agriculture besides increasing income of the farmers. Agro-climatic condition, soil and water availability make it suitable for growing a wide variety of fruits, vegetable, spice, medicinal and aromatic plants. The horticulture in the district is very poor mainly due to lack of awareness about its importance and the marketing facilities. The marketing problem is due to the scattered production of the produce. The climate of the district is highly suitable for spices production there is immense potential exists for growing spice crops in rabi season in area having irrigation facility. At present, commercial floriculture is in very little area, however, increase in transport and other infrastructure facilities, the scope for its cultivation and marketing will also be increased. Cultivation of medicinal and aromatic plant in fallow land and farm boundary may provide an important livelihood option for the rural people. There is immense potential to bring more area under vegetable crops by using drip irrigation in area having limited irrigation facility to provide nutritional food security to rural farmers.

Table 5.2.1: Area, production and productivity of various vegetable crops in Rajkot district and Gujarat state (Year 2011-12)

Area in ha, Production in MT, Productivity in MT/ha

Sr. No.	Vegetables	Rajkot District			Gujarat State		
		Area	Prod.	Productivity	Area	Prod.	Productivity
1	Onion	12320	352352	28.60	62010	1514091	24.42
2	Brinjal	2850	51300	18.00	72008	1236265	17.17
3	Cabbage	2050	41000	20.00	28204	553559	19.63
4	Okra	2400	19200	8.00	54458	592512	10.88
5	Tomato	1850	38850	21.00	38802	978438	25.22
6	Cauliflower	1020	20400	20.00	21104	387413	18.36
7	Cluster bean	900	7200	8.00	30962	283466	9.16
8	Cowpea	860	6880	8.00	23954	247862	10.35
9	Cucurbits	2850	33630	11.80	52809	766361	14.51
10	Others	2925	46625	15.94	66288	937700	14.15
	Total	**30025**	**617437**	**20.56**	**450599**	**7497667**	**16.64**

Source: http://agri.gujarat.gov.in/hods/dire_horticulture/stat_area_prod.htm

Table 5.2.2: Area, production and productivity of various fruit crops in Rajkot district and Gujarat state (Year 2011-12)

Area in ha, Production in MT, Productivity in MT/ha

Sr. No.	Fruit	Rajkot District			Gujarat State		
		Area	Prod	Productivity	Area	Prod	Productivity
1	Mango	375	1312	3.50	130019	911302	7.01
2	Chiku	245	2940	12.00	28800	287989	10.00
3	Citrus	425	2975	7.00	39189	409134	10.44
4	Ber	275	1650	6.00	12261	128533	10.48
5	Banana	20	600	30.00	64680	3978023	61.50
6	Guava	10	90	9.00	10222	150741	14.75
7	Pomegranate	30	180	6.00	5795	60338	10.41
8	Papaya	190	20900	110.00	17796	973973	54.73
9	Custard apple	69	690	10.00	5381	55621	10.34
10	Aonla	135	810	6.00	12481	121514	9.74
11	Date palm	4	21	5.25	7163	21348	2.98
12	Coconut	17	187	11.00	20099	206780	10.29
13	Others	28	266	9.50	6298	42913	6.81
	Total	**1823**	**32621**	**17.89**	**360184**	**7348209**	**20.40**

Source: http://agri.gujarat.gov.in/hods/dire_horticulture/stat_area_prod.htm

Table 5.2.3: Area, production and productivity of major Medicinal & Aromatic crops in the Rajkot district (Year 2011-12)

Area in ha, Production in MT, Productivity in MT/ha

Sr. No.	Crops	Rajkot District		
		Area	Prod.	Productivity
	Medicinal and Aromatic crops			
1	Cumin	17885	11088	0.62
2	Garlic	11770	94160	8.00
3	Coriander	850	1360	1.60
4	Fenugreek	200	416	2.08
5	Chillies-Dry	2904	2352	0.81
6	Chillies-Green	2965	32615	11.00
	Total	**36610**	**141991**	3.88

Source: ACP Rajkot



Table 5.2.4 Area (ha) expansion plan for horticultural crops

Existing cropping pattern (2011-12)		2012- 13	2013- 14	2014-15	2015- 16	2016- 17	Total
Crop	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)	Area (ha)
Mango	375	400	425	450	475	500	2625
Chiku	245	265	285	305	325	345	1770
Citrus	425	440	455	470	485	500	2775
Ber	275	280	285	290	295	300	1725
Banana	20	22	23	25	27	30	147
Guava	10	20	30	40	50	60	210
Pomegranate	30	40	50	60	70	80	330
Papaya	190	195	200	205	210	215	1215
Custard apple	69	70	72	75	78	80	444
Aonla	135	137	140	142	144	145	843
Date palm	4	5	6	7	8	9	39
Coconut	17	18	20	22	23	25	125
Others	28	30	32	34	36	38	198
Total	**1823**	**1922**	**2023**	**2125**	**2226**	**2327**	**12446**

Table 5.2.5: Sustainability issues and gap analysis of productivity of different crops and resources

Sr. No.	Factors/Constrains leading to gap	Strategies	Approach and methodology	Performance indicators	Sustainability outputs
1.	**Vegetables**				
a.	Less area under hybrid vegetable crops and high tech vegetable due to lack of irrigation facilities and proper marketing	Popularize water harvesting techniques, drip irrigation and establishing collection centers on co-operative bases and linkage with suitable markets	Creating awareness about importance of vegetable crops, water harvesting structure, drip irrigation, establishing collation centers provided with cold chain linked vehicles	Increased area under hybrid and high tech vegetable crop	Increase the income of the farmers and secure the livelihoods.
b.	Poor management in kitchen gardening Limited availability of water and lack of awareness regarding management practices	Popularize the importance of nutritional security around the year through NAU kitchen garden model with low energy drip	Creating awareness and adoption of NAU kitchen garden model with low energy drip through demonstrations, training, shibir, literature etc	Strengthening kitchen gardening practices	Improvement in health of rural people

2.	**Chillies**				
a.	Problems of insect pests and diseases	Popularize IPM and IDM technologies	Creating awareness and adoption of IPM and IDM technology through demonstrations, training, shibir, literature etc	Reduction in insect pests and disease incidence	Reduction in pesticide load and increase in yield
b.	Lack of awareness and high cost of the processing plant Non adoption of Value added product from chilli	Popularize chilli powder and other value added product	Motivate and provide incentives to the farmers for establishing chilli powder unit and other value added products	Proper utilization of value addition and increase income of the farmers	Remunerative price and employment generation
3.	**Plantation crops**				
a.	Less area under fruit crops due to lack of awareness, small land holdings, limited irrigation facility	Popularize importance of fruit trees for sustainable income	Creating awareness and adoption of fruit crops through training, demonstrations and literature	Increase income of the farmers	Sustainability of farmers income
b.	Negligible area under flower crops due to lack of awareness, limited irrigation facility and marketing of the produce	Popularize importance of flower crops for sustainable income in identified area and market linking with suitable markets	Creating awareness and adoption of flower crops through training, demonstrations and literature	Increase income of the farmers	Sustainability of farmers income
5.	**Medicinal aromatic and spice crops plants**				
a.	Negligible area under medicinal, aromatic and spices crops due to lack of awareness, small land holdings, limited irrigation facility	Popularize importance of medicinal aromatic and spices crops for sustainable income in identified area and market linking with suitable users	Creating awareness and adoption of medicinal and aromatic plants through training, demonstrations and literature	Provide subsidiary income to the farmers	Sustainability of farmers income

Table 5.2.6: Bridging the gaps for realizing the Vision in Horticulture sector

Sr. No.	Program	Activities
1	**Thrust Areas/ Issues: Vegetable production**	
	Quality seed production	Educate the farmers for quality seed production of vegetable crops.
	Establishment of small scale nursery	Educate the farmers for raising nursery for preparing seedlings
	Increase area under hybrid and high-tech vegetable crops	Educating the farmers for importance of hybrid vegetable cultivations through demonstrations on vegetable cultivation, Low cost net/green houses and kitchen terrace/ gardening, hydroponic vegetables.
	IPM	Educating the farmers about various insect pest and diseases of vegetables and their IPM through demonstration and training
	Integrated Nutrient Management	Educating farmers about the use of balanced fertilizers well as various organic/alternate source of nutrient
	Cold storage	Establishment of cold storage at block level
	Market linkage	Strengthening market linkage through AGMARK net
	Collection centers	Establishment of collection centers
	Refrigerated van	Providing refrigerated van at cluster level
	Soil health and organic farming	Educating the farmers about the organic farming in vegetable crops
2	**Thrust Areas/ Issues: Fruit crops**	
	Increase area under fruit crops	Establishment of nurseries for quality samplings, capacity building and demonstrations
	IPM	Educating the farmers about various insect pest and diseases of fruit crops and their IPM through demonstration and training
	Proper & safe use of plant protection Equipment	Educate the farmers about proper & safe use of plant protection equipments
	Value addition	Establishment of processing units for value addition
	Recycling of crop residues	Converting of crop residues in small pieces through shredders and using it for composting
3	**Thrust Areas/ Issues: Floriculture**	
	Introduction of floriculture	Educating farmers through demonstration and training in cluster approach
4	**Thrust Areas/ Issues: Spices**	
	Introduction of spice crops	Educating farmers through demonstration and training in cluster approach
5	**Thrust Areas/ Issues: Conservation of bio-diversity Spices**	
	Organic farming	Educating farmers through demonstration and training in cluster approach
	Medicinal and aromatic plants	Educating farmers through demonstration and training in cluster approach

5.2.1 Activities for development of horticulture sector

Rajkot district is poor in vegetable production and there is a need to increase the production and productivity of the vegetable crops in the district. For growing the vegetable crops with modern scientific techniques needs to train the farmers to increase their knowhow. The broad planning has been proposed for supply of nursery, growing of nursery in green houses, quality seed production, IPM, INM practices and their trainings to farmers is proposed for XII five year plan in the district.

5.2.1.1 Training in vegetables crops

The table 5.2.1.1.1 to 5.2.1.1.8 shows the training needs in vegetables crops which includes the different technology like vegetable cultivation, nursery raising, IPM, soil health management (soil testing/ bio-fertilizers/ green manuring, organic farming, Value addition, processing, marketing/ co-operative societies. For 12th five year plan the total estimated amount for training of farmers in vegetables crops is Rs 115.50 lakhs.

Table 5.2.1.1.1: Training needs for vegetable cultivation

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
2	Maliya miyana	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
3	Morbi	70	0.21	70	0.21	70	0.21	70	0.21	70	0.21	350	1.05
4	Wankaner	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
5	Padadhri	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
6	Lodhika	70	0.21	70	0.21	70	0.21	70	0.21	70	0.21	350	1.05
7	Jam kandorna	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
8	Dhoraji	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
9	Jetpur	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
10	Gondal	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
11	Kotda sangani	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
12	Jasdan	110	0.33	110	0.33	110	0.33	110	0.33	110	0.33	550	1.65
13	Tankara	70	0.21	70	0.21	70	0.21	70	0.21	70	0.21	350	1.05
14	Upleta	90	0.27	90	0.27	90	0.27	90	0.27	90	0.27	450	1.35
Total		**1200**	**3.60**	**1200**	**3.60**	**1200**	**3.60**	**1200**	**3.60**	**1200**	**3.60**	**6000**	**18.00**

Unit cost: Rs.300/trainee

The table 5.2.1.1.2 shows the proposal for training programme on small scale nurseries in Rajkot district. The total estimated cost for training programme of small scale nurseries is Rs. 15 lakhs.

Table 5.2.1.1.2: Training needs for nursery raising

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
2	Maliya miyana	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
3	Morbi	60	0.18	60	0.18	60	0.18	60	0.18	60	0.18	300	0.90
4	Wankaner	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
5	Padadhri	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
6	Lodhika	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
7	Jam kandorna	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
8	Dhoraji	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
9	Jetpur	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
10	Gondal	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
11	Kotda sangani	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
12	Jasdan	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
13	Tankara	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
14	Upleta	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
Total		**1000**	**3.0**	**1000**	**3.0**	**1000**	**3.0**	**1000**	**3.0**	**1000**	**3.0**	**5000**	**15.0**

Unit cost: Rs.300/trainee

The table 5.2.1.1.3 show proposal for training programme on integrated pest management in fruit crops in Rajkot. The total estimated cost for training programme on integrated pest management is Rs 15 lakhs for 12th five year plan.

Table 5.2.1.1.3: Training needs for IPM

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
2	Maliya miyana	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
3	Morbi	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
4	Wankaner	60	0.18	60	0.18	60	0.18	60	0.18	60	0.18	300	0.90
5	Padadhri	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
6	Lodhika	60	0.18	60	0.18	60	0.18	60	0.18	60	0.18	300	0.90
7	Jam kandorna	70	0.21	70	0.21	70	0.21	70	0.21	70	0.21	350	1.05
8	Dhoraji	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
9	Jetpur	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
10	Gondal	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
11	Kotda sangani	70	0.21	70	0.21	70	0.21	70	0.21	70	0.21	350	1.05
12	Jasdan	80	0.24	80	0.24	80	0.24	80	0.24	80	0.24	400	1.20
13	Tankara	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
14	Upleta	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
Total		**1000**	**3.00**	**1000**	**3.00**	**1000**	**3.00**	**1000**	**3.00**	**1000**	**3.00**	**5000**	**15.00**

Unit cost: Rs.300/trainee

The table 5.2.1.1.4 shows the training programme for soil health management in Rajkot district. The total cost for soil health management in Rajkot district is Rs. 30 lakhs for the 12th five year plan.

Table 5.2.1.1.4: Training needs for soil health management

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
2	Maliya miyana	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
3	Morbi	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
4	Wankaner	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
5	Padadhri	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
6	Lodhika	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
7	Jam kandorna	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
8	Dhoraji	160	0.48	160	0.48	160	0.48	160	0.48	160	0.48	800	2.40
9	Jetpur	160	0.48	160	0.48	160	0.48	160	0.48	160	0.48	800	2.40
10	Gondal	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
11	Kotda sangani	140	0.42	140	0.42	140	0.42	140	0.42	140	0.42	700	2.10
12	Jasdan	160	0.48	160	0.48	160	0.48	160	0.48	160	0.48	800	2.40
13	Tankara	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
14	Upleta	100	0.30	100	0.30	100	0.30	100	0.30	100	0.30	500	1.50
Total		**2000**	**6.00**	**2000**	**6.00**	**2000**	**6.00**	**2000**	**6.00**	**2000**	**6.00**	**10000**	**30.00**

Unit cost: Rs.300/trainee

The proposal for establishment of training on organic farming in Rajkot district is shown in table 5.2.1.1.5. The total cost for training for organic farming Rajkot district is Rs. 22.5 lakhs for the 12th five year plan.

Table 5.2.1.1.5: Training needs for organic farming

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	150	0.45	150	0.45	150	0.45	150	0.45	150	0.45	750	2.25
2	Maliya miyana	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
3	Morbi	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
4	Wankaner	90	0.27	90	0.27	90	0.27	90	0.27	90	0.27	450	1.35
5	Padadhri	150	0.45	150	0.45	150	0.45	150	0.45	150	0.45	750	2.25
6	Lodhika	90	0.27	90	0.27	90	0.27	90	0.27	90	0.27	450	1.35
7	Jam kandorna	105	0.315	105	0.315	105	0.315	105	0.315	105	0.315	525	1.575
8	Dhoraji	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
9	Jetpur	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
10	Gondal	150	0.45	150	0.45	150	0.45	150	0.45	150	0.45	750	2.25
11	Kotda sangani	105	0.315	105	0.315	105	0.315	105	0.315	105	0.315	525	1.575
12	Jasdan	120	0.36	120	0.36	120	0.36	120	0.36	120	0.36	600	1.80
13	Tankara	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
14	Upleta	75	0.225	75	0.225	75	0.225	75	0.225	75	0.225	375	1.125
Total		**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**1500**	**4.50**	**7500**	**22.50**

Unit cost: Rs.300/trainee

The proposal for training for value addition /processing is shown in table 5.2.1.1.6. The total estimated cost is Rs 7.50 lakhs for 12th five year plan in Rajkot district.

Table 5.2.1.1.6: Training for value addition /processing

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
2	Maliya miyana	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
3	Morbi	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
4	Wankaner	30	0.09	30	0.09	30	0.09	30	0.09	30	0.09	150	0.45
5	Padadhri	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
6	Lodhika	30	0.09	30	0.09	30	0.09	30	0.09	30	0.09	150	0.45
7	Jam kandorna	35	0.105	35	0.105	35	0.105	35	0.105	35	0.105	175	0.525
8	Dhoraji	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
9	Jetpur	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
10	Gondal	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
11	Kotda sangani	35	0.105	35	0.105	35	0.105	35	0.105	35	0.105	175	0.525
12	Jasdan	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
13	Tankara	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
14	Upleta	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
Total		**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**2500**	**7.50**

Unit cost: Rs.300/trainee

The proposal for establishment of training needs for marketing/ co-operative societies unit is shown in table 5.2.1.1.7. The total estimated cost is Rs 7.50 lakhs for 12th five year plan in Rajkot district.

Table 5.2.1.1.7: Training for marketing/ co-operative societies

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
2	Maliya miyana	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
3	Morbi	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
4	Wankaner	30	0.09	30	0.09	30	0.09	30	0.09	30	0.09	150	0.45
5	Padadhri	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
6	Lodhika	30	0.09	30	0.09	30	0.09	30	0.09	30	0.09	150	0.45
7	Jam kandorna	35	0.105	35	0.105	35	0.105	35	0.105	35	0.105	175	0.525
8	Dhoraji	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
9	Jetpur	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
10	Gondal	50	0.15	50	0.15	50	0.15	50	0.15	50	0.15	250	0.75
11	Kotda sangani	35	0.105	35	0.105	35	0.105	35	0.105	35	0.105	175	0.525
12	Jasdan	40	0.12	40	0.12	40	0.12	40	0.12	40	0.12	200	0.60
13	Tankara	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
14	Upleta	25	0.075	25	0.075	25	0.075	25	0.075	25	0.075	125	0.375
Total		**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**500**	**1.50**	**2500**	**7.50**

Unit cost: Rs.300/trainee

Table 5.2.1.1.8: Summary for training needs in vegetables crops

(Phy.- Number of trainee , Fin. – Rs. in Lakh)

Name of Technology	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Vegetable cultivation	1200	3.60	1200	3.60	1200	3.60	1200	3.60	1200	3.60	6000	18.00
Nursery raising	1000	3.0	1000	3.0	1000	3.0	1000	3.0	1000	3.0	5000	15.00
IPM	1000	3.00	1000	3.00	1000	3.00	1000	3.00	1000	3.00	5000	15.00
Soil health management (soil testing/bio-fertilizers/green manuring	2000	6.00	2000	6.00	2000	6.00	2000	6.00	2000	6.00	10000	30.00
Organic farming	1500	4.50	1500	4.50	1500	4.50	1500	4.50	1500	4.50	7500	22.50
Value addition /Processing	500	1.50	500	1.50	500	1.50	500	1.50	500	1.50	2500	7.50
Marketing/ Co-operative societies	500	1.50	500	1.50	500	1.50	500	1.50	500	1.50	2500	7.50
Total	**7700**	**23.10**	**7700**	**23.10**	**7700**	**23.10**	**7700**	**23.10**	**7700**	**23.10**	**38500**	**115.50**

5.2.1.2 Establishment of nurseries

The table 5.2.1.2.1 shows the proposal for establishment of small scale nurseries in various talukas of Rajkot district. The total estimated cost per unit is Rs 3.00 lakh for establishment of small scale nurseries and total cost is Rs. 240 lakhs.

Table 5.2.1.2.1: Establishment of nurseries: (Cost @ Rs 3.00Lakh/unit)

(Phy.- Number. , Fin. – Rs.in Lakh)

Sr No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	2	6	2	6	2	6	2	6	2	6	10	30
2	Maliya miyana	0	0	0	0	0	0	0	0	0	0	0	0
3	Morbi	1	3	1	3	1	3	1	3	1	3	5	15
4	Wankaner	1	3	1	3	1	3	1	3	1	3	5	15
5	Padadhri	1	3	1	3	1	3	1	3	1	3	5	15
6	Lodhika	1	3	1	3	1	3	1	3	1	3	5	15
7	Jam kandorna	1	3	1	3	1	3	1	3	1	3	5	15
8	Dhoraji	2	6	2	6	2	6	2	6	2	6	10	30
9	Jetpur	2	6	2	6	2	6	2	6	2	6	10	30
10	Gondal	2	6	2	6	2	6	2	6	2	6	10	30
11	Kotda sangani	1	3	1	3	1	3	1	3	1	3	5	15
12	Jasdan	1	3	1	3	1	3	1	3	1	3	5	15
13	Tankara	1	3	1	3	1	3	1	3	1	3	5	15
14	Upleta	0	0	0	0	0	0	0	0	0	0	0	0
Total		**16**	**48**	**16**	**48**	**16**	**48**	**16**	**48**	**16**	**48**	**80**	**240**

5.2.1.3 Establishment of poly houses

The proposal for establishment of Poly houses in Rajkot district is shown in table 5.2.1.3.1The total estimated cost for demonstrations on establishment of Poly houses is Rs 3000 lakhs for 12th five year plan.

