COMPREHENSIVE DISTRICT AGRICULTURE PLAN (C-DAP)

DISTRICT AMRELI






सत्यमेव जयते

Department of Agriculture & Co-operation
Government of Gujarat
Gandhinagar

COMPREHENSIVE DISTRICT AGRICULTURE PLAN AMRELI DISTRICT

JUNAGADH AGRICULTURAL UNIVERSITY
AMRELI-365 601

JULY, 2012

COMPREHENSIVE- DISTRICT AGRICULTURE PLAN
AMRELI DISTRICT

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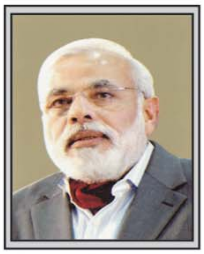

Narendra Modi
Chief Minister, Gujarat State

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 Guajarat.

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,
Junagadh Agricultural University
JUNAGADH-362 001.

Office : 1, Sardar Patel Bhavan, 7th Floor, Sachivalaya, Gandhinagar-382 010.

A. K. JOTI, *IAS*
Chief Secretary

सत्यमेव जयते

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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)

Vice Chancellor
Junagadh Agricultural University
Junagadh

Date: August 9, 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 Amreli 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. B.A. Monpara, 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 Amreli 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. B. A. Monpara, Dr. I U. Dhruj, Dr. P. Mohnot, the members of committee and all the scientists of Junagadh Agricultural University who have contributed for preparing the Comprehensive District Agriculture Plan (C-DAP) of Amreli 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
July 31, 2012

(C. J. Dangaria)

PREFACE

The Comprehensive District Agriculture Plan (C-DAP) of Amreli 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, Amreli 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 Department of Horticulture and Dr. A. J. Kachhiyapatel, Director Department 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 Shri D. A. Satya, District Collector, Amreli who has been instrumental in providing the felt needs of the farmers and other stakeholders. The help and full cooperation rendered by the Shri Alok Kumar, District Development Officer, Zilla Panchayat Amreli, Shri R. G. Jadeja, Director, District Rural Development Agency, Amreli, Shri C. J. Dhaduk, District Agriculture Officer, Amreli and the line department officials of the district is highly appreciable. Without their assistances, the formulation of the plan would not have materialised.

My sincere thanks to Dr. C. J. Dangaria, Director of Research and Dean, P.G. Studies, both ADRs Dr. I. U. Dhruj & Dr. P. Mohnot, Dr. V. V. Rajani and B. B. Ramani 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 Shri B. V. Radadia, Member Secretary and all committee members of C-DAP district Amreli Shri C. D. Savasiya, Dr. V. N. Gohil, Dr. A. S. Dudhat, Shri M. D. Vora and Shri B. M. Chovatia, JAU, Amreli for their sustained support in the preparation and documentation of the taluka and district plans.

Date: July 30, 2012
Place: Amreli

(B. A. Monpara)
Convener and Research Scientist
Agriculture Research Station
Junagadh Agricultural University,
Amreli

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 favourable 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 Amreli district the major areas of focus were integrated development of major food crops like groundnut, wheat, cotton, coarse cereals, minor millets, 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 development activities.

Several meetings were held at various talukas of Amreli district to discuss the various components of the District Agriculture Plan in the presence of stakeholders *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 Agriculture Plan.

District Agriculture Plan for Amreli District

Amreli district is located in Saurashtra region of Gujarat and it falls under the North Saurashtra Agro Climatic Zone of Gujarat. There are 11 talukas in it.

Average rainfall in Amreli district is 652 mm. Almost one – eighth of the total geographical area (13 per cent) was under problem soils in the district. The degraded and fallow lands like cultivable waste, and current and other fallow lands accounted for 5 per cent of the total geographical area. Permanent pastures (7 per cent) and forest area (6 per cent) needs to be improved.

The cropping pattern in the district indicated that groundnut was the predominant crop with 62 per cent of the total kharif cropped area and it was followed by cotton (26 per cent) and sesame (10 per cent). On the other hand, in rabi/summer, sesame was the predominant crop (42 per cent) followed by wheat (41 per cent) and groundnut (13 per cent). In case of horticultural crops, the highest area was under spices (Cumin, 34 per cent) followed by fruit crops (32 per cent).

Strategies to Achieve the Objectives of DAP for Amreli District

Development of suitable technologies such as varietal improvement, input management supported by a strong institutional arrangements for the supply of inputs like seed, fertilizers, plant protection chemicals, credit, etc, price support system favourable to farmers and market infrastructure

for major crops like groundnut, cotton, sesame, wheat, bajara, sorghum, fruit crops, vegetables, spices and fodder crops.