Table 5.2.1.3.1: Establishment of poly houses: (Cost @ Rs 30.00 Lakh/unit)

(Phy.- Number. , Fin. – Rs.in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	3	90	3	90	3	90	3	90	3	90	15	450
2	Maliya miyana	1	30	1	30	1	30	1	30	1	30	5	150
3	Morbi	1	30	1	30	1	30	1	30	1	30	5	150
4	Wankaner	1	30	1	30	1	30	1	30	1	30	5	150
5	Padadhri	2	60	2	60	2	60	2	60	2	60	10	300
6	Lodhika	1	30	1	30	1	30	1	30	1	30	5	150
7	Jam kandorna	1	30	1	30	1	30	1	30	1	30	5	150
8	Dhoraji	1	30	1	30	1	30	1	30	1	30	5	150
9	Jetpur	2	60	2	60	2	60	2	60	2	60	10	300
10	Gondal	3	90	3	90	3	90	3	90	3	90	15	450
11	Kotda sangani	1	30	1	30	1	30	1	30	1	30	5	150
12	Jasdan	1	30	1	30	1	30	1	30	1	30	5	150
13	Tankara	1	30	1	30	1	30	1	30	1	30	5	150
14	Upleta	1	30	1	30	1	30	1	30	1	30	5	150
Total		**20**	**600**	**20**	**600**	**20**	**600**	**20**	**600**	**20**	**600**	**100**	**3000**

5.2.1.4.: Demonstrations on vegetables for area expansion

The proposal for demonstrations on vegetables for area expansion in Rajkot district is shown in table 5.2.1.4.1. The total estimated cost for demonstrations on vegetables for area expansion is Rs 100 lakhs for 12th five year plan.

Table 5.2.1.4.1: Demonstrations on vegetables for area expansion

(Phy.- Number., Fin. – Rs.in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	20	2	20	2	20	2	20	2	20	2	100	10
2	Maliya miyana	10	1	10	1	10	1	10	1	10	1	50	5
3	Morbi	10	1	10	1	10	1	10	1	10	1	50	5
4	Wankaner	10	1	10	1	10	1	10	1	10	1	50	5
5	Padadhri	20	2	20	2	20	2	20	2	20	2	100	10
6	Lodhika	15	1.50	15	1.50	15	1.50	15	1.50	15	1.50	75	7.5
7	Jam kandorna	15	1.50	15	1.50	15	1.50	15	1.50	15	1.50	75	7.5
8	Dhoraji	20	2	20	2	20	2	20	2	20	2	100	10
9	Jetpur	20	2	20	2	20	2	20	2	20	2	100	10
10	Gondal	20	2	20	2	20	2	20	2	20	2	100	10
11	Kotda sangani	10	1	10	1	10	1	10	1	10	1	50	5
12	Jasdan	10	1	10	1	10	1	10	1	10	1	50	5
13	Tankara	10	1	10	1	10	1	10	1	10	1	50	5
14	Upleta	10	1	10	1	10	1	10	1	10	1	50	5
Total		**200**	**20**	**200**	**20**	**200**	**20**	**200**	**20**	**200**	**20**	**1000**	**100**

5.2.1.5: Demonstrations on integrated pest management in vegetable crops

The table 5.2.1.5.1 shows the proposal for demonstrations on integrated pest management in vegetable crops in Rajkot district. The total estimated cost for demonstrations on integrated pest management in vegetable crops is Rs 100.00 lakhs for 12th five year plan.

Table 5.2.1.5.1: Demonstrations on integrated pest management in vegetable crops

(Phy.- Number. , Fin. – Rs.in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	40	2	40	2	40	2	40	2	40	2	200	10
2	Maliya miyana	20	1	20	1	20	1	20	1	20	1	100	5
3	Morbi	20	1	20	1	20	1	20	1	20	1	100	5
4	Wankaner	20	1	20	1	20	1	20	1	20	1	100	5
5	Padadhri	40	2	40	2	40	2	40	2	40	2	200	10
6	Lodhika	30	1.5	30	1.5	30	1.5	30	1.5	30	1.5	150	7.5
7	Jam kandorna	30	1.5	30	1.5	30	1.5	30	1.5	30	1.5	150	7.5
8	Dhoraji	40	2	40	2	40	2	40	2	40	2	200	10
9	Jetpur	40	2	40	2	40	2	40	2	40	2	200	10
10	Gondal	40	2	40	2	40	2	40	2	40	2	200	10
11	Kotda sangani	20	1	20	1	20	1	20	1	20	1	100	5
12	Jasdan	20	1	20	1	20	1	20	1	20	1	100	5
13	Tankara	20	1	20	1	20	1	20	1	20	1	100	5
14	Upleta	20	1	20	1	20	1	20	1	20	1	100	5
Total		**400**	**20**	**400**	**20**	**400**	**20**	**400**	**20**	**400**	**20**	**2000**	**100**

5.2.1.6: Demonstrations on Integrated nutrient management in Vegetables crops

The proposal for establishment of units for integrated nutrient management in fruit crops in Rajkot district is shown in table 5.2.1.6.1. The total estimated cost for establishment number of on integrated nutrient management in fruit crops is Rs 80 lakhs for 12th five year plan.

Table 5.2.1.6.1: Demonstrations on integrated nutrient management in Vegetables crops

(Phy.- Number. , Fin. – Rs.in Lakh)

Sr. No.	Taluka name	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina	Phy	Fina
1	Rajkot	40	1.60	40	1.60	40	1.60	40	1.60	40	1.60	200	8.00
2	Maliya miyana	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
3	Morbi	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
4	Wankaner	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
5	Padadhri	40	1.60	40	1.60	40	1.60	40	1.60	40	1.60	200	8.00
6	Lodhika	30	1.20	30	1.20	30	1.20	30	1.20	30	1.20	150	6.00
7	Jam kandorna	30	1.20	30	1.20	30	1.20	30	1.20	30	1.20	150	6.00
8	Dhoraji	40	1.60	40	1.60	40	1.60	40	1.60	40	1.60	200	8.00
9	Jetpur	40	1.60	40	1.60	40	1.60	40	1.60	40	1.60	200	8.00
10	Gondal	40	1.60	40	1.60	40	1.60	40	1.60	40	1.60	200	8.00
11	Kotda sangani	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
12	Jasdan	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
13	Tankara	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
14	Upleta	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Total		**400**	**16**	**400**	**16**	**400**	**16**	**400**	**16**	**400**	**16**	**2000**	**80.00**

5.2.1.7: Project proposal for low cost net house

The table 5.2.1.7.1 shows the proposal for establishment of low cost net house in Rajkot district. The total cost for establishment of net houses in Rajkot district is Rs. 300 lakhs for the 12th five year plan.

Table 5.2.1.7.1: Project proposal for low cost net house

(Phy-No. of units, Fin. – Rs in Lakh)

Name of Taluka	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Morbi	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Tankara	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Wankaner	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Padadhari	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Rajkot	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Lodhika	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Kotada Sangani	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Jasdan	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Gondal	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Jam Kandorana	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Upleta	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Dhoraji	8	4.8	8	4.8	8	4.8	8	4.8	8	4.8	40	24
Jetpur	6	3.6	6	3.6	6	3.6	6	3.6	6	3.6	30	18
Total	**100**	**60.00**	**100**	**60.0**	**100**	**60.0**	**100**	**60.0**	**100**	**60.0**	**500**	**300.00**

Number of units (ha.) each 50 sq. mt area Cost @ Rs 60,000/unit

5.2.1.8: Project proposal for kitchen gardening with low energy drip

The proposal for establishment of kitchen gardening with low energy drip in Rajkot district is shown in table 5.2.1.8.1. The total cost for establishment of kitchen gardening with low energy drip in Rajkot district is Rs. 45 lakhs for the 12th five year plan.

Table 5.2.1.8.1: Project proposal for kitchen gardening with low energy drip

(Phy-No. of units, Fin. – Rs in Lakh)

Name of Taluka	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin	Phy	Fin.
Maliya-Miyana	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Morbi	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Tankara	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Wankaner	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Padadhari	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Rajkot	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Lodhika	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Kotada Sangani	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Jasdan	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Gondal	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Jam Kandorana	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Upleta	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Dhoraji	24	0.72	24	0.72	24	0.72	24	0.72	24	0.72	120	3.60
Jetpur	18	0.54	18	0.54	18	0.54	18	0.54	18	0.54	90	2.70
Total	**300**	**9.00**	**300**	**9.00**	**300**	**9.00**	**300**	**9.00**	**300**	**9.00**	**1500**	**45.00**

Number of units (ha.) each 50 sq. mt area Cost @ Rs 3,000/unit

5.2.1.9: High tech vegetable farming including all components

The table 5.2.1.9.1 shows the proposal for establishment of high tech vegetable farming in Rajkot district. The total cost for establishment of high tech vegetable farming is Rs. 150 lakhs for the 12th five year plan.

Table 5.2.1.9.1: High tech vegetable farming including all components

(Phy-No. of units, Fin. – Rs in Lakh)

Name of Taluka	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Morbi	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Tankara	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Wankaner	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Padadhari	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Rajkot	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Lodhika	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Kotada Sangani	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Jasdan	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Gondal	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Jam Kandorana	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Upleta	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Dhoraji	8	2.4	8	2.4	8	2.4	8	2.4	8	2.4	40	12.0
Jetpur	6	1.8	6	1.8	6	1.8	6	1.8	6	1.8	30	9.0
Total	**100**	**30.0**	**100**	**30.0**	**100**	**30.0**	**100**	**30.0**	**100**	**30.0**	**500**	**150.0**

Number of units (ha.) each 50 sq. mt area Cost @ Rs 30,000/unit

5.2.1.10: Proposal for establishment of cold storage units

The proposal for establishment of cold storage units in Rajkot district is presented in table 5.2.1.10.1. The total cost for establishment of cold storage units in Rajkot district are Rs 1500 lakhs for the 12th five year plan.

Table 5.2.1.10.1: Proposal for establishment of cold storage units

(Phy-No. of unit, Fin. – Rs in Lakh)

Name of Taluka	Year-wise project proposal											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	300	-	-	-	-	-	-	-	-	1	300
Lodhika	-	-	-	-	-	-	1	300			1	300
Jasdan	-	-	-	-	1	300	-	-	-	-	1	300
Gondal	-	-	1	300	-	-	-	-	-	-	1	300
Dhoraji	-	-	-	-	-	-	-	-	1	300	1	300
Total	**1**	**300**	**1**	**300**	**1**	**300**	**1**	**300**	**1**	**300**	**5**	**1500**

Cost @ Rs 300 Lakh/ unit

5.2.1.11: Proposal for establishment of collection centers

The proposal for establishment of collection centers units in Rajkot district is presented in table 5.2.1.11.1. The total cost for establishment of collection centers units in Rajkot district is Rs 75 lakhs for the 12th five year plan.

Table 5.2.1.11.1: Proposal for establishment of collection centres

(Phy-No. of unit, Fin. – Rs in Lakh)

Name of Taluka	Year-wise project proposal											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	-	-	-	-	-	-	-	-	-	-	-	-
Morbi	-	-	-	-	-	-	-	-	-	-	-	-
Tankara	-	-	-	-	-	-	-	-	-	-	-	-
Wankaner	-	-	-	-	-	-	-	-	-	-	-	-
Padadhari	-	-	-	-	-	-	-	-	-	-	-	-
Rajkot	5	15	-	-	-	-	-	-	-	-	5	15
Lodhika	-	-	-	-	-	-	5	15			5	15
Kotada Sangani	-	-	-	-	-	-	-	-	-	-	-	-
Jasdan	-	-	-	-	5	15	-	-	-	-	5	15
Gondal			5	15	-	-	-	-	-	-	5	15
Jam Kandorana	-	-	-	-	-	-	-	-	-	-	-	-
Upleta	-	-	-	-	-	-	-	-	-	-	-	-
Dhoraji	-	-	-	-	-	-	-	-	5	15	5	15
Jetpur	-	-	-	-	-	-	-	-	-	-	-	-
Total	**5**	**15**	**5**	**15**	**5**	**15**	**5**	**15**	**5**	**15**	**25**	**75**

Cost @ Rs 3 Lakh/ unit

5.2.1.12: Proposal for providing refrigerated vans

The proposal for refrigerated vans in Rajkot district is presented in table 5.2.1.12.1. The total estimated cost for establishment of refrigerated vans is Rs 85 lakhs for the 12th five year plan.

Table 5.2.1.12.1: Proposal for providing refrigerated vans

(Phy-No. of unit, Fin. – Rs in Lakh)

Name of Taluka	Year-wise project proposal											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	17	-	-	-	-	-	-	-	-	1	17
Lodhika	-	-	-	-	-	-	1	17			1	17
Jasdan	-	-	-	-	1	17	-	-	-	-	1	17
Gondal	-	-	1	17	-	-	-	-	-	-	1	17
Dhoraji	-	-	-	-	-	-	-	-	1	17	1	17
Total	**1**	**17**	**1**	**17**	**1**	**17**	**1**	**17**	**1**	**17**	**5**	**85**

Cost @ Rs 17 Lakh/ unit

5.2.1.13: Training needs of farmers for fruit crops

The proposal for providing training to farmers for fruit crops in Rajkot district is shown in table 5.2.1.13.1 to 5.2.1.13.5. The table includes the different technology such as fruit cultivation, nursery raising, IPM/INM and value addition processing. For 12th five year plan the total estimated amount for providing training to the farmers for fruit crops is Rs 13.50 lakhs.

Table 5.2.1.13.1: Training needs of farmers for fruit cultivation

(Phy-No. of farmer, Fin. – Rs in Lakh)

Name of Taluka	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Morbi	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Tankara	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Wankaner	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Padadhari	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Rajkot	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Lodhika	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Kotada Sangani	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Jasdan	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Gondal	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Jam Kandorana	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Upleta	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Dhoraji	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Jetpur	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Total	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**1000**	**3.00**

Cost @ Rs 300/farmer

The proposal for providing training to farmers for nursery raising in Rajkot district is shown in table 5.2.1.13.2 For 12th five year plan the total estimated amount for providing training to the farmers for nursery raising is Rs 3.75 lakhs.

Table 5.2.1.13.2: Training needs of farmers for nursery raising for fruit crops

(Phy-No. of farmer, Fin. – Rs in Lakh)

Name of Taluka	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Morbi	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Tankara	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Wankaner	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Padadhari	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Rajkot	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Lodhika	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Kotada Sangani	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Jasdan	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Gondal	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Jam Kandorana	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Upleta	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Dhoraji	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Jetpur	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Total	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**500**	**3.750**

Cost @ Rs 750/farmer

The proposal for providing training to farmers for INM / IPM in Rajkot district is shown in table 5.2.1.13.3. For 12th five year plan the total estimated amount for providing training to the farmers for INM / IPM is Rs 3.00 lakhs.

Table 5.2.1.13.3: Training needs of farmers for INM / IPM for fruit crops

(Phy-No. of farmer, Fin. – Rs in Lakh)

Name of Taluka	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Morbi	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Tankara	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Wankaner	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Padadhari	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Rajkot	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Lodhika	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Kotada Sangani	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Jasdan	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Gondal	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Jam Kandorana	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Upleta	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Dhoraji	16	0.048	16	0.048	16	0.048	16	0.048	16	0.048	80	0.24
Jetpur	12	0.036	12	0.036	12	0.036	12	0.036	12	0.036	60	0.18
Total	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**200**	**0.60**	**1000**	**3.00**

Cost @ Rs 300/farmer

The proposal for providing training to farmers for value addition in Rajkot district is shown in table 5.2.1.13.4. For 12th five year plan the total estimated amount for providing training to the farmers for value addition is Rs 3.75 lakhs.

Table 5.2.1.13.4: Training needs of farmers for Value addition processing for fruit crops

(Phy-No. of farmer, Fin. – Rs in Lakh)

Name of Taluka	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya-Miyana	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Morbi	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Tankara	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Wankaner	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Padadhari	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Rajkot	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Lodhika	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Kotada Sangani	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Jasdan	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Gondal	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Jam Kandorana	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Upleta	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Dhoraji	8	0.060	8	0.060	8	0.060	8	0.060	8	0.060	40	0.300
Jetpur	6	0.045	6	0.045	6	0.045	6	0.045	6	0.045	30	0.225
Total	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**100**	**0.75**	**500**	**3.750**

Cost @ Rs 750/farmer

Table 5.2.1.13.5: Summary of training needs of farmers for fruit crops

Name of Technology	Year-wise number of farmers to be trained											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Fruit cultivation	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
Nursery raising	100	0.75	100	0.75	100	0.75	100	0.75	100	0.75	500	3.750
IPM/INM	200	0.60	200	0.60	200	0.60	200	0.60	200	0.60	1000	3.00
Value addition Processing	100	0.75	100	0.75	100	0.75	100	0.75	100	0.75	500	3.750
Total	**600**	**2.70**	**600**	**2.70**	**600**	**2.70**	**600**	**2.70**	**600**	**2.70**	**3000**	**13.50**

5.2.1.14: Demonstrations on fruit crops

The proposal for conducting demonstrations on various aspect for fruit crops on farmers fields in Rajkot district is shown in table 5.2.1.14.1 For 12th five year plan the total estimated amount for conducting demonstrations is Rs 50.00 lakhs

Table 5.2.1.14.1: Demonstrations on fruit crops

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya miyana	10	0.40	10	0.40	10	0.40	10	0.40	10	0.40	50	2.00
Morbi	30	1.20	30	1.20	30	1.20	30	1.20	30	1.20	150	6.00
Tankara	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Wankaner	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Padadhari	15	0.60	15	0.60	15	0.60	15	0.60	15	0.60	75	3.00
Rajkot	15	0.60	15	0.60	15	0.60	15	0.60	15	0.60	75	3.00
Lodhika	12	0.48	12	0.48	12	0.48	12	0.48	12	0.48	60	2.40
Kotada sangani	10	0.40	10	0.40	10	0.40	10	0.40	10	0.40	50	2.00
Jasdan	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Gondal	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Jam kandorana	18	0.72	18	0.72	18	0.72	18	0.72	18	0.72	90	3.600
Upleta	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Dhoraji	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Jetpur	20	0.80	20	0.80	20	0.80	20	0.80	20	0.80	100	4.00
Total	**250**	**10.00**	**250**	**10.00**	**250**	**10.00**	**250**	**10.00**	**250**	**10.00**	**1250**	**50.00**

Each unit 0.4 ha & its cost Rs.4000/-

5.2.1.15.: Supply of plant protection equipment (Foot sprayer)

The proposal for supply of plant protection equipment (Foot sprayer) in Rajkot district shown in table 5.2.1.15. The total estimated cost for Supply of plant protection equipment (Foot sprayer) in Rajkot district is Rs 10 lakhs for the 12th five year plan.

Table 5.2.1.15.1: Supply of plant protection equipment (Foot sprayer)

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya miyana	3	0.12	3	0.12	3	0.12	3	0.12	3	0.12	15	0.60
Morbi	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Tankara	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Wankaner	3	0.12	3	0.12	3	0.12	3	0.12	3	0.12	15	0.60
Padadhari	3	0.12	3	0.12	3	0.12	3	0.12	3	0.12	15	0.60
Rajkot	3	0.12	3	0.12	3	0.12	3	0.12	3	0.12	15	0.60
Lodhika	2	0.08	2	0.08	2	0.08	2	0.08	2	0.08	10	0.40
Kotada sangani	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Jasdan	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Gondal	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Jam kandorana	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Upleta	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Dhoraji	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Jetpur	4	0.16	4	0.16	4	0.16	4	0.16	4	0.16	20	0.80
Total	**50**	**2.00**	**50**	**2.00**	**50**	**2.00**	**50**	**2.00**	**50**	**2.00**	**250**	**10.00**

Unit cost Rs.4000/-

5.2.1.16: Establishment of fruit/vegetable pack house

The proposal for establishment of fruit/vegetable pack house in Rajkot district is shown in table 5.2.1.16.1. The total estimated cost for establishment of fruit/vegetable pack houses in Rajkot district is Rs 75 lakhs for the 12th five year plan.

Table 5.2.1.16.1: Establishment of fruit/vegetable pack house

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Morbi	1	3.	1	3	1	3	0	0	0	0	3	9
Tankara	0	0	0	0	0	0	1	3	1	3	2	6
Wankaner	1	3	1	3	1	3	0	0	0	0	3	9
Padadhari	0	0	0	0	0	0	1	3	1	3	2	6
Rajkot	1	3	0	0	0	0	1	3	1	3	3	9
Lodhika	0	0	1	3	1	3	0	0	0	0	2	6
Kotada sangani	0	0	0	0	0	0	1	3	1	3	2	6
Gondal	0	0	1	3	1	3	0	0	0	0	2	6
Upleta	1	3	0	0	0	0	1	3	1	3	3	9
Dhoraji	1	3	1	3	1	3	0	0	0	0	3	9
Total	**5**	**15**	**5**	**15**	**5**	**15**	**5**	**15**	**5**	**15**	**25**	**75**

Unit Cost Rs.3.00 Lakh

5.2.1.17: Recycling of farm waste through shredder and established compost & vermi composting

The proposal for establishment of recycling of farm waste through shredder and established compost & vermi-composting in Rajkot district is shown in table 5.2.1.17.1. The cost of establishment of one unit is 2 lakhs. The total estimated cost for establishment of of recycling of farm waste through shredder and established compost & vermi-composting in Rajkot district is Rs 100 lakhs for the 12th five year plan.

Table 5.2.1.17.1: Recycling of farm waste through shredder and established compost & vermi-composting

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Morbi	1	2	1	2	1	2	1	2	1	2	5	10
Tankara	1	2	1	2	1	2	1	2	1	2	5	10
Padadhari	1	2	1	2	1	2	1	2	1	2	5	10
Rajkot	1	2	1	2	1	2	1	2	1	2	5	10
Jasdan	1	2	1	2	1	2	1	2	1	2	5	10
Gondal	1	2	1	2	1	2	1	2	1	2	5	10
Jam kandorana	1	2	1	2	1	2	1	2	1	2	5	10
Upleta	1	2	1	2	1	2	1	2	1	2	5	10
Dhoraji	1	2	1	2	1	2	1	2	1	2	5	10
Jetpur	1	2	1	2	1	2	1	2	1	2	5	10
Total	**10**	**20**	**10**	**20**	**10**	**20**	**10**	**20**	**10**	**20**	**50**	**100**

Unit Cost Rs. 2.00 Lakh

5.2.1.18: Model floriculture centers cluster based

The proposal for establishment of units on Model floriculture centers cluster based in Rajkot district is shown in table 5.2.1.18.1. The number of demonstrations is proposed in each taluka and expenditure is Rs 8.35 lakh per demonstration. The total estimated expenditure for this is Rs 626.25 lakhs for 12th five year plan in Rajkot district.