- Development of minor irrigation with drip irrigation system.
- Mechanization of farms with tractor operated – combined harvester, cotton picker, ground nut decorticator, etc.
- Strengthening water harvesting structures like farm ponds and check dams.
- Reclamation of saline/alkaline, fallow and degraded lands.
- Formation of Commodity Groups for major crops like groundnut, cotton, cereals fruit crops and pulses.
- Training and exposure visit to the farmers, traders, and other stakeholders on grading, post harvest technologies, value addition and market intelligence.
- Strengthening the extension machinery for effective dissemination of technologies.
- Establishment of food parks to create necessary infrastructure for value addition in agricultural products.
- Strengthening of rural markets with storage facilities.
- Strengthening of farmers' market with additional storage facilities.
- Establishment of cool chains for better distribution of milk.
- Establishment of cattle feed units.
- Processing units for marine fish (catch).

District Agricultural Plan

In order to dovetail the components and magnitude of the ongoing schemes implemented by the line departments as far as agriculture is concerned, schemes like crop diversification, development of improved varieties/ hybrids enhancing seed replacement rate grading and processing, integrated pest management, integrated nutrient management, demonstration and capacity building human resource development, biological Control of pests, use of biofertilizers, seed treatment and planning of agricultural inputs were taken up. new innovative schemes have also been proposed like seed testing laboratory, soil testing laboratory, tissue culture laboratory, renewable energy project ,farm school model farm, etc., were taken up.

Agricultural development of a district can be well represented by composite indices which are used as yardsticks not only to gauge the development of each 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 Amreli district.

Amreli district comes under semi arid region and it is leading district of good quality produce of oilseeds and other commodities. As well ground water use in irrigation is predominant in the district, a variety of agricultural and horticultural crops are grown round the year with limited irrigation facilities

Amreli district is very near to Rajkot, Ahmedabad, Surat and Mumbai cities and this has resulted in the large scale migration of farm labourers and in turn has resulted in a great demand for agricultural labourers.

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

Budget Details for Activities Proposed in the District Agriculture Plan (Rs. in lakh)

Budget proposal head-wise	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Agriculture	21141.15	23671.65	23671.65	23710.15	23710.15	115904.80
Horticulture	532.30	529.30	617.30	614.30	532.30	2825.50
Animal Husbandry	2088.00	1743.00	1745.50	1748.00	1750.50	9075.00
Fisheries	14.00	14.00	14.00	14.00	14.00	70.00
Forestry	461.03	503.63	544.97	581.84	621.14	2712.61
New innovative projects	895.8	234.6	127.8	134.8	163.3	1556.30
Miscellaneous activities	13.25	13.25	13.25	13.25	19.25	72.25
Grand Total	25145.53	26709.43	26734.47	26816.34	26810.64	132216.5

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

Amreli district is well connected by road to major towns of the states like Rajkot, Ahmedabad, Vadodara, Surat and Gandhinagar. Pipavav Port located in the Rajula taluka is well connected with these important towns, so good possibility of commodity exports. A vast area (60% of geographical area) is under cultivation with a large number of crop species and also a variety of vegetables and horticultural crops are grown round the year. All the major crops have higher productivity than national average. Abundance of solar energy and wind energy round the year is available. A good breed of Gir cows is reared as draught and milking animal. A good breed of Jafrabadi Buffaloes is reared as milking animal. Jafarabad is the coastal Taluka of the district just near Pipavav Port. There is a vast possibility of developing marine fish catching, processing and export.

In Amreli district, most of the rivers are flowing only in monsoon season and remained dry throughout the year. This enforced the over exploitation of ground water through open wells and deep bore wells. As deep as ground water, the quality of water would be poor. Deep bore wells also create the sea water intrusion problem and deteriorate the groundwater, which ultimately hampered the crops in the region. 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 facilities of processing and cold chain for horticultural produce, critical technological gaps in specific area of agriculture like seed treatment, balanced use of fertilizers and pests and diseases management in major crops, saline ground Water and very deep water table.

The specific opportunities for the district are good scope for export of processed food products, productivity enhancement, farm mechanization, improve water use efficiency (MIS), expansion of fish catching and processing, mango and sapota processing industries, groundnut HPS industry, pack houses for fruits and vegetables, use of non conventional energy sources like solar and wind.

Large scale migration of farm labourers in various industrial cities resulted in a great demand for agricultural labourers. The farmers of this district face a lot of problems in getting farm labourers. The district is having a vast saline/alkaline soil particularly in Liliya, Lathi and Savar Kundala talukas. Peoples of these talukas also facing the health problem due to high Florien content in drinking water. This and some other reasons like degradation of land and reduction in farm produce, etc., ultimately initiated the migration of farmers of the district. Climate change is a threat for horticultural crops like mango, sapota, etc.