Table 5.2.1.18.1: Model floriculture centers cluster based

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Maliya miyana	0	0	0	0	0	0	0	0	0	0	0	0
Morbi	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Tankara	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Wankaner	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Padadhari	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Rajkot	3	25.05	3	25.05	3	25.05	3	25.05	3	25.05	15	125.25
Jasdan	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Gondal	2	16.70	2	16.70	2	16.70	2	16.70	2	16.70	10	83.5
Jam kandorana	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Upleta	2	16.70	2	16.70	2	16.70	2	16.70	2	16.70	10	83.5
Dhoraji	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Jetpur	1	8.35	1	8.35	1	8.35	1	8.35	1	8.35	5	41.75
Total	**15**	**125.25**	**15**	**125.25**	**15**	**125.25**	**15**	**125.25**	**15**	**125.25**	**75**	**626.25**

Unit Cost Rs. 8.35 Lakh

5.2.1.19: Cluster based demonstrations on spice, medicinal and aromatic plants

The proposal for establishment of units on Cluster based Demonstrations on spice, medicinal and aromatic plants in Rajkot district is shown in table 5.2.1.19.1. The number of demonstrations is proposed in each taluka and expenditure is Rs 25000 per demonstration. The total estimated expenditure for this is Rs 12.5 lakhs for 12th five year plan in Rajkot district.

Table 5.2.1.19.1: Cluster based demonstrations on spice, medicinal and aromatic plants

Name of Taluka	Number of Demonstrations and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Morbi	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Tankara	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Wankaner	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Padadhari	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Rajkot	2	0.50	2	0.50	2	0.50	2	0.50	2	0.50	10	2.50
Jasdan	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Jam kandorana	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Upleta	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Dhoraji	1	0.25	1	0.25	1	0.25	1	0.25	1	0.25	5	1.25
Total	**10**	**2.50**	**10**	**2.50**	**10**	**2.50**	**10**	**2.50**	**10**	**2.50**	**50**	**12.50**

Each cluster 5.0ha & its cost Rs. 0.25 Lakh

5.3 Animal Husbandry

The Animal husbandry Sector plays an important and vital role in GDP of Gujarat State, which is to the tune of nearly about 5.0%. This sector also contributes to product nutritive food, rich in animal protein, to the general public and good supplementary income to the economically weaker section of society like S.T., S.C., small farmers, marginal farmers and agricultural labours. In addition, it offers a good employment generation opportunity, if adopted on a large commercial basis.

Central to the challenge of ensuring improved livelihood and environmental sustainability is the ruminant livestock-particularly buffalo, cattle and goats- that are an integral part of the district's farming system. The expanding market with rise in demand for diverse animal products and easy access to marketing are added opportunities for further strengthening of this sector in the district with wide network of infrastructural and support services.

Table 5.3.1.1: Livestocks in Rajkot district

Taluka	Cows	Buffallo	Oxe	Sheep-Goat	Camel	Dog-donkey	Horse	Hens	Other	Total
Maliya	6205	7973	1316	19195	3	191	91	-	490	35464
Morbi	13802	31015	2903	21319	-	86	41	-	0	69166
Tankara	6995	14084	4534	37457	-	2157	30	-	249	65506
Wankaner	38726	63558	14750	63329	-	1337	53	-	128	181881
Padghari	9374	14689	9946	30070	-	119	46	-	2	64246
Rajkot	31590	29950	15104	37627	-	1571	46	-	150	116038
Lodhika	9684	9868	7128	10453	-	404	16	-	0	37553
Kotda-sangani	11931	10759	9477	13695	-	6	24	-	26	45918
Jasdan	71441	57954	30986	79305	-	2072	152	-	25	241935
Gondal	29684	29517	22153	36415	-	689	62	-	124	118644
Jamkandorana	11840	13768	13218	9866	-	1964	10	-	0	50666
Upleta	12303	25168	7023	12622	49	31	54	-	4	57254
Dhoraji	5403	15132	4235	6741	32	64	5	-	33	31645
Jetpur	14423	20466	14223	18264	10	85	25	-	0	67496
Total	**273401**	**343901**	**156996**	**396358**	**94**	**10776**	**655**	**182339**	**1231**	**1183412**

Source: Statistical Report of Rajkot District (2008-2009) & Statistical Report of Rajkot District (2010-2011)

5.3.1: Dairy Development

Dairy is an essential component of the district. There is a long tradition of rearing dairy animals by the farmers in the district. Large numbers of landless families are also engaged in dairy animal rearing. There are 273401,343901,156996 and 396385 cows, buffaloes, oxe and sheep- goat, respectively in the district and milk production is of 75091126 lit. There exists wide gap between the average yield and attainable yield and/or potential yield which offers scope for improvement in productivity. The existing gaps in germplasm, low reproductive efficiency, shortage of quality feed and fodder (even quality), inadequate disease management etc. are to be addressed through a shift towards technology driven livestock production and management. Enhanced farmers' interest and thrust of animal husbandry and other government departments and agencies are required in increasing milk yield of the district.

The stock/germplasm gap can be tackled through A.I. services and supply of known pedigree bulls. The gap of milk yield can be bridged through availability of green fodder and popularizing hay and silage making. The macro and micro-nutrient deficiency in fodder/soil is also affecting the productivity of these animals through poor quality fodder supplement addressing the mineral deficiency in diet. The majority of farmers are feeding poor quality fodder to animals. To aware the farmers on this important aspect, quality fodder production through varietals and INM demonstrations are recommended. The high calf mortality and other disease threat would effectively be checked by starting extensive campaigns related to calf rearing and management. For effective disease control the veterinary services are to be strengthened by providing different improved diagnostic kits for mastitis, FMD etc. and providing mobile hospital vans for door step services to the farmers. The existing schemes and programmes for improvement of health of animals and enhancing milk productions are planned to be supplemented under RKVY.

In addition to the proposed extension activities of capacity building and skill up gradation, the entrepreneurship development programmes are also included in the plan.

Table 5.3.1.2 Number of milk co-operative society in district

Sr.No.	Taluka	Milk Co-Opp. Society.	Member	Milk Prodution.(lit)
1	Maliya-Miyana	21	1275	2763840
2	Morbi	35	1926	4032979
3	Tankara	32	2888	4051406
4	Wankaner	95	8712	15322283
5	Padadhari	18	1730	1946810
6	Rajkot	61	4453	10067547
7	Lodhika	14	1360	1690201
8	Kotada sangani	23	2099	2858410
9	Jasdan	87	6066	11930530
10	Gondal	38	5586	4217474
11	Jam Kandorana	26	3153	3055138
12	Upleta	20	1524	5861491
13	Dhoraji	22	1706	4019232
14	Jetpur	24	2935	3273785
	Total	**516**	**45413**	**75091126**

Source: Statistical Report of Rajkot District (2008-2009)

Table 5.3.1.3: Sustainability issues and gap analysis of productivity in Dairy industry.

Sr. No.	Factors/Constrains leading to gap	Strategies	Approach and methodology	Performance indicators	Sustainability outputs
a	**Breed of Animals**				
	Natural mating with non-descript bull	Strengthening A.I. facility, Community Bulls	Extension and Development agencies A.H deptt and co-operatives should jointly approach in a Farmers participatory approach	Strengthening AI by establishing new AI centers, Mobile AI centers and semen storage facilities	Improvement in livestock breeds which increase the milk production.
b	**Poor Housing management**				
	Lakhk of awareness and poor economic condition of the farmers	proper housing management	Creating awareness and increase adoption of proper housing management through training, demonstration and literature	Increase the health, hygiene and milk production	Increase milk production
c	**Imbalanced feeding**				
	Lakhk of green fodder	Cultivation of green fodders and establishing fodder bank	Demonstration, Trainings, supply of seed of fodder crops and establishing fodder bank at block level	Improve animal health and increase in milk production	Increase milk production
	Shortage and high cost of concentrate feed	Providing concentrate feed at cheaper rate by producing at co-operative levels	Supply of concentrate feed to the buffalo/ cattlefarmers establishment of concentrate production unit at co-operative level	Improve animal health and milk production	Increase income of the farmers
	Poor nutrient /micronutrient status of soil as well as feeds leads to mineral deficiency in Animals	Mineral mixture supplementation of the animal feed	Supply of mineral mixture to the buffalo /cattle farmers	Correction of mineral status and improvement of animal health and milk production	Increase income of the farmers
d	**Poor Health of animal**				
	Poor feed and fodder availability and poor body conditions	Popularize health package (deworming, mineral mixture and concentrate feeding)	Creating awareness and increase adoption popularize health package through training, demonstrations and literature	Improve health and milk production	Increase income of the farmers

e	**High calf mortality and delayed age of first calving**				
	Lakhk of awareness about scientific calf rearing	Popularize scientific calf rearing	Creating awareness and increase adoption of scientific cal rearing through training, demonstrations and literature	Reduce calf mortality and production elite future herds	Increase income of the farmers
f	**Goat rearing**				
	Lakhk of knowledge about rearing	Popularize scientific goat rearing	Creating awareness and increase adoption of scientific Goat rearing through training, demonstration and literature	Increase milk and meat production Provide household nutrition to poor family	Increase income and health of the farmers
g	**Poultry**				
	Lakhk of knowledge about rearing	Popularize scientific poultry rearing	Creating awareness and increase adoption of scientific poultry rearing through training, demonstration and literature	Increase egg and meat production Provide household nutrition to poor family	Increase income and health of the farmers

Table 5.3.1.4: Bridging the gaps for realizing the Vision- Dairy sector

Programme	Activities
Dairy Development	
Fertility Improvement Programme	Arrangement of clinical camps for treatment of infertile animals and also awareness programme
Supplementation of Mineral Mixture to Milch Animals	to supplement mineral mixture to overcome the reproductive problems
Supply of balanced Concentrate ration to Animals	To improve the animals productive efficiency by providing balanced concentrate ration. Awareness about concentrate feeding and easy availability at cheaper rate with in district.
Provision of shed for livestock in tribal area	To protect animals against environmental stress, flies and fleas etc. which helps in improving milk production
Rearing of female cattle/buffalo calf	To provide genetically superior livestock at doorstep and to produce superior herd stock for future.
Providing Life Insurance to Livestock	To protect the livestock farmers from vagaries of nature by insuring animals against death.
Supply of milch animals and dairy utensils to small &marginal farmers.	To supply economically productive animals Improving production and quality of milk in district
Supply of health packages for livestock of landless tribal farmers.	Rulling out of rearing unproductive animals with no acceptable results
Fodder production and preservation	Demonstration on fodder production and preservation
Provision of Artificial Insemination/ Community Bulls facilities	Breed improvement through AI and breeding bulls

Commercial Dairy Farming	To establish model for others and o motivate others for dairying
Poultry Development	
Promotion of back yard poultry	This form of rural poultry is important source of assured nutritional supply and a sizeable return with no or little extra cost to the farm family.
Sheep and Goat Development	
Goat/Sheep farming	Income and employment generation for weaker section of society

AH-Animal Husbandry department, KVK-Krishi Vigyan Kendra, Co-operatives-Dairy

5.3.2: Activities for development of Animal Husbandry

The objective of the project is to create awareness regarding scientific management of livestock for gaining maximum production with minimum inputs. The detail knowledge regarding housing, feeding and health management of livestock and first aid in animals will be explained to the farmers under training programme. The farmer, who wants to startup his own livestock enterprise for the first time will also be most benefited with this programme. Total of six groups will be trained twice in a year, so the total number of trainings will come up to 12. The Rs. 300 per trainee will be utilized, which may account for the literature, tea, breakfast, lunch, traveling expense for the trainee. The tentative project proposal is shown below in the table.

5.3.2.1: Proposal for capacity building of livestock farmers

The proposal for capacity building of livestock farmers is shown in table 5.3.2.1. The total estimated cost for providing the training is Rs 4.5 lakhs in the 12th five year plan

Table 5.3.2.1 Proposal for capacity building for livestock farmers of Rajkot District

Name of Taluka	Number of Trainings and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	1	0.075	1	0.075	1	0.075	1	0.075	1	0.075	5	0.375
Morbi	1	0.075	1	0.075	-	-	1	0.075	1	0.075	4	0.300
Rajkot	1	0.075	1	0.075	1	0.075	1	0.075	1	0.075	5	0.375
Jasdan	1	0.075	1	0.075	1	0.075	1	0.075	1	0.075	5	0.375
Gondal	1	0.075	1	0.075	1	0.075	1	0.075	1	0.075	5	0.375
Jetpur	1	0.075	1	0.075	1	0.075	1	0.075	-	-	4	0.300
Dhoraji	1	0.075	-	-	1	0.075	1	0.075	1	0.075	4	0.300
Upleta	1	0.075	1	0.075	1	0.075	-	-	1	0.075	4	0.300
Kotada Sangani	-	-	1	0.075	1	0.075	1	0.075	1	0.075	4	0.300
Lodhika	-	-	1	0.075	1	0.075	-	-	1	0.075	4	0.300
Jamkandorna	1	0.075	1	0.075	1	0.075	1	0.075	-	-	4	0.300
Maliya	1	0.075	-	-	1	0.075	1	0.075	1	0.075	4	0.300
Tankara	1	0.075	1	0.075	1	0.075	1	0.075	1	0.075	4	0.300
Padadhri	1	0.075	1	0.075	-	-	1	0.075	1	0.075	4	0.300
Total	**12**	**0.900**	**12**	**0.900**	**12**	**0.900**	**12**	**0.900**	**12**	**0.900**	**60**	**4.50**

* Number of Trainees (25/training)

1= No. of Training 2= Financial requirements (Lakh) for training @ Rs.0.003/ trainee/day

5.3.2.2: Fertility Improvement Programme

The main objective of this project is to change the fertility state of animals from infertile to fertile. So, the animals which are not conceiving (Repeat breeding), showing irregular cyclicity or not showing signs of heat (anoestrus) can be treated very well and brought to the normal reproductive state, which may lead to increase in milk production of district. It is fact that infertile animals put an extra burden on milk producers and gives an un-satisfaction in dairy animal rearing so it is necessary to organize a series of infertility camps at village level and treat such infertile animals. Simultaneously awareness programme pertaining to animal reproduction should also be organized. This project will help in reducing inter-calving period, increasing number of milch animals and increase in milk production of district, In addition to this there will be awareness in milk producers about scientific rearing of dairy animals in the district.

The proposal for fertility improvement programme is shown table 5.3.2.2.1. This programme includes the number of villages to be covered, number of animals to be covered, number of fertility camps to be organized, total expenditure, number of awareness programme, expenditure per Awareness programme, Audio-Visual aids for awareness programme etc. In this plan number of village, number of animals, number of fertility camps organization is differ proposed in each taluka. The total estimated cost for this programme is Rs 681.20 for this 12th five year plan.

Table 5.3.2.2.1: - Proposal for fertility improvement programme.

Name of Taluka	No. of villages to be covered and No. fertility improvement programme											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	10	30	10	30	10	30	10	30	20	60	60	**180**
Morbi	10	30	10	30	10	30	20	60	10	30	60	**180**
Rajkot	10	30	10	30	20	60	10	30	10	30	60	**180**
Jasdan	20	60	10	30	10	30	10	30	10	30	60	**180**
Gondal	10	30	20	60	10	30	10	30	10	30	60	**180**
Jetpur	10	30	10	30	10	30	10	30	10	30	50	**150**
Dhoraji	10	30	10	30	10	30	10	30	10	30	50	**150**
Upleta	10	30	10	30	10	30	10	30	10	30	50	**150**
Kotada Sangani	10	30	10	30	10	30	10	30	10	30	50	**150**
Lodhika	10	30	10	30	10	30	10	30	10	30	50	**150**
Jamkandorna	10	30	10	30	10	30	10	30	10	30	50	**150**
Maliya	10	30	10	30	10	30	10	30	10	30	50	**150**
Tankara	10	30	10	30	10	30	10	30	10	30	50	**150**
Padadhri	10	30	10	30	10	30	10	30	10	30	50	**150**
Total	**150**	**450**	**150**	**450**	**150**	**450**	**150**	**450**	**150**	**450**	**750**	**2250**

* 50 Animals to be covered/village * Expenditure of Rs.0.20 lakh per camp
1=No. of Villages to be covered, 2= No. of fertility camps organized

Table 5.3.2.2.2: Proposal for awareness programme for livestock farmers of Rajkot district.

Name of Taluka	No. of Awareness programme and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Morbi	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Rajkot	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Jasdan	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Gondal	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Jetpur	35	3.5	35	3.5	35	3.5	35	3.5	35	3.5	175	17.5
Dhoraji	30	3	30	3	30	3	30	3	30	3	150	15
Upleta	30	3	30	3	30	3	30	3	30	3	150	15
Kotada Sangani	30	3	30	3	30	3	30	3	30	3	150	15
Lodhika	30	3	30	3	30	3	30	3	30	3	150	15
Jamkandorna	30	3	30	3	30	3	30	3	30	3	150	15
Maliya	30	3	30	3	30	3	30	3	30	3	150	15
Tankara	30	3	30	3	30	3	30	3	30	3	150	15
Padadhri	30	3	30	3	30	3	30	3	30	3	150	15
Total	**450**	**45**	**450**	**45**	**450**	**45**	**450**	**45**	**450**	**45**	**2250**	**225**

* Total expenditure for Audio-Visual aids for awareness programme is 5.00 lakh

* Total expenditure for maintenance of Audio-Visual aids for awareness programme is 1.20 lakh

1= No. of Awareness programme,

2= Expenditure per Awareness programme@ Rs. 0.10 Lakh/programme

5.3.2.3: Supplementation of Mineral Mixture to Milch Animals

Due to over exploitation of land under extensive cultivation of cotton and poor recycling of farm wastes, the soils have become deficient in nutrients. Deficiency of micro nutrients has severely affected the health, productive and breeding efficiency of dairy animals. Reproductive problems viz. age at first heat, age at first calving, calving interval, conception rate, abortion and vaginal prolepses and other deficiency syndromes have severely affected the breeding ability of dairy animals. Retarded calf growth and poor animal health are another severe threats associated with mineral deficiency in feeding straw, fodder and other food-stuffs. Encouraging results have been obtained by supplementing 40-50 grams of quality mineral mixture per day per animal in the ration. Since, milk is one of the main constituents of human diet the deficiency of mineral in milk obtained by feeding deficient fodder has become a great concern to human health.

Table 5.3.2.3.1: Proposal for mineral mixture (MM) feeding supplementation.

A. No. of animal to be covered under MM

Name of Tehsil	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Wankaner	900	900	900	900	900	**4500**
Morbi	900	900	900	900	900	**4500**
Rajkot	800	800	800	800	800	**4000**
Jasdan	800	800	800	800	800	**4000**
Gondal	800	800	800	800	800	**4000**
Jetpur	600	600	600	600	600	**3000**
Dhoraji	500	500	500	500	500	**2500**
Upleta	500	500	500	500	500	**2500**
Kotada Sangani	500	500	500	500	500	**2500**
Lodhika	700	700	700	700	700	**3500**
Jamkandorna	500	500	500	500	500	**2500**
Maliya	500	500	500	500	500	**2500**
Tankara	500	500	500	500	500	**2500**
padadhri	500	500	500	500	500	**2500**
Total	**9000**	**9000**	**9000**	**9000**	**9000**	**45000**

B. MM req. in Kg (@50g/day/animal for 300days)

Name of Tehsil	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Wankaner	13500	13500	13500	13500	13500	**67500**
Morbi	13500	13500	13500	13500	13500	**67500**
Rajkot	13000	13000	13000	13000	13000	**65000**
Jasdan	13000	13000	13000	13000	13000	**65000**
Gondal	14000	14000	14000	14000	14000	**70000**
Jetpur	8500	8500	8500	8500	8500	**42500**
Dhoraji	6500	6500	6500	6500	6500	**32500**
Upleta	6750	6750	6750	6750	6750	**33750**
Kotada Sangani	6750	6750	6750	6750	6750	**33750**
Lodhika	6750	6750	6750	6750	6750	**33750**
Jamkandorna	6750	6750	6750	6750	6750	**33750**
Maliya	6750	6750	6750	6750	6750	**33750**
Tankara	6500	6500	6500	6500	6500	**32500**
padadhri	6750	6750	6750	6750	6750	**33750**
Total	**129000**	**129000**	**129000**	**129000**	**129000**	**645000**
Total Cost (@ Rs. 0.00150/Kg) (Lakh)	**19.35**	**19.35**	**19.35**	**19.35**	**19.35**	**96.75**

5.3.2.4: Supply of balanced concentrate ration to animals

Feeding cost accounts for more than 70% of total cost of milk production. The profitability of any milk production programme and health of animals depend upon the feeding management of animals. The problems associated with feeding are, under feeding, over feeding, imbalanced feeding and mineral deficiency. Young, heifers and non lactating animals are generally ignored and only milch animals are properly looked after. Such practice is not desirable. The care ignored at young age and during dry period has worse effects on the milk production and health of the animals in subsequent

lactations. Balanced feeding improves the body weight gain, reduces the age at first calving, overcomes the problems of mineral deficiency and helps in better milk production and body condition.

At present there is no direct source of procuring balanced animal feed within the district, hence, milk producer are forced to pay higher prices for animal feed which is not made for this district or of poor quality. Considering geography, rainfall and poor economic condition of milk producers the feed manufacturing unit is of prime need in the district. This project will full fill following objectives.

- To improve the animals productive efficiency by providing balanced concentrate ration.
- To ensure regular supply of economical balanced cattle feed at "No profit no loss" basis, throughout year.
- To improve the existing animal feeding practices in the district.
- To improve the general health of the animals by incorporating some of the important minerals, vitamins and medicines during preparation of balanced cattle feed.
- To uplift rural economy by encouraging animal husbandry practices.
- To bring out the awareness and perception about the use and benefits of cattle feed among the milk producers.
- To promote the cattle feed marketing at large scale to rural milk producers, so, they will gain more income through animal husbandry.

The project will be under the supervision of a committee including N.D.D.B. representative, District Development Officer, Project Administrator – TAPS, representative from DRDA *etc.*

Table 5.3.2.4.1: Proposal for feed factory plant 50MT per day

Sr. No.	Description	Total (Lakh)
A	**Overall Civil construction expenditure**	
1.	Civil works & land development	62.00
2.	Storage building facilities	83.00
3.	Non- industrial buildings	44.40
4.	Compound wall and other	9.20
5.	Roads & pavements	21.00
6.	Electrification	12.00
7.	Water supply & drainage	12.00
8.	Architect/ Engineer consultancy service	12.00
9.	Civil contingency	10.00
	Sub Total	**265.60**
B.	**Process and production equipment**	
1.	Raw materials and intake equipments	14.30
2.	Grinding equipments	11.05
3.	Batching and mixing	69.10
4.	Molassing equipments	49.35
5.	Pelleting equipments	31.30
6.	Bagging equipments	23.35
7.	Housing steel structure	97.00
8.	Product piping and fitting	11.85
9.	Driving equipments	29.00
	Sub Total	**336.30**

Cont.

C.	**Service equipments**	
1.	Steam generating system	32.00
2.	Fuel handling system	18.30
3.	Compress air handling system	3.00
4.	Water handling system	3.00
5.	Industrial electrical high tension	10.80
6.	Industrial electrical low tension	23.90
7.	Service equipment contingency	4.00
	Sub total	**95.00**
D	**Laboratory equipments**	**19.50**
E	**Workshop tools and equipments**	**3.00**
F	**Fire fighting system**	**3.30**
G	**Weighting equipments**	**10.30**
H	**Miscellaneous equipments**	**15.00**
	Total	**748.00**
I	**Installation and commission of process and production equipment (15 %)**	**50.45**
J	**Technical service fee of process and production equipment (5 %)**	**16.82**
K	**Contingency of Process and production equipment (15 %)**	**16.82**
	Grand Total	**832.09**

5.3.2.5: Provision of shed for livestock to marginal farmer

As stated earlier animal husbandry, animals are kept by the livestock owners at inconvenient place under stressful condition. The livestock owners generally tie their animals under trees in front of their houses, kaccha/ thatched shed with unleveled flooring with or without manger and no drinking water facility at place. Hence, under this housing facility, these animals are not comfortable and are under stress condition. Animals are harassed by flies, fleas, mosquitoes *etc*. in such housing which also adds to stress level of animals. More than 90% of animals are sent for grazing, these animals returning after hard and hectic whole day grazing and return home for spending their night in such traditional housing system/condition, which is not comfortable for animals. These livestock stands in this housing system during hot summer, cold winter and monsoon. They aren't well protected under this situation thereby the production level of animals is badly hampered. Therefore, by providing the shelter to animals they will be protected against all above problems and there will be improvement in production performance of these animals. More than 20% families keeping livestock families fall under marginal farmer.. Hence, the financial help of Rs. 30,000/- for construction of shed will be given to each such farmer. With help of this he can construct or repair animal shed for his livestock or he can also generate the basic housing facilities. He can also add some amount from his side in this project for his animals. The detail of proposed project is as under.

The proposal for provision of shed for livestock is shown in table 5.3.2.5.1. The table shows the number of animal husbandry farmers to be covered and financial requirement per farmer. The total financial requirement for provision of shed for livestock in Rajkot district is Rs 3000.00 lakhs for 12th five year plan.

Table 5.3.2.5.1: Proposal for provision of livestock shed

1= No. Farmers to be covered 2= Financial support (0.30 lakh/farmer)

Name of Taluka	Number of Farmers to be covered and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	200	60	200	60	200	60	200	60	200	60	1000	300
Morbi	170	50	170	50	170	50	170	50	170	50	850	250
Rajkot	160	50	160	50	160	50	160	50	160	50	800	250
Jasdan	180	55	180	55	180	55	180	55	180	55	900	275
Gondal	180	55	180	55	180	55	180	55	180	55	900	275
Jetpur	160	45	160	45	160	45	160	45	160	45	800	225
Dhoraji	150	45	150	45	150	45	150	45	150	45	750	225
Upleta	110	45	110	45	110	45	110	45	110	45	550	225
Kotada Sangani	140	30	140	30	140	30	140	30	140	30	700	150
Lodhika	100	35	100	35	100	35	100	35	100	35	500	175
Jamkandorna	150	40	150	40	150	40	150	40	150	40	750	200
Maliya	100	30	100	30	100	30	100	30	100	30	500	150
Tankara	100	30	100	30	100	30	100	30	100	30	500	150
Padadhri	100	30	100	30	100	30	100	30	100	30	500	150
Total	2000	**600**	2000	**600**	2000	**600**	2000	**600**	2000	**600**	**10000**	**3000**

5.3.2.6: Groundnut hey as a rich source of protein.

In the Rajkot district around 3.25lakh ha groundnut sown for dual purpose nuts & fodder purpose but due to lack of knowledge of farmers are not spraying fungicide for management of tikka disease, so more than 50% leaves (fodder) shredding before maturity. By this ways, 50% loss of nutritive fodder. There should be emphasis on awareness among farmer community for spraying of fungicide as recommended by university at regular interval for more production of fodder as well as nut.

Table 5.3.2.6.1: Proposal for training programme regarding importance of Groundnut hey as a rich source of protein for animals

Name of Tehsil	No. of Training Each year	Total expenditure					
		2012-13	2013-14	2014-15	2015-16	2016-17	Total
Wankaner	22	0.550	0.550	0.550	0.550	0.550	**2.750**
Morbi	15	0.375	0.375	0.375	0.375	0.375	**1.875**
Rajkot	30	0.750	0.750	0.750	0.750	0.750	**3.750**
Jasdan	30	0.750	0.750	0.750	0.750	0.750	**3.750**
Gondal	25	0.625	0.625	0.625	0.625	0.625	**3.125**
Jetpur	20	0.500	0.500	0.500	0.500	0.500	**2.500**
Dhoraji	20	0.500	0.500	0.500	0.500	0.500	**2.500**
Upleta	20	0.500	0.500	0.500	0.500	0.500	**2.500**
Kotada Sangan	15	0.375	0.375	0.375	0.375	0.375	**1.875**
Lodhika	15	0.375	0.375	0.375	0.375	0.375	**1.875**
Jamkandorna	15	0.375	0.375	0.375	0.375	0.375	**1.875**
Maliya	13	0.325	0.325	0.325	0.325	0.325	**1.625**
Tankara	20	0.500	0.500	0.500	0.500	0.500	**2.500**
padadhri	20	0.500	0.500	0.500	0.500	0.500	**2.500**
Total	**280**	**7.00**	**7.00**	**7.00**	**7.00**	**7.00**	**35.00**

Incentive @ Rs.100 / person /day for 20 Person
Refreshment expense @ Rs. 10/day/Person for Person
Study material pad, pen @ Rs. 15/Person for 20 Person

5.3.2.7: Rearing of female cattle/buffalo calf

Healthy cows/buffaloes are the basic factors involved in success of dairying and calves are the livestock industry of the future. Calf rearing is one of the most neglected aspects in dairying. Calf management plays an important role in the development of the dairy sector of the country. Young calves reared scientifically will help to improve the socio- economic status of farmers through better growth rate and they could become potential milk yielders in future. Calf care is not only essential to sustain the dairy industry but is also essential for the wake of preserving and maintaining our good quality germplasm. Important aspects in the calf rearing are the health management and proper nutrition to the calves. Adoption of scientific practices could effectively control calf mortality. Non adoption of proven practices could be due to lack of awareness.

Rajkot district is having majority of dry farming area. Peoples in this area are not aware of scientific calf rearing. People don't rear the calf in proper scientific way so that it can be the part of their future herd. Hence, it is an urgent requirement for this area to learn the way of scientific dairying and calf rearing as a future herd. The future of any herd depends upon how the calves are raised. One has to raise one's own calves to make a good potential herd. So the calf rearing should be taken upon scientific lines and it should be achieved cost-effectively.

The following is the proposed project for calf rearing. One unit comprising of 10 female calves will be reared for three years and afterwards the matured heifers will be inseminated with proven bull semen and these pregnant animals will be sold by the farmer. In following table (a) showing total expenditure on five calf rearing units, while, table (b) shows approximate calculation of expenditure per unit of 10 calves is shown.

Table 5.3.2.7.1: Proposal for female cattle/buffalo calf rearing unit

Name of Taluka	Number of Female calf rearing unit and financial requirements											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	1	4.31	-	-	1	4.31	-	-	-	-	2	8.62
Morbi	1	4.31	-	-	1	4.31	-	-	-	-	2	8.62
Rajkot	1	4.31	-	-	-	-	1	4.31	-	-	2	8.62
Jasdan	1	4.31	-	-	-	-	1	4.31	-	-	2	8.62
Gondal	1	4.31	-	-	-	-	1	4.31	-	-	2	8.62
Jetpur	-	-	1	4.31	-	-	1	4.31	-	-	2	8.62
Dhoraji	-	-	1	4.31	-	-			-	-	1	4.31
Upleta	-	-	1	4.31	-	-	1	4.31	-	-	2	8.62
Kotada Sangani	-	-	1	4.31	-	-	-	-	-	-	1	4.31
Lodhika	-	-	1	4.31	-	-	-	-	1	4.31	2	8.62
Jamkandorna	-	-	-	-	-	-	-	-	1	4.31	1	4.31
Maliya	-	-	-	-	1	4.31	-	-	1	4.31	2	8.62
Tankara	-	-	-	-	1	4.31	-	-	1	4.31	2	8.62
Padadhri	-	-	-	-	1	4.31	-	-	1	4.31	2	8.62
Total	**5**	**21.55**	**5**	**21.55**	**5**	**21.55**	**5**	**21.55**	**5**	**21.55**	**25**	**107.75**

1= No. of Female calf rearing unit (10 female calf perunit)
2= Expenditure (Rs. 4.31 Lakh) per unit

Table 5.3.2.7.2: Details of expenditure per year per female cattle/buffalo calf rearing unit

(Rs. In Lakh)

Year	Concentrate	Fodder	Mineral Mixture	Medicines	Housing	Total
First	0.70000	0.15000	0.10000	0.05000	1.00000	**2.00000**
Second	0.77000	0.16500	0.11000	0.05500	0.00	**1.10000**
Third	0.84700	0.18150	0.12100	0.06050	0.00	**1.21000**
Cumulative	**2.31700**	**0.49650**	**0.33100**	**0.16550**	**1.00000**	**4.3100**

5.3.2.8: Providing Life Insurance to Livestock

The Rajkot district under dry land area and the socio-economic status of farmer is not so good. The livestock owners keep animals to uplift their economics. They take their animals for grazing during day time where animals have the risk of snake bite, food poisoning by eating poisoning plants or any other accidental risk on life. In addition to this there may occur death of animals due to life threatening diseases. Therefore to protect the livestock farmers by insuring from vagaries of nature in respect to sudden death of dairy animals and sustaining their livelihood.

The proposal for providing life insurance to live stock table shown in the table 5.3.2.8.1. This table includes the number of animals proposed from each taluka. The amount of insurance per animal is Rs 0.015 lakh and the equal number of animals proposed from each taluka. The estimated total amount of insurance for livestock is Rs 75 lakhs for 12th five year plan.

Table 5.3.2.8.1: Proposal for providing life insurance to livestock

Name of Taluka	Number of Animals to be covered and Amount of insurance required											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	100	1.50	100	1.50	100	1.50	100	1.50	100	1.50	500	7.50
Morbi	90	1.35	90	1.35	90	1.35	90	1.35	90	1.35	450	6.75
Rajkot	90	1.35	90	1.35	90	1.35	90	1.35	90	1.35	450	6.75
Jasdan	80	1.20	80	1.20	80	1.20	80	1.20	80	1.20	400	6.00
Gondal	90	1.35	90	1.35	90	1.35	90	1.35	90	1.35	450	6.75
Jetpur	80	1.20	80	1.20	80	1.20	80	1.20	80	1.20	400	6.00
Dhoraji	70	1.05	70	1.05	70	1.05	70	1.05	70	1.05	350	5.25
Upleta	70	1.05	70	1.05	70	1.05	70	1.05	70	1.05	350	5.25
Kotada Sangani	50	0.75	50	0.75	50	0.75	50	0.75	50	0.75	250	3.75
Lodhika	50	0.75	50	0.75	50	0.75	50	0.75	50	0.75	250	3.75
Jamkandorna	70	1.05	70	1.05	70	1.05	70	1.05	70	1.05	350	5.25
Maliya	70	1.05	70	1.05	70	1.05	70	1.05	70	1.05	350	5.25
Tankara	50	0.75	50	0.75	50	0.75	50	0.75	50	0.75	250	3.75
Padadhri	40	0.60	40	0.60	40	0.60	40	0.60	40	0.60	200	3.00
Total	1000	**15.00**	1000	**15.00**	1000	**15.00**	1000	**15.00**	1000	**15.00**	**5000**	**75.00**

1= No. of Animals to be covered, 2= Amount of insurance Rs. 0.015/animal (in Lakh

5.3.2.9: Supply of health packages for animals to landless farmers.

The main occupation for landless families of this area is to rear livestock and labor work in others' farm field or under government projects, *viz*., NRG. With this they grow sufficient income for their family but can't manage to pay for feed and fodder of their animals. This turns in unproductive rearing of animals with no acceptable results, which motivates farmers to go away from animal husbandry to other non-agricultural work as a livelihood tool for family. To overcome this problem of poor landless livestock owners, they should be supplied with health package for their animals. With the help of this package livestock owner will have feed and fodder supplements, dewormer, ectoparasiticidal and liver corrector for sustainable livestock rearing. This project can be used as a non-refundable loan for the farmers which can be used by the farmers at any time throughout year under supervision of government veterinary officer.

The proposal for supply of dairy utensils to AH farmers are shown in table 5.3.2.9. The table shows the number of farmers to be proposed and amount required per farmer. Equal number of farmers proposed from each taluka. The total estimated amount required for supply of milch animals and dairy utensils to AH farmers is 1200 lakh for the 12th five year plan.

Table 5.3.2.9.1: Proposal for supply of animal health packages to landless farmers.

Name of Taluka	Number of farmers to be covered and Amount to be required											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	200	24	200	24	200	24	200	24	200	24	1000	120
Morbi	180	21.6	180	21.6	180	21.6	180	21.6	180	21.6	900	108
Rajkot	180	21.6	180	21.6	180	21.6	180	21.6	180	21.6	900	108
Jasdan	160	19.2	160	19.2	160	19.2	160	19.2	160	19.2	800	96
Gondal	180	21.6	180	21.6	180	21.6	180	21.6	180	21.6	900	108
Jetpur	160	19.2	160	19.2	160	19.2	160	19.2	160	19.2	800	96
Dhoraji	140	16.8	140	16.8	140	16.8	140	16.8	140	16.8	700	84
Upleta	140	16.8	140	16.8	140	16.8	140	16.8	140	16.8	700	84
Kotada Sangani	100	12	100	12	100	12	100	12	100	12	500	60
Lodhika	100	12	100	12	100	12	100	12	100	12	500	60
Jamkandorna	140	16.8	140	16.8	140	16.8	140	16.8	140	16.8	700	84
Maliya	140	16.8	140	16.8	140	16.8	140	16.8	140	16.8	700	84
Tankara	100	12	100	12	100	12	100	12	100	12	500	60
Padadhri	80	9.6	80	9.6	80	9.6	80	9.6	80	9.6	400	48
Total	**2000**	**240**	**2000**	**240**	**2000**	**240**	**2000**	**240**	**2000**	**240**	**10000**	**1200**

A. 1=No. of farmers to be covered 2= Amount to be given Rs.0.12 lakh/farmer/year

5.3.2.10: Fodder production and preservation

Feed and fodder accounts for about 70% of the total cost of milk production. Profitability and viability of any dairy production programme depends on feed and fodder availability and feeding management of dairy animals. Feed and fodder availability is continuously decreasing for the livestock due to heavy demands for grain production and urbanization. The palatable fodder crops like maize, Lucerne, oats and cowpea have almost become extinct from the scene in paddy-pigeon pea and cotton crop rotations in the area. Decrease area under fodder crops leading to poor availability of green fodder for dairy animals.

The limiting availability of green fodder is the biggest concern in dairy production system. Adequate availability of green fodder round the year not only improves the health of animals but also reduces the cost of production considerably. For overcoming this problem viable assignment is to launch a big campaign for growing green fodder in larger areas.

Proposal for fodder production and preservation is shown in table 5.3.2.10.1. This table shows the number of farmers to be proposed, amount required for fodder production and amount required for fodder preservation for Rajkot district. The total expenditure both for fodder production and preservation during the 12th five year plan is Rs 25 lahks. The equal number of farmers is to be covered from each taluka.

Table 5.3.2.10.1: Proposal for fodder production and preservation. (Rs. In lakh)

Name of Taluka	Number of farmers to be covered and Amount to be required											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	15	0.75	12	0.6	15	0.75	12	0.6	11	15	65	3.25
Morbi	5	0.25	4	0.2	5	0.25	4	0.2	10	5	28	1.40
Rajkot	12	0.6	12	0.6	12	0.6	12	0.6	13	12	61	3.05
Jasdan	15	0.75	15	0.75	15	0.75	15	0.75	14	15	74	3.70
Gondal	10	0.5	12	0.6	10	0.5	12	0.6	11	10	55	2.75
Jetpur	6	0.3	6	0.3	6	0.3	6	0.3	8	6	32	1.60
Dhoraji	5	0.25	4	0.2	5	0.25	4	0.2	4	5	22	1.10
Upleta	4	0.2	5	0.25	4	0.2	5	0.25	5	4	23	1.15
Kotada Sangani	3	0.15	4	0.2	3	0.15	4	0.2	4	3	18	0.90
Lodhika	3	0.15	4	0.2	3	0.15	4	0.2	4	3	18	0.90
Jamkandorna	4	0.2	4	0.2	4	0.2	4	0.2	4	4	20	1.00
Maliya	4	0.2	4	0.2	4	0.2	4	0.2	4	4	20	1.00
Tankara	7	0.35	7	0.35	7	0.35	7	0.35	4	7	32	1.60
Padadhri	7	0.35	7	0.35	7	0.35	7	0.35	4	7	32	1.60
Total	**100**	**5.00**	**100**	**5.00**	**100**	**5.00**	**100**	**5.00**	**100**	**100**	**500**	**25.00**

1= No. of farmers to be covered.
2= Amount to be given Rs 0.05 lakh/farmer for fodder production & preservation.

5.3.2.11: Provision of Artificial Insemination

Main object of this Project is to produce genetically improve breed by Artificial insemination of bride local breed of Cattle / Buffalo**es.** Project of establishing new A.I. centers in the district will help Farmer to get A.I. facilities at door step level to produce a good quality Animal and generate self employment at Village level.

Table 5.3.2.11.1: Proposal for provision of artificial insemination facilities.

(Rs. In Lakh)

Particular		2012-13			2013-14		2014-15		2015-16		2016-17	
		Unit	Unit Cost	Total Cost	Unit	cost	Unit	cost	Unit	Cost	Unit	cost
1	No of A.1. Centre	60			6		6		6		6	
2	LN2 Container Require											
	55 liters for Transportation	6	30000	180000	1	30000	1	30000	1	30000	1	30000
	35 Liters	60	24000	1440000	6	144000	6	144000	6	144000	6	144000
	3 Liters	60	9000	540000	6	54000	6	54000	6	54000	6	54000
3	A.I. Equipments with Furniture	60	15000	900000	6	90000	6	90000	6	90000	6	90000
4	Vehicle for Ln2 Transportation	1	700000	700000	0	0	0	0	0	0	0	0
5	Travis	60	6000	360000	6	36000	6	36000	6	36000	6	36000
6	LN2 Gases											
	400 liters/year/Centre	24000	12	288000	26400	316800	31200	374400	33600	403200	36000	432000
7	Training											
	A.I.Worker	60	15000	900000	6	90000	6	90000	6	90000	6	90000
	A.I.Officer	3	20000	60000	0	0	1	20000	1	20000	0	0
8	Vehicle for A.1. officer	3	55000	165000	0	0	1	55000	1	55000	0	0
9	Semen Doses Required											
	500 Semen dose req./centre/year	30000	15	450000	33000	495000	36000	540000	39000	585000	42000	630000
10	Multi media with Computer	1	150000	150000	0	0	0	0	0	0	0	0
11	Phase Contrast Microscope	1	60000	60000	0	0	0	0	0	0	0	0
12	Incentive											
	A.I.Worker	30000	10	300000	33000	330000	36000	360000	39000	390000	42000	420000
	A.I.Officer	30000	15	450000	33000	495000	36000	540000	39000	585000	42000	630000
	Total			**6943000**		**2080800**		**2333400**		**2482200**		**2556000**

Grand Total Rs. 16395400

5.3.2.12: Proposal for Supply of Breeding Bulls in Villages

In the absence of A.I. facilities, the farmers are using nondescript animals for breeding their animals. This has resulted in decline in productivity of dairy animals. For increasing the milk production and income from milch animals, an efficient and practical animal breeding system is of immense importance. The success rate of A.I. in the buffaloes is very low and the reasons for this are manifolds. Therefore, it is proposed that bulls of proven breeding ability may be provided in each village with maintenance allowance. The duty of maintaining bulls can be assigned to a good and reputed person or committee in the village itself. The maintenance cost will be given for the one year only, thereafter, the maintenance will be done from the fees procured by use of bulls.