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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. 1.1 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	April, 2012	Various stakeholders meeting at different talukas
5	05-04-12	Presentation of Report at AAU, Anand
6	10-04-12	To discuss the future line of action for collection of Talukawise information
7	04-05-12	Review of C-DAP under the chairmanship of the Vice Chancellor, JAU, Junagadh.
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	07-07-12	C-DAP presentation at JAU, Junagadh
11	19-07-12	Presentation of final report at Gandhinagar
12	27-7-12	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 DESCRIPTION OF AMRELI DISTRICT

Amreli District

2.1 Map of the District

Amreli district is located at 20.45^0 to 22.15^0 (North Latitude) to 70.13^0 to 71.45^0 East Longitude show location on an interactive map. It is Located in Western Part of Gujarat and falls under North Saurashtra Agro-Climatic Zone of Gujarat. In esat Bhavagar district, in north Rajkot district, in west Junagadh district and in southern direction it is covered by Arabian Sea. The location of Amreli district is depicted in the maps.

2.2 General statistics

The district came in to existence in 1949. The total area of Amreli district 7431.24 square kilometer. The district is distributed in 5 divisions as per administrative point of view i.e. Amreli, Lathi, Dhari, Rajula and Savar Kundala while it is divided in to two sub divisions Amreli and Dhari from Agricultural administrative point of view. Among the 11 taluka in the district, Dhari, Khambha and Rajula possessing hilly region. Shetrunji river flowing across the district.

Education facilities

Amreli has been covered by Saurashtra University having Science, Low, Commerce and Arts faculties. There are 1064 Primary schools, 165 Middle schools, 52 higher education institution jointly of public and private sectors. Two Sanskrit schools are also working in the district. One education Sankul is started in the district for B.Ed. faculty.

Table 2.1 Educational facilities in the district

Taluka	Number of Organizations			
	Anganwadis	Primary Schools	Secondary Schools	Collages
Amreli	251	152	36	20
Babara	129	100	12	1
Bagasara	88	58	9	2
Dhari	143	121	15	3
Jafrabad	114	63	4	0
khambha	104	76	9	0
Kukavav	107	66	22	4
Lathi	136	109	13	0
Liliya	80	53	8	1
Rajula	153	129	10	2
Savar Kundala	282	149	27	10
Total	**1587**	**1064**	**165**	**52**