The proposal for supply of breeding bulls in villages of different taluka of Rajkot district is shown in table 5.3.2.12.1. This table includes number of villages to be proposed, cost of two bulls per village, its maintenance cost and total expenditure. Equal number of villages proposed from each taluka and total estimated expenditure for this task is Rs 325 lakhs for 12th five year plan.

Table 5.3.2.12.1: Proposal for supply of breeding bulls in villages.

A. Proposal No. of villages to be covered

Name of Tehsil	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Wankaner	5	5	5	5	5	25
Morbi	5	5	5	5	5	25
Rajkot	5	5	5	5	5	25
Jasdan	5	5	5	5	5	25
Gondal	5	5	5	5	5	25
Jetpur	4	4	4	4	4	20
Dhoraji	4	4	4	4	4	20
Upleta	3	3	3	3	3	15
Kotada Sangani	3	3	3	3	3	15
Lodhika	2	2	2	2	2	10
Jamkandorna	3	3	3	3	3	15
Maliya	2	2	2	2	2	10
Tankara	2	2	2	2	2	10
padadhri	2	2	2	2	2	10
Total	**50**	**50**	**50**	**50**	**50**	**250**

B. Cost of two bulls/village @ Rs.0.40lakh/ bull/village and Maintenance cost @ Rs. 0.25 lakh/bull

Name of Tehsil	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	4	2.5	4	2.5	4	2.5	4	2.5	4	2.5	20	12.5
Morbi	4	2.5	4	2.5	4	2.5	4	2.5	4	2.5	20	12.5
Rajkot	4	2.5	4	2.5	4	2.5	4	2.5	4	2.5	20	12.5
Jasdan	4	2.5	4	2.5	4	2.5	4	2.5	4	2.5	20	12.5
Gondal	4	2.5	4	2.5	4	2.5	4	2.5	4	2.5	20	12.5
Jetpur	3.2	2	3.2	2	3.2	2	3.2	2	3.2	2	16	10
Dhoraji	3.2	1.6	3.2	1.6	3.2	1.6	3.2	1.6	3.2	1.6	16	8
Upleta	2.4	1.6	2.4	1.6	2.4	1.6	2.4	1.6	2.4	1.6	12	8
Kotada Sangani	2.4	1.6	2.4	1.6	2.4	1.6	2.4	1.6	2.4	1.6	12	8
Lodhika	1.6	1.2	1.6	1.2	1.6	1.2	1.6	1.2	1.6	1.2	8	6

Cont.

Jamkandorna	2.4	1.5	2.4	1.5	2.4	1.5	2.4	1.5	2.4	1.5	12	7.5
Maliya	1.6	1	1.6	1	1.6	1	1.6	1	1.6	1	8	5
Tankara	1.6	1	1.6	1	1.6	1	1.6	1	1.6	1	8	5
padadhri	1.6	1	1.6	1	1.6	1	1.6	1	1.6	1	8	5
Total	**40**	**25**	**40**	**25**	**40**	**25**	**40**	**25**	**40**	**25**	**200**	**125**

1= Cost of two bulls/village @ Rs.0.40lakh/ bull/village,

2= Maintenance cost @ Rs. 0.25 lakh/bull

5.3.2.13: Commercial Dairy Farming

In Rajkot district, more and more number of farmers are falling into the category of marginal and small farmers due to division of land holdings involved in livestock enterprise. Buffalo is the main milch animal in the district and Gir as well as crossbred cows are now a day also being reared on small scale. The cost of one good animal is more than Rs. 40,000. Due to the small land holdings and the high cost of animal, it has become very difficult to maintain dairy animals. The demand for milk is continuously increasing by the urban areas. The price of milk in the area reaches up to Rs. 40/- per liter particularly during the lean periods or the summer. Milk being an important component of diet is becoming a scarce commodity for the low and middle class families in both the urban and rural areas of Rajkot district. The reasons stated above have demanded the introduction of large commercial dairy farms, which can be run on economy of scale. The automation of this enterprise can bring down the cost of milk production, thereby making a good scope for commercially viable large sized dairy farms.

The progressive and needy farmers from the district will be selected and will be granted with the fund to start the commercial dairy unit. The supervision of the farm will be under government veterinary officers and scientist from Krishi Vigyan Kendra of the district.

The proposal for commercial dairy farming is shown in the table 5.3.2.13.1. The table shows the number of commercial dairy farms and amount required per farm. Each unit of dairy farm contains 10 animals and equal number of units proposed in each taluka of Rajkot district. The total estimated cost for this task is Rs 50lakhs for 12th five year plan.

Table 5.3.2.13.1: Proposal for commercial dairy farming in district.

Description	2012-13	2013-14	2014-15	2015-16	2016-17	Total
No. of commercial dairy farms	2	2	2	2	2	10
Amount to be given Rs.5.00 lakh/farm	10.00	10.00	10.00	10.00	10.00	50.00

5.3.2.14: Poultry Development

Poultry farming has established itself as one of the important independent commercial activity in the state. Climate, infrastructural facilities, easy finance and availability of ready market may contribute favorably towards development of this activity. Over years there has been an increase in number of poultry birds (layers and broilers) however uncertainty in markets has hindered its growth.

Promotion of back yard poultry

A number of farmers especially the landless and other farmers are having a few birds as back yard poultry. This form of poultry farming needs institutional support for its success as the productivity is quite low in these cases. The improved strains for this type of farming (e.g. vanaraja and gramapriya) together with their production packages are required to be delivered to the farmer doorstep. This form of

rural poultry is important source of assured nutritional supply and a sizeable return with no or little extra cost to the farm family. There exists a sizeable market for the product i.e. eggs and meat of these birds in local areas. The extension services, training and marketing needs for poultry farming are to be effectively addressed in the plan. The growing urbanization , increasing demand for poultry , meat and eggs and expanding poultry units would get a boost if a marketing / poultry hub can be developed particularly in this region of state as of now there is no marketing center of these products in the area.

The farmers of Rajkot district may get an alternative occupation through low input bird project or backyard poultry farming. This will help the tribal farmers in earning as well as a source of nutritive food. A unit of 25 poultry bird may be given to each farmer costing approx. Rs. 4000/- out of which 75% will be government subsidy. The total expenditure of the project may be calculated as per subsidy is given below in table.

Table 5.3.2.14.1: Proposal for low input bird/Back yard poultry in district.

Name of Taluka	Number Units and Expenditure in Rs (Lakh) required											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	30	0.6	30	0.6	30	0.6	30	0.6	30	0.6	150	3.0
Morbi	9	0.4	9	0.4	9	0.4	9	0.4	9	0.4	45	2.0
Rajkot	24	0.5	24	0.5	24	0.5	24	0.5	24	0.5	120	2.5
Jasdan	32	0.7	32	0.7	32	0.7	32	0.7	32	0.7	160	3.5
Gondal	20	0.6	20	0.6	20	0.6	20	0.6	20	0.6	100	3.0
Jetpur	14	0.3	14	0.3	14	0.3	14	0.3	14	0.3	70	1.5
Dhoraji	10	0.3	10	0.3	10	0.3	10	0.3	10	0.3	50	1.5
Upleta	8	0.3	8	0.3	8	0.3	8	0.3	8	0.3	40	1.5
Kotada Sangani	6	0.3	6	0.3	6	0.3	6	0.3	6	0.3	30	1.5
Lodhika	10	0.4	10	0.4	10	0.4	10	0.4	10	0.4	50	2.0
Jamkandorna	10	0.4	10	0.4	10	0.4	10	0.4	10	0.4	50	2.0
Maliya	10	0.4	10	0.4	10	0.4	10	0.4	10	0.4	50	2.0
Tankara	8	0.4	8	0.4	8	0.4	8	0.4	8	0.4	40	2.0
Padadhri	9	0.4	9	0.4	9	0.4	9	0.4	9	0.4	45	2.0
Total	**200**	**6.0**	**200**	**6.0**	**200**	**6.0**	**200**	**6.0**	**200**	**6.0**	**1000**	**30.00**

1= No. of Units/Year

2= Expenditure in Rs (Lakh)/Year

5.3.2.15: Sheep and Goat Development

Sheep and goat have an important role in the sustenance and livelihood security of farmers and land less rural. The rearing of these animals is having potential for poverty alleviation with low risk. With the availability of open pastures in the district, sheep and goat rearing is feasible in a big way. However, promoting small units as subsidiary to the agriculture by land less labours and those traditionally engaged in such activities is quite feasible. The strains of goat and sheep with semi-intensive feeding system, parasitic control measures and promotion of good management practices can ensure healthy economic return to the farmer.

This will be low cost, no risk moderately income generating activity with nutritional security for the family. Just like back yard poultry, this activity can be under taken on a limited scale which has un exploited market potential in and around the village itself.

A unit of five sheep/goat one male and four female animals costing approx. Rs. 5000/- can be given to each tribal farmer.

Table 5.3.2.15.1: Proposal for goat rearing in district.

Name of Taluka	Number Units and Expenditure in Rs (Lakh) required											
	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Morbi	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Rajkot	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Jasdan	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Gondal	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Jetpur	2	0.1	2	0.1	2	0.1	2	0.1	2	0.1	10	0.5
Dhoraji	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Upleta	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Kotada Sangani	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Lodhika	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Jamkandorna	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Maliya	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Tankara	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Padadhri	1	0.05	1	0.05	1	0.05	1	0.05	1	0.05	5	0.25
Total	**20**	**1.00**	**20**	**1.00**	**20**	**1.00**	**20**	**1.00**	**20**	**1.00**	**100**	**5.00**

1= Proposal for No. of Units/Year, 2= Proposal for Expenditure in Rs (Lakh)/Year

5.4 Fisheries:

The district does not have much to offer in fisheries sector as there is no seashore is available in the district. Under inland fisheries, aquaculture is possible in ponds, reservoirs and rivers. This activity has not yet picked up in the district. The chances of inland fisheries in the villages having perennial pond is much higher. The district is having 790 non mechanical boats for fishing in reservoir. The district is having about 2591 fisherman who depending on fishing business and having 14427 fish net, 86 mechanized boats and 974 non- mechanized boats.

Table 5.4.1: Bridging the gaps for realizing the Vision- Fisheries sector

	Program	Activities	Concerned Agencies/ collaborators	Approach
1	**Thrust Areas/ Issues :** Fisheries			
	Establishment of fisheries/ prawn production units at village level	Providing units (ponds) at cooperative base	Fisheries department	Providing units

Table 5.4.2: Fisheries information (Taluka wise) in the district

Taluka	No. of fisherman (2008-09)				Marketing	No. of Fish Net	Boats	
	Male	Female	Child	Total			Mechanized	Non mechanized
Maliya-Miyana	1161	1146	3079	5386	237	7918	85	527
Morbi	241	234	543	1018	107	1618	0	96
Tankara	0	0	0	0	0	0	0	0
Wankaner	135	121	273	529	25	870	0	17
Padadhari	0	0	0	0	0	0	0	0
Rajkot	293	319	933	1545	124	2938	0	223
Lodhika	0	0	0	0	0	0	0	0
Kotada Sangani	136	132	191	459	80	241	0	42
Jasdan	0	0	0	0	0	0	0	0
Gondal	58	58	173	289	72	63	0	0
Jam Kandorana	0	0	0	0	0	0	0	0
Upleta	21	19	51	91	26	0	0	0
Dhoraji	74	69	107	250	20	500	1	31
Jetpur	169	149	214	532	62	279	0	38
Total	**2288**	**2247**	**5564**	**10099**	**753**	**14427**	**86**	**974**

Source: Statistical Report of Rajkot District (2008-2009)

5.4.1: Activities for development of fisheries sector

The proposal for fisheries/prawn production units (ponds) at village level is shown in table 5.4.1.1. The table includes the number of fisheries and prawn production units and expenditure per unit is Rs 5 lakh. The total estimated expenditure for establishment of fisheries/prawn production units (ponds) at village level in different talukas of Rajkot district is Rs 125 lakhs for 12th five year plan of Rajkot district.

Table 5.4.1.1: Providing fisheries/prawn production units (ponds) at village level

(Rs. in Lakh)

Name of Tehsil	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	1	2	1	2	1	2	1	2	1	2	1	2
Wankaner	1	5.0	-	-	1	5.0	-	-	-	-	2	10.0
Morbi	1	5.0	-	-	-	-	1	5.0	-	-	2	10.0
Rajkot	-	-	1	5.0	-	-	-	-	1	5.0	2	10.0
Jasdan	-	-	1	5.0	-	-	-	-	1	5.0	2	10.0
Gondal	-	-	1	5.0	-	-	-	-	1	5.0	2	10.0
Jetpur	-	-	-	-	1	5.0	-	-	-	-	1	5.00
Dhoraji	1	5.0	-	-	-	-	1	5.0	-	-	2	10.0
Upleta	1	5.0	-	-	-	-	1	5.0	-	-	2	10.0
Kotada Sangani	-	-	1	5.0	-	-	1	5.0	-	-	2	10.0
Lodhika	-	-	1	5.0	-	-	-	-	-	-	1	5.00
Jam kandorna	-	-	-	-	1	5.0	-	-	1	5.0	2	10.0
Maliya	1	5.0	-	-	-	-	1	5.0			2	10.0
Tankara	-	-	-	-	1	5.0	-	-	1	5.0	2	10.0
padadhri	-	-	-	-	1	5.0	-	-	-	-	1	5.00
Total	**5**	**25.0**	**5**	**25.0**	**5**	**25.0**	**5**	**25.0**	**5**	**25.0**	**25**	**125**

1= Number of unit, 2= Cost/ unit@ Rs.5.00 lakhs

5.5 Forestry:

Forest in Gujarat constitutes 9.66% of the total geographical area. The 3.27 % of land is under forest in Rajkot district. Looking at the degradation of the forest, land resources the district should be sustained with watershed programme through different govt. department agencies. There is a need for massive time bound programme in afforestation of wasteland, social forestry on road side, panchayat land, damside, boundry of field. With more afforestation, it will help in supplementing income generation activities for marginal farmers and land less labours with minor forest based collection. However, arrangement for due price realization has to be ensured.

Table 5.5.1: Bridging the gaps for realizing the vision- Forestry sector

No.	Program	Activities
	Thrust Areas/ Issues : Forestry	
1.	Agro-forestry	Educating farmers through demonstration and training and providing units
2.	Minor forest products	Educating farmers through demonstration and training and providing units
3.	Forest nursery	Providing nursery and planting material
4.	Tree cover improvement	Providing tree covers

5.5.1: Activities for development of forestry sector

5.5.1.1: Proposal for capacity building of forest staff

The proposal for establishment of capacity building of forest staff is shown in table 5.5.1.1. The table includes the number of trainees per training and expenditure of training. Each training is of 3 days and expenditure per trainee per day is Rs 1000 and total estimated expenditure is Rs 6.30 lakhs for 12th five year plan in Rajkot district.

Table 5.5.1.1: Proposal for capacity building of forest staff

Taluka / Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	0.45	-	-	-	-			-	-	1	0.45
Wankaner							1	0.45			1	0.45
Gondal	-	-	1	0.45	-	-	-	-			1	0.45
Jetpur									1	0.45	1	0.45
Dhoraji	-	-	-	-	1	0.45	-	-	-	-	1	0.45
Upleta							1	0.45			1	0.45
Lodhika	-	-	1	0.45	-	-	-	-	-	-	1	0.45
Jamkandorna							1	0.45			1	0.45
Jasdan-	1	0.45	-	-	-	-	-	-			1	0.45
Kotdasangani									1	0.45	1	0.45
Morbi	-	-	-	-	1	0.45	-	-	-	-	1	0.45
Maliya-Miyana							1	0.45			1	0.45
Tankar	-	-	-	-	-	-	1	0.45	-	-	1	0.45
Paddhari	1	0.45									1	0.45
Total	**3**	**1.35**	**2**	**0.90**	**2**	**0.90**	**5**	**2.25**	**2**	**0.90**	**14**	**6.30**

*Trainees 15/training for 3 days, Cost @ Rs.1000/trainee/day

5.5.1.2: Proposal for capacity building of forestry farmers

The proposal for training of forest farmar is shown in table 5.5.1.2 and total estimated expenditure is Rs 26.25 lakhs for 12th five year plan in Rajkot district.

Table 5.5.1.2: Proposal for training of forestry farmers

Taluka/Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	0.75	1	0.75	-	-	-	-	-	-	2	1.50
Wankaner	-	-	-	-	1	0.75	1	0.75	1	0.75	3	2.25
Gondal	-	-	-	-	1	0.75	1	0.75	1	0.75	3	2.25
Jetpur	1	0.75	1	0.75	-	-	-	-	-	-	2	1.50
Dhoraji	1	0.75	1	0.75	-	-	-	-	-	-	2	1.50
Upleta	-	-	-	-	1	0.75	1	0.75	1	0.75	3	2.25
Lodhika	-	-	-	-	-	-	1	0.75	1	0.75	2	1.50
Jam kandorna	1	0.75	1	0.75	1	0.75	-	-	-	-	3	2.25
Jasdan	1	0.75	-	-	-	-	-	-	1	0.75	2	1.50
Kotda sangani			1	0.75	1	0.75	1	0.75	-	-	3	2.25
Morbi	1	0.75	1	0.75	-	-	-	-	-	-	2	1.50
Maliya-Miyana	-	-	-	-	1	0.75	1	0.75	1	0.75	3	2.25
Tankara	1	0.75	1	0.75	-	-	-	-	-	-	2	1.50
Paddhari	-	-	-	-	1	0.75	1	0.75	1	0.75	3	2.25
Total	**7**	**5.25**	**7**	**5.25**	**7**	**5.25**	**7**	**5.25**	**7**	**5.25**	**35**	**26.25**

*Trainees 25/training for 6 days, Cost @ Rs.500/trainee/day

5.5.1.3: Proposal for demonstrations on agro forestry

The proposal for demonstrations on Agro forestry is shown in table 5.5.1.3. in Rajkot district for 12th five year plan. The number of demonstrations is equally proposed in each taluka and expenditure per demonstration is Rs 100000. The total estimated expenditure is Rs 35 lakhs for demonstrations on Agro forestry for Rajkot district for 12th five year plan.

Table 5.5.1.3: Proposal for demonstrations on Agro forestry

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Gondal	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Jetpur	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Lodhika	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Dhoraji	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Upleta	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Jam kandorna	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Kotda sangani	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Jasdan	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Wankaner	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Morbi	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Tankara	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Maliya-Miyana	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Paddhari	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Total	**70**	**7.0**	**70**	**7.0**	**70**	**7.0**	**70**	**7.0**	**70**	**7.0**	**350**	**35.0**

*Cost/ demo @ Rs. 0.1 Lakh

5.5.1.4: Proposal for forest nursery and planting

The proposal for forest nursery and planting is shown in table 5.5.1.4 in Rajkot district for 12th five year plan. The number of unit is equally proposed in each taluka and expenditure per unit is Rs 3.5 lakh. The total estimated expenditure is Rs 245 lakhs for Rajkot district for 12th five year plan

Table 5.5.1.4: Proposal for forest nursery and planting:

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Gondal	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Jetpur	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Lodhika	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Dhoraji	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Upleta	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Jam kandorna	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Kotda sangani	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Jasdan	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Wankaner	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Morbi	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Tankara	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Maliya-Miyana	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Paddhari	1	3.5	1	3.5	1	3.5	1	3.5	1	3.5	5	17.5
Total	**14**	**49.0**	**14**	**49.0**	**14**	**49.0**	**14**	**49.0**	**14**	**49.0**	**70**	**245.0**

5.6 Employment Generation Activities:

Table 5.6.1: Bridging the gaps for realizing the Vision for employment generation activities.

No.	Program	Activities
	Thrust Areas/ Issues : Employment generation activities	
	Vermi-composting & enriched composed preparation	Educating farmers through demonstration and training in cluster approaches and providing units
	Bakery	Educating the rural youth by training and providing units
	Fruits and vegetable preservation	Educating rural youth by providing training

5.6.1 Vermi-composting & enriched composed preparation

Animal and plant wastes are rich sources of all plant nutrients which are required for the improvement of soil health and sustainability of crops and animals production. Unfortunately recycling of these nutrients is not done in a justified way. Most of plant nutrients are either burnt or put at undesired places leading to soil and water pollution on one hand and loss of plant nutrients on other hand in terms of worth billion of rupees Vermi-composting is an excellent method for recycling the farm wastes into valuable plant nutrients.

The proposal for demonstrations on vermi-composting and enriched compost is shown in table 5.6.1.1 in Rajkot district for 12th five year plan. The table includes the number of demonstrations to be held and expenditure per demonstration. The number of demonstrations is proposed in each taluka and expenditure per demonstration is Rs 600/trainee/day. The total estimated expenditure is Rs 15 lakhs for treining on vermi-composting and enriched compost for Rajkot district for 12th five year plan.

Table 5. 6.1.1: Training needs for vermi-composting and enriched compost preparation

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	35	0.21	35	0.21	35	0.21	35	0.21	35	0.21	175	1.05
Gondal	45	0.27	45	0.27	45	0.27	45	0.27	45	0.27	225	1.35
Jetpur	35	0.21	35	0.21	35	0.21	35	0.21	35	0.21	175	1.05
Lodhika	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Dhoraji	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Upleta	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Jam kandorna	35	0.21	35	0.21	35	0.21	35	0.21	35	0.21	175	1.05
Kotda sangani	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Jasdan	45	0.27	45	0.27	45	0.27	45	0.27	45	0.27	225	1.35
Wankaner	45	0.27	45	0.27	45	0.27	45	0.27	45	0.27	225	1.35
Morbi	45	0.27	45	0.27	45	0.27	45	0.27	45	0.27	225	1.35
Tankara	35	0.21	35	0.21	35	0.21	35	0.21	35	0.21	175	1.05
Maliya-Miyana	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Paddhari	30	0.18	30	0.18	30	0.18	30	0.18	30	0.18	150	0.90
Total	**500**	**3.0**	**500**	**3.0**	**500**	**3.0**	**500**	**3.0**	**500**	**3.0**	**2500**	**15.00**

*Cost @ Rs.600/trainee/day

The proposal for providing vermi-composting and enriched compost is shown in table 5.6.1.2 in Rajkot district for 12th five year plan. The table includes the number of units to be provided and expenditure per unit. The total estimated expenditure is Rs 50 lakhs for vermi-composting and enriched compost for Rajkot district for 12th five year plan.

Table 5.6.1.2: Proposal for providing vermi-compost units & enriched compost preparation

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	6	0.6	6	0.6	6	0.6	6	0.6	6	0.6	30	3.0
Gondal	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Jetpur	8	0.8	8	0.8	8	0.8	8	0.8	8	0.8	40	4.0
Lodhika	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Dhoraji	8	0.8	8	0.8	8	0.8	8	0.8	8	0.8	40	4.0
Upleta	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Jam kandorna	8	0.8	8	0.8	8	0.8	8	0.8	8	0.8	40	4.0
Kotda sangani	6	0.6	6	0.6	6	0.6	6	0.6	6	0.6	30	3.0
Jasdan	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Wankaner	8	0.8	8	0.8	8	0.8	8	0.8	8	0.8	40	4.0
Morbi	8	0.8	8	0.8	8	0.8	8	0.8	8	0.8	40	4.0
Tankara	6	0.6	6	0.6	6	0.6	6	0.6	6	0.6	30	3.0
Maliya-Miyana	6	0.6	6	0.6	6	0.6	6	0.6	6	0.6	30	3.0
Paddhari	6	0.6	6	0.6	6	0.6	6	0.6	6	0.6	30	3.0
Total	**100**	**10.0**	**100**	**10.0**	**100**	**10.0**	**100**	**10.0**	**100**	**10.0**	**500**	**50.0**

*Cost @ Rs 0.10 Lakh/unit

5.6.2 Bakery unit:

A small scale bakery unit can provide employment to the rural youth. The training on the bakery will be provided by Bakery Unit of Junagadh Agricultural University, Junagadh.

The proposal for providing training is shown in 5.6.2.1. The total expenditure per trainee is Rs 800 per three days. The total estimated cost for providing training to the trainee is Rs 28.0 lakhs for 12th five year plan for Rajkot district.

Table 5.6.2.1: Proposal for bakery trainings

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Gondal	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jetpur	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Lodhika	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Dhoraji	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Upleta	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jam kandorna	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Kotda sangani	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jasdan	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Wankaner	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Morbi	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Tankara	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Maliya-Miyana	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Paddhari	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Total	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**140**	**28.00**

5.6.3: Fruit and Vegetable Processing

Establishment of small scale grading and processing units can help the people to get addition income from their produce. The proposal for providing training is shown in 5.6.3.1. The total estimated cost for providing training to the trainee is Rs 28.0 lakhs for 12th five year plan for Rajkot district.

Table 5.6.3.1: Proposal for small scale fruit and vegetable processing trainings

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Gondal	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jetpur	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Lodhika	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Dhoraji	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Upleta	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jamkandorna	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Kotdasangani	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Jasdan	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Wankaner	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Morbi	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Tankara	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Maliya-Miyana	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Paddhari	2	0.40	2	0.40	2	0.40	2	0.40	2	0.40	10	2.00
Total	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**28**	**5.60**	**140**	**28.00**

The proposal for small scale Fruit and vegetable processing units to be establishment is shown in 5.6.3.2. Each unit requires 2.0 lakh and one unit per one year is equally proposed in each talukas. The total estimated cost for small scale Fruit and vegetable processing units is Rs 140.0 lakhs for 12th five year plan for Rajkot district.

Table 5.6.3.2: Proposal for small scale fruit and vegetable processing units to be established

Taluka/ Particulars	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Rajkot	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Gondal	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Jetpur	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Lodhika	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Dhoraji	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Upleta	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Jam kandorna	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Kotda sangani	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Jasdan	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Wankaner	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Morbi	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Tankara	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Maliya-Miyana	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Paddhari	1	2.0	1	2.0	1	2.0	1	2.0	1	2.0	5	10.0
Total	**14**	**28.0**	**14**	**28.0**	**14**	**28.0**	**14**	**28.0**	**14**	**28.0**	**70**	**140.0**

CHAPTER VI

DISTRICT PLAN

6.1 Introduction

District planning is the process of preparing an integrated plan for the local government sector in a district taking into account the resources (natural, agricultural, human and financial) available and covering the sectoral activities and schemes assigned to the district level as well as below up to taluka and village level and those implemented through governments, non government and private organizations. District plan has been prepared for Rajkot district for the XII five year plan period between 2012-13 to 2017-18 and this plan includes the proposals of various line departments like agriculture, horticulture, animal husbandry, fisheries, agricultural engineering, agricultural marketing and agri-business and water resources

6.2 Growth Drivers

The targets will achieved using different growth drivers in agriculture and allied sectors as follows:

6.2.1 Agriculture

a) Rain water harvesting technology and water storage structure
b) Mechanization for increasing water use efficiency.
c) Crop diversification for more remunerative crops.
d) Development of high yielding varieties & Hybrids.
e) Developing varieties of oilseed (groundnut), cotton and pulses, suitable for intercropping.
f) Increase area under hybrids and improved varieties in different field and vegetable crops.
g) Resource conservation technologies for sustaining and improving the productivity levels.
h) Cotton and wheat crops residues utilize for enriched composting.
i) Seed grading, treatment and enhancing seed replacement rate.
j) IPM, INM and IWM.
k) Demonstrations and capacity building of field functionaries and the farmers, rural youth and women.
l) Human resource development.

6.2.2 Soil Health Card

a) Research on soils for site specification nutrient management of important crops.
b) Prevention of degradation of soil fertility & care of soil health.
c) Reclamation of soil salinity & alkalinity.
d) Proper facilities of soil & water testing laboratory (Micronutrients & ground water quality & biological testing) in the district.
e) Use of waste biomass available from livestock, crop & farm residue for maintaining soil health.
f) Popularization of organic farming.
g) Recycling of crop residues especially cotton, castor & sesame.

6.2.3 Agricultural Engineering

a) Improvement in farm mechanization.
b) Increase area under micro irrigation systems.
c) Development and recharge of ground water resources and implementation of watershed management programmes.
d) Establishment of storage structures and food processing units.
e) Implementation of renewable energy programmes.

6.2.4 Horticulture

a) Increasing area under fruits and vegetables, spices and medicinal crops.
b) Providing improved planting material for fruits, vegetables and medicinal crops.
c) IPM and INM, use of drip irrigation.
d) Encouraging income and employment generating vocational trainings through agro based, value addition, vermicomposting & enriched composting as well as food preservation etc.
e) Demonstrations and trainings including farmers and field officials, rural youth and women.
f) Introduction of new crops / crops varieties of floriculture.

6.2.5 Forestry

a) Increase area under agro forestry and social forestry.
b) Ensuring livelihood of rural people by collection, processing and marketing of minor forest products.
c) Demonstrations and trainings including farmers and field officials.

6.2.6 Animal Husbandry:

a) Breed improvement through community bulls and artificial insemination.
b) Mineral mixture feeding
c) Dehorning
d) Fodder production and preservation
e) Balanced feeding
f) Demonstrations and capacity building of field functionary and farmers & women.
g) Dairy development & processing.

6.2.7 Fishery:

a) Utilization of village/panchayat pond, dam, small tank & sea water.
b) Technical inputs for increasing fish processing and its supply chain.

6.3 New Innovative Project Proposals

6.3.1 Background / Problem Focus

In Rajkot district, Agriculture, Horticulture, Animal Husbandry and Fisheries are the major enterprises practiced by the farming community. The major agricultural crops grown are groundnut, cotton, bajra, wheat, pulses, castor, and sesame. Due to monsoon failures, the agricultural activities in terms of return are reducing gradually, leading to low income of the farmers. To combat this and to

make the farm activities sustainable, an innovative and integrated approach comprising of agriculture, agricultural engineering, horticulture, animal husbandry, fisheries and other allied activities is the need of the hour, which can improve the income of the farmers.

In this connection, the potentiality of Rajkot district could be explored and exploited to benefit the farming community. Special projects could be designed to optimally exploit the natural and human resources in order to generate more income and employment. Towards this direction, a few income generating but small enterprises have been proposed as discussed under:

The Activities to be Focused are:

- Formation of commodity interest groups.
- Training on grading, post harvest technologies, value addition and market intelligence.
- Establishment of rural godown with drying yards.
- Providing cold storage facility.
- Encouraging contract farming.
- Food Park with basic infrastructure facilities.

i) Goal and objectives

- To generate additional income for farming community.
- To develop entrepreneurship among farmers.
- To generate employment opportunities.
- To promote value addition to agricultural products.

ii) Project Strategy

- Formation of commodity groups.
- Training programme to create awareness about market intelligence among farmers.
- Encouraging contract farming in groundnut and value addition (setting up of cattle feed mixing unit).
- Training programme and exposure visit to farmers on grading and post harvest technology.
- Setting up of agro based industries with basic infrastructure facilities - Food park
- Providing storage facilities in rural area.

iii) Project Components

- Formation and strengthening of commodity based groups.
- Training to farmers on market intelligence.
- Facilitation to contact farming.
- Setting up of Mini cattle feed mixing unit maintained by Commodity group.
- Exposure visit on grading, post harvest technology and value addition.
- Establishment of Food Park with basic infrastructure facility.
- Establishment of rural godown with drying yards.
- Providing cold storage facilities.

6.3.2. Establishment of Multi Facility Testing Laboratory

For finding a solution of the problem, it's testing in the laboratory, is of immense importance. Once the cause of problem is diagnosed, its cure becomes easy and less expensive. In the absence of testing facilities related to agriculture and animal husbandry, lot of expenditure is incurred for treatment without getting desired results. Soil and water testing, microbial activities & physical parameter estimation, seed germination testing, seed and fodder testing, fertilizer and pesticide testing and residues analyzing laboratory are the facilities required for supplying quality inputs and solving problems related to agriculture and animal production. In the absence of adequate testing facilities farmers move from here and there and incur lot of time and money for getting solutions of their problems. Therefore, it is proposed that a central multi testing facility laboratory for conducting the following tests may be established at Rajkot by Department of Agriculture, District Agriculture Officer & Joint Director for benefiting the farmers in solving their day to day problems. Outsourcing help can be sought for fulfilling the objectives.

i. Seed germination test.
ii. Soil and water testing (all elements).
iii. Microbial activity & physical parameter.
iv. Laboratory for testing of toxic substance/pesticides in food material & soil
v. Cattle feed and mineral mixture testing.
vi. Milk testing.
vii. Dung, urine and blood testing of animals.
viii. Fertilizers and other chemicals testing.
ix. Production of bio fertilizer and various beneficial microbes for control of pest and diseases.
x. Certification for organic product

Table 6.3.2.1: Proposal for establishment of multi-facility laboratory

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units (one at each taluka level with full strength of staff under JDA)	14	--	--	--	--	14
Cost @ Rs 100 Lakh (Rs. in Lakh)	1400	--	--	--	--	1400

6.3.3 Weather Watch and Forecasting System

The farmers of the district are prone to vagaries of nature. The crop damage due to cyclones, heavy rainfall, high wind velocity, hailstorms, chilling temperature, high temperature, stormy winds has become a common feature in the recent past. The crop insurance schemes are unrealistic and compensation on damage is taxing on the state. To avoid the financial loss and decrease in production, there is a strong need for Weather Watch and Forecasting System, so that farmers can save their crops or minimize the loss by manipulating / modifying the farm operations as per need. It is therefore proposed to establish a Weather Watch and Forecasting System at headquarter of taluka places along with multi facility testing laboratory under Joint Director of Agriculture.

Table 6.3.3.1: Cost of project on weather watch and forecasting System

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units (one at each taluka level)	14	--	--	--	--	14
Cost @ Rs 50 Lakh (Rs. in Lakh)	700	--	--	--	--	700

6.3.4 Agricultural Informatics and Training centers at Taluka Level

Several projects are running simultaneously for the development of agriculture, animal husbandry, horticulture, agro forestry and fishery in the district. The farmers of remote area could not easily approach KVK or head quarters of line departments for getting information or solving their problems. Further inviting all the farmers at district headquarters or at KVK for conducting small trainings is neither desirable nor possible. It not only wastes the time and money of the farmers but field functionaries also face a lot of problems. Therefore, to train the farmers of all line departments' construction of a training hall along with agro informatics service equipped with computer and e –connectivity and linking them with head quarters of line departments, at each taluka level under Joint Director of Agriculture.

Table 6.3.4.1: Fund requirement for establishing agricultural informatics and training centers at block level.

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units (one at each taluka level)	14	-	-	-	-	14
Cost @ Rs 100 Lakh (Rs. in Lakh)	1400	-	-	-	-	1400

6.3.5 Establishment of Education and Research Components:

6.3.5.1. Strengthening of Dry Farming Research Station, JAU, Targhadia

Main Dry Farming Research Station at Targhadia (Rajkot) is the first and apex research station started in the year 1958 to meet the challenges and the vagaries of monsoon. This centre is located 14 km North-East of Rajkot city on the National Highway No. 8B.

In course of time, the station has been strengthened step by step during the third five year plan and through AICRP for Dryland Agriculture (1972), National Agricultural Research Project (1979) and many other project/ schemes financed by state/ central government and other agencies. AICRPDA-Targhadia is a zonal centre for North Saurashtra Agro-climatic Zone of Gujarat State, which consists of forty talukas of five districts (Rajkot, Jamnagar, Surendranagar, Amreli and Bhavnagar). The Zone is divided into 15 Agro-ecological situations considering the rainfall, topography, soil characteristics climate and cropping pattern. The research activities are going on various themes viz., rain water harvesting and efficient use, tillage management, alternate land use system, integrated farming system, crop management, drought management, micro irrigation system, integrated nutrient management, organic farming, conservation agriculture, NICRA and other activities related to sustained crop productivity under rainfed agriculture and improved livelihood of population of rainfed area as whole.

Following infrastructural facilities, implements and vehicles are needed for strengthening the centre for ongoing research activities.

6.3.5.2.: Establishment of poly-technique in Agriculture:

The Rajkotr district mainly falls in North & South Saurashtra Agro-Climatic Zone. The total geographical area of the district is 11.20 lakh hectares out of which 7.64 lakh ha under cultivation. The irrigation area is 2.40 lakh hectares for administrative convenience the district has been divided into 14 talukas and 669 villages. The agriculture and animal husbandry are the main source of live hood for the rural people of the district. There is no any educational institute regarding agriculture and animal husbandry .Keeping in view the that during XII five year plan, there will a great boost to agriculture and animal husbandry due to increased irrigation facility due to different irrigation project, Sardar sahabhagi irrigation yojana and adoption of MIS in district. Establishment of Agriculture polytechnic in Rajkot district will definitely foster research as well as educational components on these aspects. The centre will take up priority areas of scientific research to be taken on five year plan basis

Requirements: a. Land required : 10 ha

6.3.5.3: Establishment of research station and poly-technique in horticulture:

Rajkot district has a massive potential for development in horticulture especially in vegetables viz., chilies onion, garlic, cumin and other green vegetables and floriculture etc. With the challenges of climate change and global worming restoration of green cover is of vital importance due to increase concerns of carbon credits, Agriculture + horticulture is the important farming situation for securing their livelihood nutritional security. The concept of agro horticulture is very important for Rajkot district, where cultivation of crops in field and growing fruit trees or trees of economic importance on border or in concept of integrated farming systems. So to find out better agro-horticulture is best options for the area and to generate skilled man power in agro-horticulture and horticulture based industries the proposal on Establishment of Research Station and horticulture polytechnic in Rajkot district will definitely foster research as well as educational components on these aspects. The centre will take up priority areas of scientific research to be taken on five year plan basis.

Requirements: a. Land required: 20 ha

6.3.5.4: Establishment of research station for off season vegetable and floriculture cultivation in poly-house:

Availability of vegetables throughout the year is a major constraint in mega city like Rajkot. More than 60 percent vegetables imported from other district and state also. The growing vegetables in poly houses/ green houses are one of the most important on for getting vegetables in off season. So to avail the information on feasibility of growing vegetables in poly houses in Narmada district the research on kind of vegetables can be grown in poly houses / net house is required.

Requirements: a. Land required : 10 ha

6.3.5.5: Establishment research station and poly-technique in food processing:

Value addition of agricultural products viz cereals, oilseeds, legumes, vegetables and fruits are very important and it is necessary for increasing the economics value of products and more remunerative for farmers as well as reduced loss of perishable agril. products It Is quite need for established research station and poly-technique in food processing in the districts .which fulfill the needs of the trained manpower for better utilization and value addition of agricultural produce for

enhancement of income of farmers, minimizing wastage at all stages in the food processing chain by the development of infrastructure for storage, transportation and processing of agro-food produce, Induction of modern technology into the food processing industries, to encourage R&D in food processing for product and process development and improved packaging.

6.3.5.6: Establishment of research station and poly-technique in poultry:

Wankaner taluka of Rajkot district has a massive potential for development in poultry development due to poultry provides household nutrition to poor family in rural area and poultry is the important farming situation for securing their livelihood nutritional security and part of concept of integrated farming systems. To find out better management practice for popularize scientific poultry rearing. Creating awareness and increase adoption of scientific poultry rearing, Increase egg and meat production and increase income and health of the farmers as well as provide household nutrition to poor family, It is best options for the area and to generate skilled man power in agro-horticulture and horticulture based industries the proposal on Establishment of Research Station and horticulture polytechnic in Rajkot district will definitely foster research as well as educational components

6.3.5.7: Establishment of research station and poly-technique in Veterinary:

Rajkot district has a massive potential for development in animal husbandry and raring of cows, buffalos, ship &goats as dogs in Rajkot cities. With the challenges of climate change and global warming, as well as deterioration of soil health, it is quite necessary to use organic and byproducts for restoration of soil productivity. The Animal husbandry Sector plays an important and vital role in GDP of Gujarat State, which is to the tune of nearly about 5.0%. This sector also contributes to product nutritive food, rich in animal protein, to the general public and good supplementary income to the economically weaker section of society like S.T., S.C., small farmers, marginal farmers and agricultural laborers . In addition, it offers a good employment generation opportunity, if adopted on a large commercial basis

Central to the challenge of ensuring improved livelihood and environmental sustainability is the ruminant livestock-particularly buffalo, cattle and goats- that are an integral part of the district's farming system. The expanding market with rise in demand for diverse animal products and easy access to marketing are added opportunities for further strengthening of this sector in the district with wide network of infrastructural and support services. So that, it is quite necessary to provide skilled man power in veterinary and animal husbandry, therefore, the proposal on Establishment of Research Station and polytechnic in Veterinary at Rajkot will definitely foster research as well as educational components

6.3.5.8: Establishment of research station and poly-technique in fishery

Rajkot district has sea seashore available in Malia–Morbi tauka. Under inland fisheries, aquaculture is possible in ponds, reservoirs and rivers. This activity has not yet picked up in the district. The chances of inland fisheries in the villages having perennial pond is much higher. There are great scope for develop fishery because demand will be tremendously increased in future and great scope for fishery. So to find out better management practices is best options for the area and to generate skilled man power in fishery based industries the proposal on Establishment of Research Station and fishery polytechnic in Rajkot district will definitely foster research as well as educational components and income generation for peoples.

6.3.5.9: Establishment of research station on Reclamation of problematic soils:

In Rajkot district, soils of Maliya Miyana takuka is costal alluvial having higher content of salt and poor drainage. Ground water is also salty and hence only 1.3 percent land is under irrigation through well. There are no any small, medium or large irrigation projects. The net sown area of taluka is only 65 percent. Area under forest (10157 ha) is 13.20 percent of course no green forest is there. In Morbi taluka (adjoing of Maliya taluka), soils are clayey having hard pan with poor drainage, ultimately it is saline alkali (Halaquents) soils. Saline soils in Malia and Morbi taluka are 5268 and 2025 ha, respectively. There are urgent need for find out remedial measures and package of practices for reclamation of these soils for increasing productivity and profitability of agriculture and livelihood of peoples of area. Soils under forest, wasteland, pasture, cultivable fallow should be reclaimed and fodder, grasses trees should be grow. For these purpose, there is need for establishment of research station on Reclamation of problematic soils at Morbi

Requirements: a. Land required: 10ha

Table 6.3.4: Fund requirement for strengthening/establishing New Colleges/ Polytechnic

(Phy-No., Fin. – Rs in Lakh)

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Strengthening of Dry Farming Research Station, JAU, Targhadia (Rajkot)	Rajkot	1	325	-	100	-	100	-	100	-	100	1	725
Establishment of poly-technique in Agriculture	Jasdan	1	500	-	50	-	50	-	50	-	50	1	700
Establishment of poly-technique in Horticulture	Gondal	1	600	-	100	-	100	-	100	-	100	1	1000
Establishment of research station for off season vegetable and floriculture cultivation in poly-house	Gondal	1	100	-	25	-	25	-	25	-	25	1	200
Establishment research station and poly-technique in food processing	Padadhri	1	100	-	25	-	25	-	25	-	25	1	200

Cont.