Source : ICDS Office, Amreli and District panchayat report – 2012

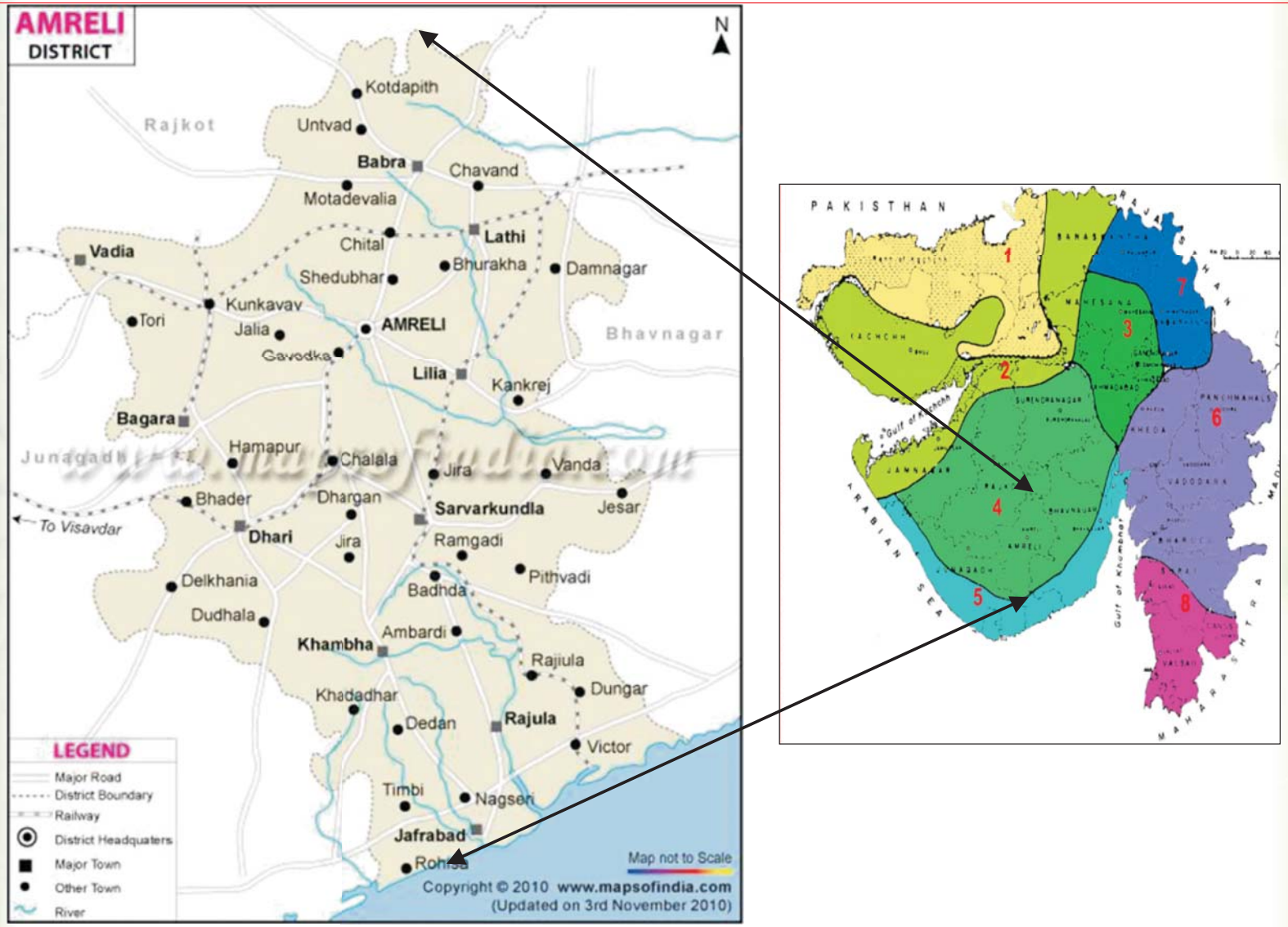

Fig.2.1 Location map of Amreli district

Industries

There are several large scale industries viz: Gujarat Pipavav Port Ltd. Rampara, Pipavav Shipyard Ltd. Rampara, Ultratech Cement Ltd. At Kovaya, Ultratech Cement Ltd. At Babarkot., Torrent Power Ltd. Uchaiya, Vidiocon Power Ltd. Bherai, Cintex Power Ltd. Lunsapur, Patel Energy Ltd. Lothpur, TSPC Ltd. Kovaya, T.T. Cotton Industries Kadiyali, Stone mines at Rajula and Lime Stone mines at Jafrabad, Gujarat heavy Chemicals at Victor, Larsen and Toubro Cement at Kovaya, Fairdew suppliers Pvt. Ltd. At Rampur., Aloock Asdown (Gujarat) Ltd., Gujarat State cooperative Marketing Federation Ltd. Solvent at Amreli, Narayan Solvent at Amreli., SHV Energy North West India Ltd at Babra, for various products like cement, coal cock ships and boat building Chemicals and fertilizers, edible oil, LPG gas etc. Besides these there are 55 big ginning units existed in the district having daily intake capacity of 250 tones raw material. These units have contributed to great extent for cotton export through Pipavav Port and also created the job opportunities in the district. further wih the development of Pipavav port, the state is now set for further industrial development of the coastal belt of the district. There are two proposals in pipeline which include Polymer modified Bituman and ship breaking. Babra is another potential growth centre for mine and polishing of granite, diamond cutting and polishing activities, Khadi handloom, handicrafts, readymade garments etc. There are 4965 registered industrial units running in the district. 11448127 tonnes of goods including coal, fertilizer, gypsum, are being imported from Pipavav Port. 6035189 tonnes of cement, clinker, groundnut kernals and salt are being exported from this port.

Road Transport

The total length of metallic road is 3338 km and Kaccha road are 868 km barring 1 village (Shiyalbet), all the villages are connect by Pakka road and all 616 villages are connected with State Transport Corporation Bus Services directly. There are number of private transport operators working in the district too. Daily diesel consumption is 34980 Liters. In the district, railway facility is very poor. Only 120 km railway track with 18 railway station is available for serving the people. Meter guage line is converted to broad guage for connecting Pipavav port with major city like Ahmedabad and Mumbai.

2.3 Agriculture and Allied Activities

Groundnut, cotton, wheat, bajara, sesame, pulses, castor, and sorghum are main field crops. The major Horticultural crops are mango, sapota and popaya. The major vegetables and spices crops grown are brinjal, chilies, bhindi, cabbage and cauliflower, radish, sweet potato, tomato, spinach, methi, coriander, onion, garlic and cumin etc. At district head quarters there is an Agricultural Research Station working with multi disciplinary approach. One Krishi Vigyan Kendra is working in the benefit of farmers, one Agricultural College has been sanctioned and one Polytechnic in home science college is also functioning. One Bull mother project and one animal dispensary has been established at district head quarter. Which transfer the Agricultural Technologies to the farmers.

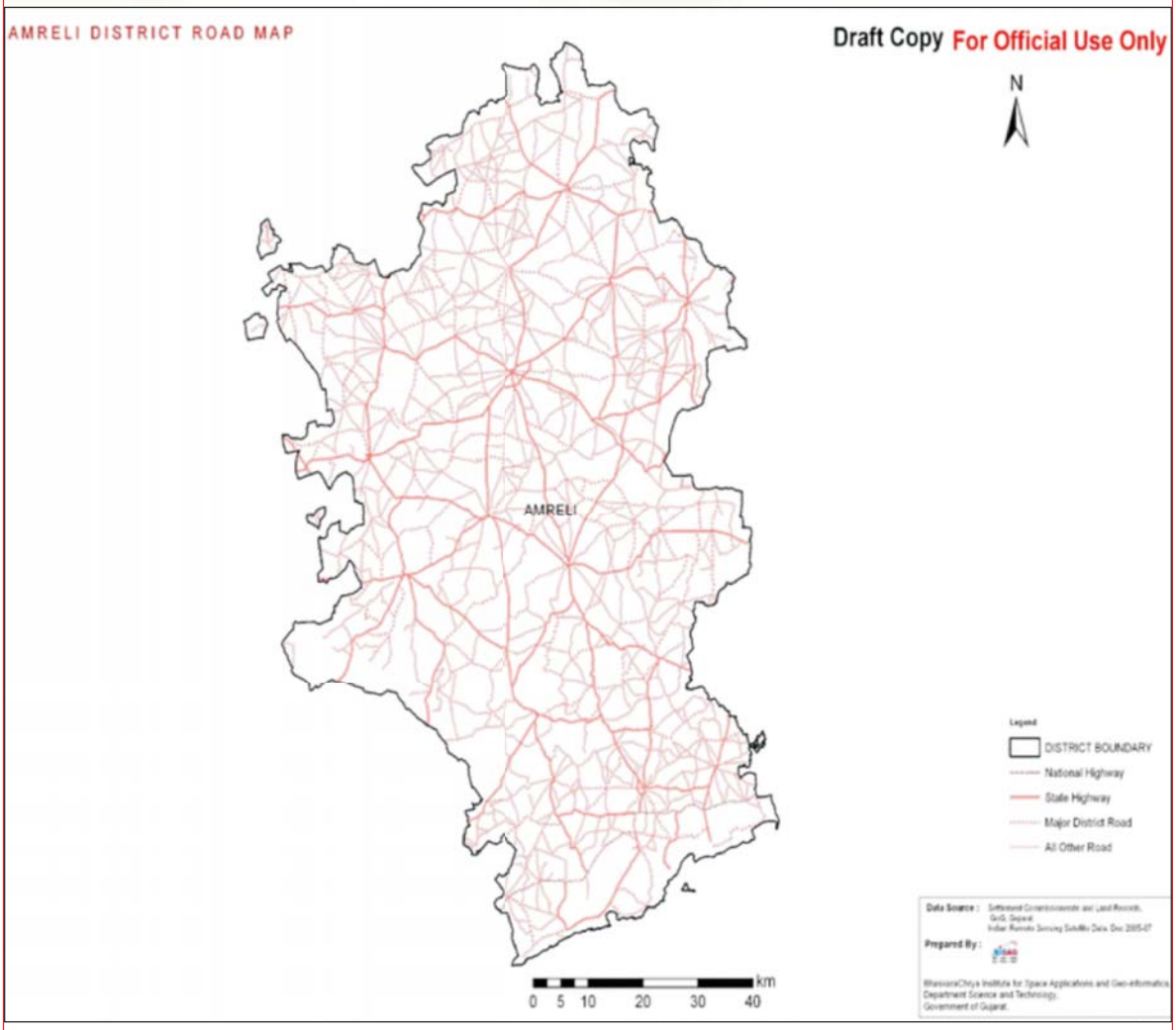

Fig. 2.2 Road map of Amreli district

District at a glance

2.4 Location and Geographical Units

Amreli district lies between 20.45^0 to 22.15^0 (North Latitude) to 70.13^0 to 71.45^0 East Longitude in Gujarat State. The geographical area of the district is 7431.24 sq.k.m. There are eleven talukas as listed below. There are two Agricultural sub-divisions viz., Amreli and Dhari and five administrative division viz., Amreli, Dhari, Lathi, Savarkudla and Rajula.

Table 2.2 List of taluka and number of villages in Amreli district

Sr.No.	Name of Taluka	No. of Villeges
1	Amreli	70
2	Babara	57
3	Bagasara	31
4	Dhari	77
5	Jafrabad	42
6	Khambha	57
7	Kukavav	45
8	Lathi	49
9	Liliya	37
10	Rajula	72
11	Savar Kundala	80

2.5 Demographical Profile

An official census 2005-06 detail of Amreli district of Gujarat has been released by Director of Census Operation in Gujarat. Enumeration of key Person was also done by census officials in Amreli District of Gujarat.