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Establishment research station and poly-technique in poultry	Wankaner	1	100	-	25	-	25	-	25	-	25	1	200
Establishment research station and poly-technique in veterinary	Rajkot	1	100	-	25	-	25	-	25	-	25	1	200
Establishment research station and poly-technique in fishery	Morbi	1	100	-	25	-	25	-	25	-	25	1	200
Establishment of research station on Reclamation of problematic soils:	Morbi	1	150	-	25	-	25	-	25	-	25	1	250
Total		**9**	**2075**	**-**	**400**	**-**	**400**	**-**	**400**	**-**	**400**	**9**	**3675**

6.3.5.10.: Establishment of Scientist–Farmers linkages for enhancing crop productivity, profitability and quality for sustainable Agriculture in participation of farmers

During last decade growth of agriculture become fast due to implementation of various projects by government as well as increased in amount of rainfall and there is a big gap in between farmer's irrigation facility. Research achievement is quite satisfaction during the period. Even though, now a days vast difference is existing in productivity of crops. Use of fertilizer and pesticides in injudicious and imbalance manner are commonly practiced by farmers particularly in cash (cotton) and vegetable crops. This may be due to lake off awareness and knowledge regarding requirement of fertilizer and pesticides as well as its concentration and proper method ultimately this couces hazzard for natural resources and ecosystem.

During 11th five year plan there are ambicious programme for strengthening of research activities viz. biotechnology, genetic engineering, soil & water conservation, organic waste and residue management, vermi culture, integrated pest and nutrient management practices, various new courses will be introduced in agriculture teaching Modernization in equipment, instrument computer facilities may help to boost up research activities, while, on the other hand extension activities by Government drastically decreased now a days, there is no prompt linkage between farmers and scientist, by this way, prompt potentiality is there for boost up crop yield and reduction in the cost of cultivation and sustain & maintain natural resources.

It is not possible for Government to provide these recent research knowledge, package of practices, modern method of water and soil conservation and other technology which helps to enhance crop production & improve its quality along with control the deterioration resources without financial aid from user and homes a project is planned with financial participation of farmers to transfer of technology developed by research institute to farmers quickly.

Rationale:

- No direct linkage between farmers and scientist.
- Extension channel for transfer of technology is not satisfactory.
- Vast difference between average yield and yield due to recommended practices and management.
- Lack of interest among youth for agriculture as a profession and lack for prompt awareness regarding balance use of fertilizers, soil management, use of organic of residues crop rotation, moisture conservation and water management value addition of product & processing.
- Injudicious use of pesticides in more frequency, quantity with faulty manner.

Objective:

- To transfer technologies developed by scientist to farmers promptly and quickly.
- To educate the farmers for IPNS, IPM, PHT, Organic farming TOT and sustainable farming regarding balance use of fertilizer, pesticides,
- IPM Integrated pest management, IMMS (Integrated nutrient management system), soil and moisture Conservation alternate land use planning.
- To solve problem regarding production management.
- To enhance crop productivity per unit area with better quality.
- To sustain soil productivity and agriculture as a whole.
- To minimize cost of cultivation.
- To improve the life style of farmers and other people which live in rural.

Methodology:

Basic information of operational district-Rajkot

- Total geographical area- 11.76 lakh ha
- Total cultivated area- 7.68 lakh ha
- Net cultivated area- 7.60 lakh ha
- Total area under forest 0.38 lakh ha
- Total irrigated area 1.42 lakh ha
- No. of holding 2.21 lakh ha
- Average annual rainfall 600 mm
- Total population 13.30 laKh

Table 6.3.5: Cultivated land in different talukas of Rajkot

Sr.No.	Name of Taluka	No. of village	Cluster	Cultivated land (ha)
1.	Rajkot	91	20	62925
2.	Padadhri	58	15	38398
3.	Jasdan	102	24	87091
4.	Morbi	79	23	77546
5.	Malia	44	15	49020
6.	Wakaner	101	19	56092
7.	Tankara	48	16	48233
8.	Upleta	51	14	63780
9.	Dhoraji	31	14	40250
10.	Jetpur	50	16	50189
11.	Jam kandora	47	13	36020
12.	Gondal	82	21	90648
13.	Kotada Sangani	41	12	32268
14.	Lodhika	38	15	24325
	Total	**863**	**237**	**756785**

Set-up of staff at various levels:

Cluster Level:

One Rural Advisory Officer (Junior Research Fallow-JRF-B.Sc agri./M.R.S) will be appointed for every cluster (Taluka Seat-one JRF). Thus, total JRF will be 237 (two hundred thirty seven only) for district. Small office will be provided with well equipped e-connectivity facility.

Block Level:

Supervisory and diagnostic unit will be provides for every block (taluka) with one Assistant Research Scientist for coordinating activity at block level along with support of three Senior research assistant, (M.Sc.(agri.)), each for natural resources management (soil science/agronomy), plant protection (Agri. Entomology/ plant pathology) and micro irrigation system, soil &water management (Agril.Engg.) will be appointed. Subordinate staff (senior/junior clerk, computer operator, attendant) provided on contractual services

Total 14 blocks level office will be there along with required modern e-connectivity and instruments as well as equipments.

Coordinator level:

At district level (On prevailing research station/KVK unit) coordinating unit under guidance and supervision of Programme Coordinator along with one Assistant Research Scientist, Senior Research Assistant and lab. Technician in the following discipline.

- Agronomy
- Soil Science
- Agril. Entomology
- Plant Pathology
- Agril Engineering
- Horticulture/Agro forestry
- Animal Science/nutrition
- Home science/food processing
- Agril. Meteorology

Other subordinate staff (as per attachment) will be provided. Coordinating unit constructed with modern facility for diagnostic of soil ,plant ,disease, pest as well training facility for various line department, NGO, cooperative, ATMA Farmers, museum, e-connectivity with block level office and cluster rural advisory officer, and farmers

Technical Programme:

Cluster level: Weekly activity

- Morning field visit: Three days-area will be rotted for uniform coverage
- Afternoon: meeting and discussion with farmers in gram panchayat office or community hall
- One day (every Friday) meeting at sub center for discussion of problem and solution as well as future plan

N.B: Motor cycle should be own and PTA will be given

Block level:

1. Senior Research Assistant (NRM, Pl. protection & MIS) Weekly activities.

- Three days tour of monitoring and solution of problem within his juristic village site will be rotted for uniform coverage.
- One day meeting (Thursday) at Head quarter for detail discussion accommodation for problem and next week programme will be finalized and it will be followed in next Friday meeting.
- One day special programme for solution & discussion with JRF & farmers meeting.

2. Assistant Research Scientist (coordinator)

- All the activities within a taluka will be coordinated.
- Thursday meeting at H.Q.
- Specially one meeting (for nightly) at H.Q for management programme
- One day tour / week in field for crops morning.

N.B: (1) Facility of a phone, e-mail, internet, fax, and computer with modern facility, museum meeting/seminar hall and some extension audio-visual facility like LCD and library will be established.

(2) For SRA & Asstt Res. Sci. (both) vehicle (two/four wheels) should be own & PTA will be given.

3. Coordinator unit (polyclinic)

- Diagnosis & recommendation for various problem
- Training will be given to RA of sub center (Thursday)
- Fortnightly meeting for taluka coordinator regarding programme management.
- Farmer meeting, field day-night meeting, demonstration campaign will be arranged at village & taluka level intensively and uniform coverage of each area will be followed
- Monday, farmers will be visit and get guidance.
- Liaison with other agencies will be maintained properly.
- Project coordinator will be coordinated all the project and work at taluka and village level
- Analysis of collected soil, water and plant sample of farmer's field from various parts of district will be carried out mobile soil testing facilities will be also provided.
- Facilities for supply of bio-control agent for pest & diseases, compost will be arranged.

- Training for farmers (young & women) regarding advance technology for various themes, seed production food processing and value addition will be facilitated.

N. B.: 1. Modern facility regarding laboratory for soil,water and plat analysis, insect/diseases diagnosis museum seminar hall, meeting/conference hall computer, e-mail, internet, fax, audio-visuals aids, LCD, will be provided
2. Vehicle will be hired as & when needed.

Activity Chart

* Crop production technology
* Soil & water conservation/management
* Waste land improvement/development
* Forest development
* Animal husbandry & management
* Value addition of product
* Diversification
* Marketing information
* Cooperative development
* Balance & judicious use of fertilizer & pesticide
* Organic waste recycling and management
* Innovative practice for crop production
* Alternate land use planning
* Integrated pest management.
* Green house technology
* Export orientation crop planning
* Possibility for cultivation of medicine & aromatic crop
* Use of Micro irrigation.

Impact assessment

- Crop production will be enhanced
- Cost of cultivation will be decreased
- Balance and judicious use of fertilizer and pesticide will be made possible.
- Degradation of soil & ground water will be controlled
- soil fertility/productivity can be sustained
- Environment can be sustained
- Agriculture as a whole become profitable

The impact will be obtained through

* Water harvesting programme (well recharging, check dam, farm pond & in-situ moisture conservation practices at maximum extent)
* Farm waste recycling, composting & vermi culture
* Recent package of practices & low cost technology
* Food processing unit on the cooperative basis
* Value addition of farm product
* Storage facility of farm product
* Export of various farm product
* Increase in forest area & green belt
* Control of pumping for water having poor quality and deeper depth.
* Planning for raising crop having low water requirement.

Budget (Rs. In lakh):

Table 6.3.6: Budget for establishment of scientist–farmers linkages (Rs. in Lakh)

Sr.No.	Particular	2012-13	2013-14	2014-15	2015-16	2016-17	Total
1	Pay & allowance	690.15	722.25	759.30	797.70	828.70	3798.10
2	Traveling allowance	10.00	11.00	12.20	13.50	14.40	61.10
3	Office building (cluster, Block, Coordinator)	500.00	-	-	-	-	500.00
4	Lab. Equipment	25.00	-	-	-	-	25.00
5	office furniture (cluster, Block, Coordinator)	115.00	-	-	-	-	115.00
6	Jeep	10.00	-	-	-	-	10.00
7	Mobile soil testing van equipment	15.00	-	-	-	-	15.00
8	Contingencies (cluster, Block, Coordinator)	12.00	12.50	13.70	14.30	15.50	68.00
9	E-Conectivity	5.00	-	-	-	-	5.00
10	Plant clinic	15.00	-	-	-	-	15.00
	Total	**1397.15**	**745.75**	**785.2**	**825.5**	**858.6**	**4612.2**

6.4 Installation of Solar & Wind Demonstration Unit at D.F.R.S., J.A.U., Targhadia, K.V.K, Targhadia and Pipalia

Rajkot district is just near to coastal area and it also falls arid and semi arid region. Therefore, wind speed is more in Maliya-Miyana, Morbi, Tankara and due to hilly and undulating topography of Jasdan taluka also. This type of situation in this region wind mill is successfully working for pumping out of irrigation and drinking water for human being.

Advantages of solar and wind Mill

- Cutting cost of on diesel and electricity, as it operates on abundantly solar and wind energy.
- Operational and maintenance cost is very negligible.
- Pollution free and environmentally safe.
- Uninterrupted supply, no fear of power cut

Table 6.4.1: Fund requirement for installation of solar photovoltaic pump (SPV) & other solar equipment for demonstration.

Particular	2012-13	2013-14	2014-15	2015-16	2016-17	Total
No. of unit	3	3	3	3	3	15
Cost @ Rs.10 Lakh (Rs.in Lakh)	30	30	30	30	30	150

Table 6.4.2: Fund requirement for installation of wind power demonstration

Particular	2012-13	2013-14	2014-15	2015-16	2016-17	Total
No. of unit	3	3	3	3	3	15
Cost @ Rs.3.00 Lakh (Rs.in Lakh)	9	9	9	9	9	45

6.5 Strengthening of Krushi Vigyan Kendra at Targhadia and Pipalia.

Krishi Vigyan Kendra are one of the important institutions in the district under Junagadh Agriculture University, which involved in transfer of technology related to agriculture and related occupations. Krishi Vigayn Kendra for Rajkot district are located at Dry Farming Research Station, Targhadia established in 2009 and another finalized at Pipalia (Taluka:Dhoraji).The KVK is involve in transfer of technology through capacity building of the farmers, farm woman, rural youth and staff of the various departments and NGOs; through frontline demonstrations on the farmers filed regarding new varieties and technologies, on farm trials on farmers field for assessment and refinement of newer technologies, imparting long term training for employment generation, organizing filed days, seminars, kishan gosthies, diagnostic service *etc.* The main function of the KVK is to provide technological backstopping to various stake holders of the district.

Table 6.5.1: Fund requirement for strengthening of KVK, Taraghadia (Rajkot and Pipalya)

Sr. No.	Particulars	Fund required Rs in lakhs		
		Targhadia	Pipalya	Total
1.	Minibus for conveyance of the farmers of remote villages and for exposure visits	25.00	25.00	50.00
2.	Demonstration units on Ideal Dairy unit	15.00	15.00	30.00
3.	Vermi-compost unit	3.00	3.00	6.00
4.	Net house	1.00	1.00	2.00
5.	Unit on medicinal and aromatic plants	1.00	1.00	2.00
6.	Mobile soil and plant health clinic	20.00	20.00	40.00
7.	Small scale processing unit	12.00	12.00	24.00
8.	Compound wall	72.00	90.00	162.00
9.	Threshing yard	8.00	8.00	16.00
10.	Overhead tank	15.00	15.00	30.00
11.	Cement concrete road	25.00	50.00	75.00
12.	Campus farm metal road	20.00	25.00	45.00
13.	Street light	2.00	3.00	05.00
14.	Home Science lab for rural girls training	1.00	1.00	02.00
15.	Farm engineering workshop for rural youth training	10.00	10.00	20.00
	Total	**230.00**	**279.00**	**509.00**

6.6 Miscellaneous Activities

6.6.1 Kisan Mela

In the Kisan Melas, the season based crop production technologies are demonstrated. The farmers visiting the melas themselves judge the performance of different technologies exhibited and adopt in their farming system. These melas provide a common platform to the farmers to exchange their views with the farmers and the expert/scientists. The buzz sessions help the farmers in highlighting their problems to the experts. Participation of agro-industrial input suppliers for demonstrating their latest technologies is an additional advantage in these events. Therefore, one Kisan mela per year are held during *Rabi* or *Kharif* seasons in the district with a financial aid of Rs. 5,00,000/- per mela organized by District Agricultural Officer, District Panchayat, Rajkot.

Table 6.6.1.1: Fund requirement for conducting krishi mela (Phy-No., Fin. – Rs in Lakh)

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Krishi Mela	One in each taluka	3	15	3	15	3	15	3	15	2	10	14	70

6.6.2 Clinical Camps

Animal husbandry plays an important role in income and employment generation in the rural areas. There are several innovative technologies which can prove to be useful to the farmers for improving the health and productivity of animals can be demonstrated in clinical camps. Operating up on a diseased animal through surgical operations is a troublesome problem. Sometimes, the cost of treatment exceeds the paying capacity of the farmers. The clinical camps provide an opportunity to the farmers to exhibit the cows and cattle in the melas for motivation of other farmers. The message delivered by the scientists in such events help the farmers a lot. Therefore, one clinical camp is proposed with a grant in aid of Rs. 1,00,000/- per camp. Interaction of farmers with field officers of department and other farmers motivates the farmers for improving the health and productivity of their livestock. This clinical camp will be organized by Deputy District (Animal Husbandry), District Panchayat, Rajkot.

Table 6.6.1.2: Fund requirement for clinical camps (Phy-No., Fin. – Rs in Lakh)

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Cattle mela / clinical camp	One in each taluka	3	1.5	3	1.5	3	1.5	3	1.5	2	1.0	14	7.0

6.6. 3 Disease Diagnostic Kits

The field officers of animal husbandry departments have to attend the problems of animals at the doorsteps of farmers. There are no facilities available for disease diagnosis in the veterinary hospitals and stockman centers. In the absence of these facilities, animals are not treated properly leading to unproductive farmers' expenditure. In the market disease diagnostic kits are available through which lot of help is available for proper diagnosis and treatment of animals. Therefore a budget provision of Rs. 50000 per year is required for equipping all the veterinary surgeons in the district in the 12th Five Year Plan

Table 6.6.3.1: Fund requirement for disease diagnostic kits (Phy-No., Fin. – Rs in Lakh)

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.	Phy	Fin.
Disease Diagnostic Kits	One in each Taluka	3	1.5	3	1.5	3	1.5	3	1.5	2	1.0	14	7.0

6.6.4 Farmer Puraskar

Advance farmers spent a lot of time and money for creating new innovations in the agricultural production system. By adoption of these innovations, a large number of farmers are benefited. If such farmers are encouraged with little awards, the other farmers will also be motivated for new innovations. Therefore five awards per year of Rs. 30 thousands each are proposed for best agriculture, animal husbandry, horticulture, agro forestry farmers.

Table 6.6.4.1: Fund requirement for giving award to progressive farmers

(Phy-No., Fin. – Rs in Lakh)

Description	Taluka	Year-wise financial requirement											
		2012-13		2013-14		2014-15		2015-16		2016-17		Total	
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Incentive award to progressive farmers	One in each field per year	5	1.5	5	1.5	5	1.5	5	1.5	5	1.5	25	7.5

6.7. Monitoring and Evaluation for developmental programme.

Both monitoring and evaluation are the keys to success for any developmental programme. Monitoring of the programme suggests the ways and means to add strong points and delete the undesired. Continuous monitoring and evaluation are also required for further extension of the project to achieve the desired goals. Therefore, it is suggested that year wise monitoring of progress may be made and evaluation of the goal achieved is done. A lot of expenditure (on POL, TA and other office expenses) will be incurred on monitoring and evaluation of the project for submitting the desired reports to the concerned departments. Therefore, an outlay of Rs.10.0 Lakh will be required for this task as per the details given below.

Table 6.7.1: Proposed expenditure on monitoring and evaluation (Rs in Lakh)

Description	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Expenditure on TA,DA, POL and hiring of vehicles and office expenses	2.00	2.00	2.00	2.00	2.00	10.00

6.8: Consolidated Budget Proposal of the Rajkot District

Table 6.8.1: Consolidated budget proposal of the Rajkot district for the XII plan (Rs. in Lakh)

Budget proposal head-wise	2012-13	2013-14	2014-15	2015-16	2016-17	Total
I. Agriculture						
Training Proposal for Capacity Building of Agriculture Staff	6.00	6.00	6.00	6.00	6.00	30.00
Training Proposal for Capacity Building of Farmers	66.83	66.83	66.83	66.83	66.83	334.15
Varietals Demonstration in Next Five Years	268.00	268.00	268.00	268.00	268.00	1340.00
Demonstrations on Plant health management	81.90	81.90	81.90	81.90	81.90	409.50
Demonstrations on Soil health management	104.00	104.00	104.00	104.00	104.00	520.00
Demonstrations on IWM	44.00	44.00	44.00	44.00	44.00	220.00
Seed production enhancement	25.00	25.00	25.00	25.00	25.00	125
Seed storage at panchayat level and block level	230.00	165.00	165.00	165.00	165.00	890.00
Establishment of soil and water testing laboratory and mobile plant health clinic	700.00	140.00	140.00	140.00	140.00	1260.00
Planning for soil testing programme	139.23	139.23	139.23	139.23	139.23	696.15
Proposal for farm mechanization	1190.60	1190.60	1190.60	1190.60	1190.60	5953.00
Protective Micro Irrigation Plan for Drip	868.50	1086.30	1359.00	1701.00	2128.50	7143.30
Protective Micro Irrigation Plan for Sprinkler	630.80	790.02	956.46	1195.86	1495.3	5068.44
Number of processing units and financial requirements	220.00	220.00	220.00	220.00	220.00	1100.00
Establishment of Rural godowns	1092.30	1092.30	1092.30	1092.30	1092.30	5461.50
Establishment of onion godown	95.00	95.00	100	105.00	105.00	500.00
Strengthening of APMC	168.00	0	0	0	0	168.00
Planning of Soil Survey Programme	201.64	201.64	201.64	201.64	201.64	1008.20
Watershed development	912.50	912.50	912.50	912.50	912.50	4562.50
Project proposal for land	6300.00	6300.00	6300.00	6300.00	6300.00	31500.00

Cont.

leveling by GLDC						
Project proposal for Khet talawadi by GLDC	136.50	136.50	136.50	136.50	136.50	682.50
Proposal for water harvesting kachcha structure by GLDC	40.20	40.20	40.20	40.20	40.20	201.00
Renewable Energy Programmes	1435.55	1435.55	1435.55	1435.55	1435.55	7177.75
Total I (Agriculture)	**14956.55**	**14540.57**	**14984.71**	**15571.11**	**16298.05**	**76350.99**
II. Horticulture						
Training needs in vegetables	3.60	3.60	3.60	3.60	3.60	18.00
Training needs for raising nurseries	3.00	3.00	3.00	3.00	3.00	15.00
Training needs for IPM	3.00	3.00	3.00	3.00	3.00	15.00
Training needs for soil health management	6.00	6.00	6.00	6.00	6.00	30.00
Training needs for organic farming	4.50	4.50	4.50	4.50	4.50	22.50
Training for value addition /processing	1.50	1.50	1.50	1.50	1.50	7.50
Training for marketing/ co-operative societies	1.50	1.50	1.50	1.50	1.50	7.50
Establishment of nurseries	48.00	48.00	48.00	48.00	48.00	240.00
Establishment of Poly houses	600.00	600.00	600.00	600.00	600.00	3000.00
Demonstrations on vegetables for area expansion	20.00	20.00	20.00	20.00	20.00	100.00
Integrated pest management	20.00	20.00	20.00	20.00	20.00	100.00
Integrated nutrient management in vegetables	16.00	16.00	16.00	16.00	16.00	80.00
Low cost net house	60.00	60.00	60.00	60.00	60.00	300.00
Kitchen gardening with low energy drip	9.00	9.00	9.00	9.00	9.00	45.00
High tech vegetable farming including all components	30.00	30.00	30.00	30.00	30.00	150.00
Establishment of cold storage units:	300.00	300.00	300.00	300.00	300.00	1500.00
Establishment of collection centers	15.00	15.00	15.00	15.00	15.00	75.00
Refrigerated vans	17.00	17.00	17.00	17.00	17.00	85.00
Training needs of farmers for Fruit cultivation	0.60	0.60	0.60	0.60	0.60	3.00

Cont.