In 2010-11 Amreli had total population of 1383918 people among which 701593 were male and 692325 were female living in 617 villages as well as in city places (Table 2.3). The female to male ratio is 987 : 1000. The total area, under Amreli district is about 7431.24 sq. k.m.(Table 2.4). Total literacy % was 56.67 among male litracy was 65.00% and feale llitracy was 48.24% (Table 2.5).

Table 2.3. General information of Amreli District

General						Population (As per the 2001 Census)				
Taluka	Villages		No. of Revenue Villages	Area (ha.)	No. of GPs	Male	Female	Total	SC	ST
	In habitated	Un-in habitated								
Amreli	70	-	-	82220	65	110615	106886	217501	18208	838
Babara	57	-	-	79300	57	62286	60695	122983	8615	303
Bagasara	31	-	-	33562	31	39177	39137	78314	8159	181
Dhari	77	-	-	103479	69	68910	67343	136253	13241	375
Jafrabad	42	-	-	53471	39	46083	44649	90732	5414	248
Khambha	57	-	-	61114	52	41780	42749	84529	6641	67
Kukavav	45	-	-	55557	45	47268	48604	95872	11770	91
Lathi	49	-	-	63377	49	66992	65147	132139	10333	451
Liliya	37	-	-	39500	37	30423	30299	60722	4970	30
Rajula	72	-	-	64734	70	79191	72437	145628	10880	233
Savar	80	-	-	118144	80	114866	114379	229245	17259	439
Total	617	-	-	754458	592	701593	692325	1383918	115490	3256

Source : District statistic Report 2010-11, Amreli3

Table 2.4 Features of Amreli District

Sr.No.	Name of Taluka	Area in sq.k.m.	Population density	Habitate	Barer	Total	City
1	Amreli	892.08	244	70	0	70	1
2	Babara	793.17	155	57	0	57	0
3	Bagasara	350.56	223	31	0	31	1
4	Dhari	1035.05	132	75	2	77	1
5	Jafrabad	355.70	255	42	0	42	1
6	Khambha	595.30	142	57	0	57	0
7	Kukavav	545.82	176	45	0	45	0
8	Lathi	632.75	209	49	0	49	2
9	Liliya	394.99	154	37	0	37	0
10	Rajula	656.26	222	72	0	72	1
11	SavarKundala	1179.56	194	80	0	80	1
	Total	**7431.24**	**188**	**615**	**2**	**617**	**8**

Source : District statistic Report Amrel 2010-11

Table 2.5 Demographical detail of Amreli District

1	No. of Talukas (Block)	11	18	Total Male child (0-4 age)	71124
2	Total villages	617	19	Total Female child (0-4 age)	64062
3	Number of Gram Panchayats	592	20	Child sex ratio M : F (per 1000)	888
4	Total Population	1393918	21	Child proportion	9.70 %
5	Total Male population	701593	22	Boys proportion	5.10 %
6	Total Female population	692325	23	Girls proportion	4.60 %
7	Total SC population	115490	24	Population growth	10.98 %
8	Male SC population	59146	25	Area square km	7431
9	Female SC population	56344	26	Population density/ square km	188
10	Total ST population	3256	27	Total geographic area (ha)	739232
11	Total Male ST population	1746	28	Net cultivated area (ha)	549958
12	Total Female ST population	1510	29	Gross cropped area (ha)	657958
13	Total literacy (%)	56.67	30	Cropping intensity (%)	120
14	Male literacy (%)	65.00	31	No. of farming families	541075
15	Female literacy (%)	48.24	32	No. of Marginal farmers (0-1 ha)	35114
16	Sex ratio M : F (per 1000)	987	33	No. of Small farmers (1-2 ha)	74178
17	Total child population (0-4 age)	136186	34	No. of large farmers (>2 ha)	101165

Source : District panchayat report – 2012

There were total 136186 children under age of 0-4 year. Among them 71124 were mail and 64062 were female. The proportion of children to total population was 9.70 %. The proportion of boys and girls was 5.10% and 4.60%, respectively. The population growth was 10.98%. (Table 2.5).

2.6 Topography and Agro climatic characteristics

The area of Amreli district is plain as well as hilly. Dhari, Khambha, Rajula, Savar Kundala, Jafrabad and Babra talukas possess hills and plains. Amreli, Liliya, Lathi, Kukavav and Bagasara posses plains. Part of Dhari and Khambha taluka fall in Gir forest where precious Asiatic Lion are living. The migratory lions of Gir forest made Savar Kundala, Rajula and Liliya taluka as their own home. In Amreli district rain is brought by season winds. The monsoon rain starts majority in last week of June and remains active till last week of September. Normally in this district Savarkunla (903 mm), Jafrabad(876 mm), Khambha(735 mm) talukas are getting more rains as compared to other talukas (Table 2.6). In the year 2010 average rainfall of the district was 824 mm distributed over 45 rainy days. The talukas having hills (Rajula, Jafrabad, Dhari, Savar Kundala, Khambha and Babra) have emple scope of Wind Farms through which we may be able to get cheap electricity.