Training need of farmers for nursery raising for fruit crops	0.75	0.75	0.75	0.75	0.75	3.75
Training needs of farmers for INM / IPM for fruit crops	0.60	0.60	0.60	0.60	0.60	3.00
Training needs of farmers for Value addition processing for fruit crops	0.75	0.75	0.75	0.75	0.75	3.75
Demonstrations on fruit crops (vadi model)	10.00	10.00	10.00	10.00	10.00	50.00
Supply of plant protection equipment (Foot sprayer)	2.00	2.00	2.00	2.00	2.00	10.00
Establishment of fruit/vegetable pack house	15.00	15.00	15.00	15.00	15.00	75.00
Recycling of farm waste through shredder and established compost & vermi-composting	20.00	20.00	20.00	20.00	20.00	100.00
Model floriculture centers cluster based	125.25	125.25	125.25	125.25	125.25	626.25
Cluster based demonstrations on spice, medicinal and aromatic Plants	2.50	2.50	2.50	2.50	2.50	12.50
Total II Horticulture	**1335.55**	**1335.55**	**1335.55**	**1335.55**	**1335.55**	**6677.75**
III. Animal Husbandry						
Proposal for capacity building of livestock farmers	0.90	0.90	0.90	0.90	0.90	4.50
Proposal for fertility improvement programme	90.00	90.00	90.00	90.00	90.00	450.00
Proposal for Awareness programme for livestock farmers	50.00	45.30	45.30	45.30	45.30	231.20
Supplement mineral mixture feeding	19.35	19.35	19.35	19.35	19.35	96.75
Supply of balanced concentrate ration to Animals	832.09	00.00	00.00	00.00	00.00	832.09
Provision of shed for livestock to marginal farmer	600.00	600.00	600.00	600.00	600.00	3000.00
Proposal for training programme importance of Groundnut hey	7.00	7.00	7.00	7.00	7.00	35.00
Rearing of female cattle/ buffalo calf	21.55	21.55	21.55	21.55	21.55	107.75

Cont.

Providing Life Insurance to Livestock	15.00	15.00	15.00	15.00	15.00	75.00
Supply of animal health packages to landless farmers.	240.00	240.00	240.00	240.00	240.00	1200.00
Fodder production and preservation	5.00	5.00	5.00	5.00	5.00	25.00
Provision of Artificial Insemination facilities	69.430	20.808	23.334	24.822	25.560	163.954
Proposal for Supply of breeding bulls in villages	65.00	65.00	65.00	65.00	65.00	325.00
Proposal for commercial dairy farming in district	10.00	10.00	10.00	10.00	10.00	50.00
Proposal for Low input bird/ Back yard poultry in district.	6.00	6.00	6.00	6.00	6.00	30.00
Proposal for goat rearing in district	1.00	1.00	1.00	1.00	1.00	5.00
Total III Animal Husbandry	**2032.32**	**1146.908**	**1149.434**	**1150.922**	**1151.66**	**6631.244**
IV. Fisheries						
Providing fisheries units (ponds) at village level	25.00	25.00	25.00	25.00	25.00	125.00
Total V Fisheries	**25.00**	**25.00**	**25.00**	**25.00**	**25.00**	**125.00**
V. Forestry						
Proposal for capacity building of forest staff	1.35	0.90	0.90	2.25	0.90	6.30
Proposal for capacity building of forestry farmers	5.25	5.25	5.25	5.25	5.25	26.25
Proposal for demonstrations on Agro forestry	7.00	7.00	7.00	7.00	7.00	35.00
Proposal for forest nursery and planting:	49.00	49.00	49.00	49.00	49.00	245.0
Total IV Forestry	**62.6**	**62.15**	**62.15**	**63.5**	**62.15**	**312.55**
VI. Employment Generation Activities						
Training needs for vermi-composting and enriched compost preparation	3.00	3.00	3.00	3.00	3.00	15.00
Proposal for providing Vermi- compost units & enriched compost preparation	10.00	10.00	10.00	10.00	10.00	50.00
Proposal for bakery trainings	5.60	5.60	5.60	5.60	5.60	28.00

Cont.

Proposal for small scale fruit and vegetable processing trainings	5.60	5.60	5.60	5.60	5.60	28.00
Proposal for small scale fruit and vegetable processing units	28.00	28.00	28.00	28.00	28.00	140.00
Total VI Employment Generation Activities	**52.20**	**52.20**	**52.20**	**52.20**	**52.20**	**261.00**
VII. New Innovative Projects						
Proposal for establishment of multi-facility laboratory	1400.00	--	--	--	--	1400.00
Proposal for establishment of Weather Watch and Forecasting System	700.00	--	--	--	--	700.00
Agril Informatics and training centers at block level	1400	--	--	--	--	1400
Installation of solar photovoltaic pump (SPV) & other solar equipment for demonstration	300.00	300.00	300.00	300.00	300.00	1500.00
Installation of wind power demonstration	9.00	9.00	9.00	9.00	9.00	45.00
Total VII New Innovative Projects	**3809.00**	**309.00**	**309.00**	**309.00**	**309.00**	**5045.00**
VIII. Strengthening of KVKs						
Minibus for conveyance of the farmers of remote villages and exposure visits	50.00	--	--	--	--	50.00
Demonstration units on Ideal Dairy unit	30.00	--	--	--	--	30.00
Vermi-compost unit	6.00	--	--	--	--	6.00
Net house	2.00	--	--	--	--	2.00
Unit on medicinal and aromatic plants	2.00	--	--	--	--	2.00
Mobile soil and plant health clinic	40.00	--	--	--	--	40.00
Small scale processing unit	24.00	--	--	--	--	24.00
Compound wall	162.00	--	--	--	--	162.00
Threshing yard	16.00	--	--	--	--	16.00
Overhead tank	30.00	--	--	--	--	30.00
Cement concrit road	75.00	--	--	--	--	75.00
Campus farm metal road	45.00	--	--	--	--	45.00

Cont.

Street light	05.00	--	--	--	--	05.00
Home Science lab for rural girls training	02.00	--	--	--	--	02.00
Farm engineering workshop for rural youth training	20.00	--	--	--	--	20.00
Total VIII strengthening of KVK	**509.00**	**--**	**--**	**--**	**--**	**509.00**
IX Miscellaneous Activities						
Fund requirement for conducting Krishi Mela	15.00	15.00	15.00	15.00	10.00	70.00
Fund requirement for conducting Clinical Camps	1.50	1.50	1.50	1.50	1.00	7.00
Fund requirement for Disease Diagnostic Kits	1.50	1.50	1.50	1.50	1.00	7.00
Fund requirement for giving award to progressive farmers	1.50	1.50	1.50	1.50	1.50	7.50
Total IX miscellaneous Activities	**19.50**	**19.50**	**19.50**	**19.50**	**13.50**	**91.50**
X. Education and Research Components						
Proposal strengthening of Main Dry Farming Research Station, JAU, Targhadia	325	100	100	100	100	725.00
Proposal for Research on Agriculture and Polytechnic in Agriculture	500.00	50.00	50.00	50.00	50.00	700.00
Proposal for Research on horticulture and Poly technique in horticulture:	600.00	100.00	100.00	100.00	100.00	1000.00
Proposal Establishment of research station for off season vegetable and floriculture cultivation in poly-house	100.00	25.00	25.00	25.00	25.00	200.00
Establishment research station and poly-technique in food processing	100.00	25.00	25.00	25.00	25.00	200.00
Establishment research station and poly-technique in polutry	100.00	25.00	25.00	25.00	25.00	200.00
Establishment research station and poly-technique in veternary	100.00	25.00	25.00	25.00	25.00	200.00

Cont.

Establishment research station and poly-technique in fishary	100.00	25.00	25.00	25.00	25.00	200.00
Proposal establishment of research station on Reclamation of problematic soils	150.00	25.00	25.00	25.00	25.00	250.00
Proposal Establishment of Scientist–Farmers linkages for enhancing crop productivity, profitability and quality for sustainable Agriculture in participation of farmers	1397.15	745.75	785.20	825.50	858.60	4612.20
Total X. Education and Research Components	**3472.15**	**1145.75**	**1185.20**	**1225.50**	**1258.60**	**8287.20**
XI Monitoring and Evaluation						
Expenditure on monitoring and evaluation	2.00	2.00	2.00	2.00	2.00	10.00
Total XI Monitoring and Evaluation	**2.00**	**2.00**	**2.00**	**2.00**	**2.00**	**10.00**
Grand Total (Rs in Lakh)	**26275.87**	**18638.628**	**19124.744**	**19754.282**	**20507.71**	**104301.234**

Table 6.9: Sector wise budget Proposal of the Rajkot District for the XII plan (Rs. in Lakh)

Budget proposal head-wise	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**Total**
Agriculture	14956.55	14540.57	14984.71	15571.11	16298.05	76350.99
Horticulture	1335.55	1335.55	1335.55	1335.55	1335.55	6677.75
Animal Husbandry	2032.32	1146.908	1149.434	1150.922	1151.66	6631.244
Fisheries	25.00	25.00	25.00	25.00	25.00	125.00
Forestry	62.6	62.15	62.15	63.5	62.15	312.55
Employment Generation Activities	52.20	52.20	52.20	52.20	52.20	261.00
New Innovative Projects	3809.00	309.00	309.00	309.00	309.00	5045.00
Strengthening of KVK	509.00	0	0	0	0	509.00
Miscellaneous Activities	19.50	19.50	19.50	19.50	13.50	91.50
Education and Research Components	3472.15	1145.75	1185.20	1225.50	1258.60	8287.20
Monitoring and Evaluation	2.00	2.00	2.00	2.00	2.00	10.00
Grand Total (Rs in Lakh)	**26275.87**	**18638.628**	**19124.744**	**19754.282**	**20507.71**	**104301.234**

ANNEXTURE - I

National Agricultural Development Programme
Comprehensive District Agricultural Plant – Rajkot
Group Discussion with stake holders

Taluka: Dhoraji **Venue: Nani parbadi**

Date: 19-05-2012

Stake holders meeting was held at Nani Parbadi Village of **Dhoraji** Taluka on 19 May 2012, Shri D. P. Sanepara, Training Associate Krishi Vigyan Kendra, Targhadia. Welcomed to all officers, technical staff and extension workers from line department, other Govt., NGOs etc. Also welcomed farmers of the Nani parbadi and surrounding villages. Total 15 members were present in the meeting. The Information of Comprehensive District Agricultural Plan were given and discussed about water management through canal & check dam irrigation constructed in different site of river. Also labour is a big problem in the future which can by handled by developing small farm implements. He explains the importance of crop residue management for sustaining soil productivity. He also explains the soil amendment with organic cake and other organic manure to improve the soil fertility / Condition. Shri D. A. Saradava, Training Associate, KVK, Targhadia has advised for soil analysis need base use of chemical fertilizer to reduce cost of cultivation.

Suggestions:

1. Price of agricultural product should be decided on the basis of actual cost of cultivation.
2. Soil and water testing laboratory should in each taluka place.
3. Farm machinery/implement should be provided by cooperative society at village level for farm mechanization of agriculture to solve the labour shortage
4. Electricity should be provided in full day during critical crop stage in kharif season.
5. Poly clinic with expert should be at each Taluka Level.
6. Agricultural Product should be export freely.
7. Extra facility of irrigation should be raised.
8. More emphasis for MIS through GGRC.
9. Prime need is to prevent the damage by pig & blue bull because farmers of this area change the cropping pattern from groundnut & pulses to cotton only.

National Agricultural Development Programme
Comprehensive District Agricultural Plan – Rajkot
Group Discussion with stake holders

Taluka:Jamkandorana **Venue : Mota Bhadara**
Date : 17.05.2012

Stake holders meeting was held at Mota Bhadara Village of Jamkandorana Taluka on 17 May 2012, Shri G.B. Vekaria, Associate Research Scientist Main Dry Farming Research Station, Junagadh Agricultural University, Targhadia, welcomed to all officers, technical staff and extension workers from line department, other Govt., NGOs etc., and also welcomed farmers, younger's, elders' and women's of the Mota Bhadara and surrounding villages. Dr.K.N.Akbari Research Scientist (Dry Farming) Main Dry Farming Research Centre Junagadh Agriculture University, Targhadia has provided details information of Comprehensive District Agricultural Plan and also given importance of crop residue management for sustaining soil productivity. He said that chemical fertilizers are costly, for reducing the cost of cultivation, it is necessary to use the chemical fertilizers as per recommendations' and time as well as method of application to the particular crop. Shri.G.B.Vekaria Associated Research Scientist (Pl.Physiol.) explain the how can reduce the risk and increased the crop yield through growth hormones and bio-fertilizer. Shri B. D. Padariya, Agril.Officers Rajkot District Co-operative (RDC Bank) advised to adopt micro irrigation system instead of flood irrigation for increasing water use efficient. There are so many advantages of MIS like reduce cost of fertilizers, labour charges for weeding and fertilizer application, saving of water and electricity. At the end, he has provided guidance on bank loan.

Large numbers of farmers younger's and sisters are participated for group discussion in freely environment and finally following suggestion are emerging out during group discussion.

Suggestions:

1. Electricity should be provided in full day during critical crop stage in kharif /Rabi season.
2. Proper planning should be established for control of wild animal i.e. wild cows &pig.
3. Price of agricultural product should be decided on the basis of production cost.
4. Price of cotton, groundnut, wheat vegetables and other agriculture product should be obtaining higher as compare to cost of cultivation of different crops.
5. Basic price should be announced after discussion with farmer's community.
6. Arrangement of agriculture product should be freely export.
7. Co-operative society should be established at village level.
8. Increase the inputs availability through strengthening/ establishing co-operative societies
9. New scheme should be provided at each village, in which two post created, one in graduate gram sevak and another live stock inspector.
10. Necessity to establish cold storage facility for onion and garlic village level
11. Soil and water testing laboratory should in each taluka place.
12. Poly clinic with expert should be at each Taluka Level.

National Agricultural Development Programme
Comprehensive District Agricultural Plant – Rajkot
Group Discussion with stake holders

Taluka : Morbi **Venue : Bagathala**
Date: 15-05-2012

Stake holders met at Bagathda Village of Morbi Taluka on 15 May 2012, Shri D. A. Saradava, Training Associate Krishi Vigyan Kendra, Targhadia. Welcome to technical and extension staff and farmers. Total 20 members were present in the meeting. The Information of Comprehensive District Agricultural Plan and also given information of water management through canal & check dam irrigation constructed in different site of river. He explains the importance of crop residue management for sustaining soil productivity. He also explains the soil amendment with organic cake and other organic manure to improve the soil fertility / Condition. He advised for soil analysis need base use of chemical fertilizer to reduce cost of cultivation.

Suggestion :

1. Price of agricultural product should be decided on the basis of actual cost of cultivation.
2. Salinity is the major problem of these area so prime need is to reduce salinity by drainage.
3. Poly clinic with expert should be at each Taluka Level.
4. Agricultural Product should be export freely.
5. Extra facility of irrigation for this saline water area should be raised.
6. More emphasis for MIS through Narmada Canal.
7. Canal Structure should be below ground to reduce seepage and only lift irrigation through Canal.
8. Prime need is to prevent the damage by pig & blue bull because farmers of this area change the cropping pattern from groundnut & pulses to cotton only.

National Agricultural Development Programme
Comprehensive District Agricultural Plan – Rajkot
Group Discussion with stake holders

Taluka : Kotada Sangani

Venue : Ardoi
Date : 10.05.2012

Group discussion with stake holders met at Ardoi village (Taluka – Kotada Sangani, District Rajkot) on 10 May 2012, Dr.K.N.Akabri, Research Scientist (Dry Farming) Dry Farming Research Station, Junagadh Agricultural University, Targhadia extended warm welcome to technical staff, farmers and sisters which together from nearby villages, Dr.Akabari has provided detail information of Comprehensive District Agricultural Plan and also given technique of integrated fertilizer management. Dr.D.R.Padmani, Research Scientist, D.F.R.S., J.A.U., Targhadia has discuss the C.DAP and explain the how can reduce the risk and increased the crop yield in dry farming. Dr.G.J.Parsana, Res. Scientist, D.F.R.S., J.A.U., Targhadia has provided guidance on objective of C-DAP and given the information in integrated pests and diseases management.

Large number of farmers and sisters are participated for group discussion in freely environment and finally following suggestion are emerge out during group discussion.

Suggestions:

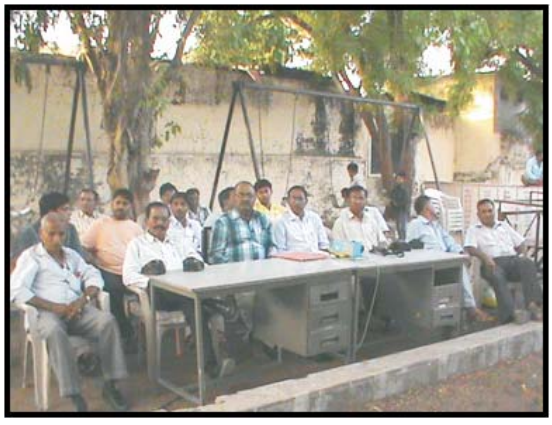
1. Price of various crops yield should be decided on the basis of agriculture inputs and its cost.
2. Co-operative institute should be established in each and every village
3. New scheme should be provided at each village, in which two posts created, one in graduate gram sevak and another live stock inspector.
4. Price of cotton, wheat, garlic, onion and other agriculture product should be obtain higher as compare to cost of cultivation of various crops.
5. Primary price should be decided after discuss with farmers community.
6. Agriculture product should be export freely.
7. Electricity should be provided sufficient.
8. Proper planning should be established for control of wild animal i.e. Neelgay and ducker.

Kotada-sanghani Taluka

Gondal Taluka

Jam-kandorana Taluka

Morbi Taluka



Jasdan Taluka

Photographs of stake holders meetings at various Taluka

National Agricultural Development Programme
Comprehensive District Agricultural Plan – Rajkot
Group Discussion with stake holders

Taluka : Lodhika **Venue: Kangashiyali**

Date: 05-06-2012

Group discussion with stake holders met a Kangashiyali village (Taluka –Lodhika ,District- Rajkot) on 18 May 2012, Shri J. J. Bhatt Deputy Director (Training) Rajkot extended warm welcome to technical staff, farmers and farm women which together from nearby villages, Shri Bhatt has provided detail information of Comprehensive District Agricultural Plan and also given technique of integrated fertilizer management. Shri Gosai, Deputy Director, Rajkot has discuss the C.DAP and explain the how can reduce the risk and increased the crop yield in dry farming. Dr. M. S. Gajera Res. Scientist, D.F.R.S., J.A.U., Targhadia has provided guidance on objective of C-DAP and given the information in integrated farming and alternate land use system.

Large number of farmers and farm women are participated for group discussion in freely environment and finally following suggestion are emerge out during group discussion.

Suggestions:

1. Price of various crops yield should be decided on the basis of agriculture inputs and its cost.
2. Co-operative institute should be established in each and every village
3. New scheme should be provided at each village, in which two posts created, one in graduate gram sevak and another live stock inspector.
4. Price of cotton, wheat, garlic, onion and other agriculture product should be obtain higher as compare to cost of cultivation of various crops.
5. Primary price should be decided after discuss with farmers community.
6. Agriculture product should be export freely.
7. Electricity should be provided sufficient and timely.
8. Proper planning should be established for control of wild animal i.e. Neelgay and pig.

ANNEXTURE - II

Minutes of the meeting with the members of the district level planning committee (RKVY) held on 27/12/2012 at 11.00 A.M. under the chairmanship of Respected District Development Officer, Rajkot in the seminar hall of Jilla Panchayat, Rajkot

As per the agenda-iv of the meeting of the district level planning committee (RKVY) held on 27/12/2012, Dr. K.N.Akbari, Research Scientist (Dry Farming) and Nodal officer C-DAP, Rajkot welcomed the District Development Officer and all the members of the district level planning committee of Rajkot. Dr. Akbari gave the brief introduction of the Comprehensive District Agriculture Plan including SWOT analysis of the Rajkot district and the vision for agriculture and allied sectors with overall development perspective of the district along with financial requirement in order to revive the agriculture and allied sectors during XII plan. Dr. Akbari also presented the proposals for agriculture and allied sectors theme-wise included in the plan with financial outlay. The proposals included in the C-DAP were discussed thoroughly and was approved by the members.

The meeting was ended with a vote of thanks.

Research Scientist(Dry Farming)	District Agriculture Officer	District Development Officer
Junagadh Agricultural University	Zilla Panchayat	Zilla Panchayat
Targhdia	Rajkot	Rajkot

Dr. K.N. Akbari, Convenor Presented the Report of C-DAP Rajkot District for the Approval in the district level Planning Committee