In this district weather, there is much variety. At district one side Rajula and Jafrabad where the weather is cool and humid (Nearby Arabian Sea) whereas remaining area is dry and hot is experienced. At Amreli, the district head quarter place the coldest temperature was recorded on 20, January 2008. While the hottest temperature of 46.2^{oc} was recorded on 5th May 2002.

1. Rainfall in the year 2011

In of 2011-12, the total rainfall of 800 mm was received in 38 rainy days. The monsoon commenced on 1st week of July-11 and withdrawn on 4th week of September-12.

2. Maximum Temperature

The highest maximum temperature of 42.8^{o}C was recorded on 18 May 2011.

3. Minimum Temperature

The minimum temperature of 7.2^{o}C was recorded on 16.01.11.

4. Summary of Weather Parameters during 2011.

- Total rainfall 800 mm received in 38 rainy days.
- Onset of monsoon: 3rd July 2011.
- Withdrawal of monsoon: 24th September 2011.
- Maximum temperature 34.1^{o}C
- Minimum temperature 20.8^{o}C
- Wind speed (kmph) 7.0.
- Evaporation (mm) / Days 6.5.
- Bright sunshine (hrs) 7.0.

Table : 2.6 Taluka wise weather data for the year 2010

S. N.	Taluka	No. of weather station	Rainfall		Temperature		Humidity (%)	
			No. of rainy days	Average rainfall (mm)	Min. ^{0}C	Max. ^{0}C	Min	Max
1	Amreli	1	17	598	6	46	24	95
2	Babara	0	13	660	7	45	24	96
3	Bagasara	0	17	567	7	44	25	94
4	Dhari	1	18	616	7	45	27	94
5	Jafrabad	0	9	876	9	41	29	97
6	Khambha	0	12	735	8	42	25	93
7	Kukavav	0	15	515	7	43	24	93
8	Lathi	0	15	437	6	43	26	91
9	Liliya	0	13	572	6	44	27	91
10	Rajula	0	10	697	8	42	28	96
11	Savar	0	13	903	7	44	26	95

Source : District statistic Report Amrel 2010-11

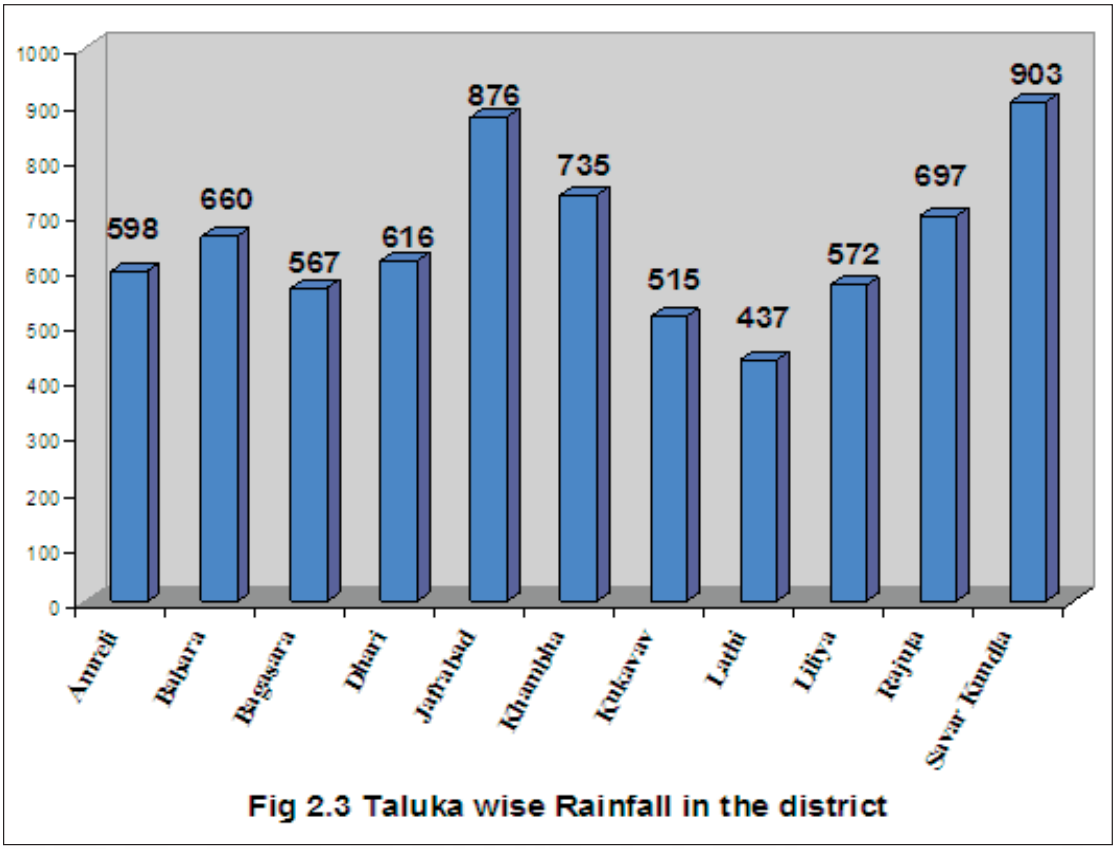

Fig 2.3 Taluka wise Rainfall in the district

2.7 Soil type

Being agriculture oriented district, large portion of peoples (about 75 %) are engaged in agriculture and animal husbandry (keeping). The district land is mainly alkaline. Soil of the district can be classified as medium black, shallow black, saline alkaline, hilly and coastal alluvial . Talukas fall under these types of soil are as under.

Sr. No	Particular	Name of Block
1	Medium black soils with 400-700 mm rainfall	Savarkudla, Rajula and part of Jafrabad
2	Shallow black soils with 600 to 700 mm rainfall	Kukavav, Bagasara
3	Saline alkaline (Heavy texture) soils with 500 -600 mm rainfall	Amreli, Lathi, Liliya
4	Hilly soils with 300-600 mm rainfall	Babra, Dhari, Khambha
5	Coastal alluvial soils with 750-1000 mm rainfall	Jafrabad and part of Rajula

Source : SREP Report, ATMA, Amreli, 2006

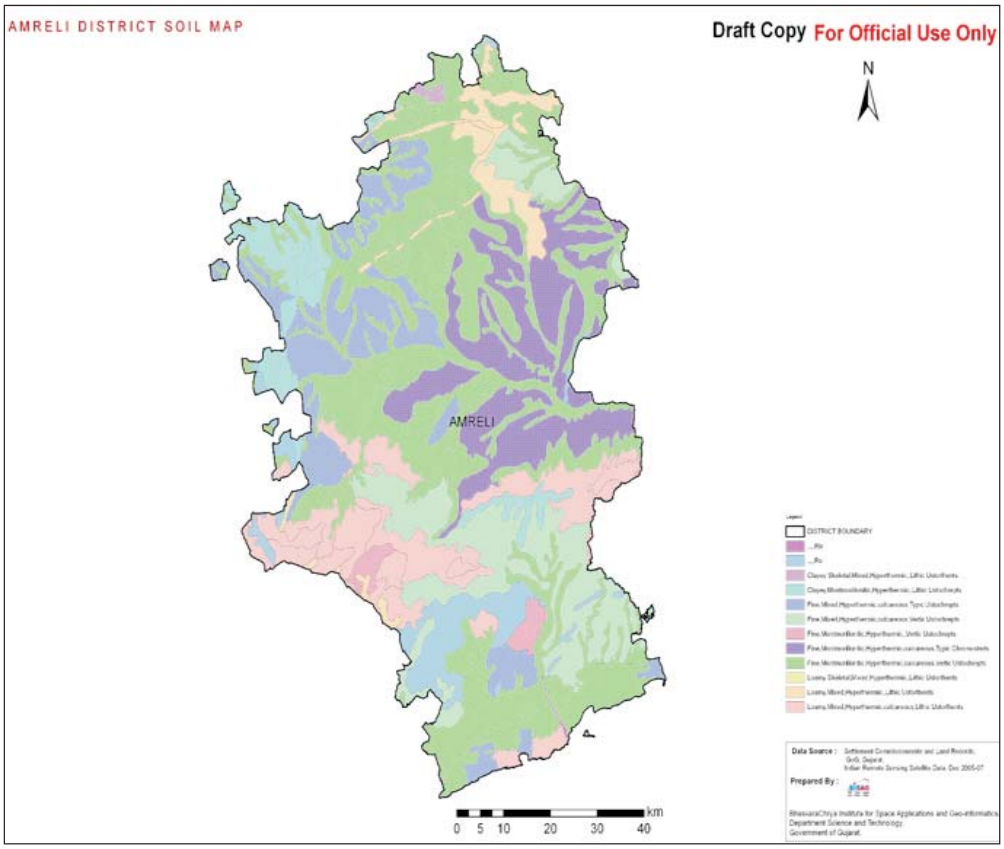

Fig. 2.4 Soil map of Amreli

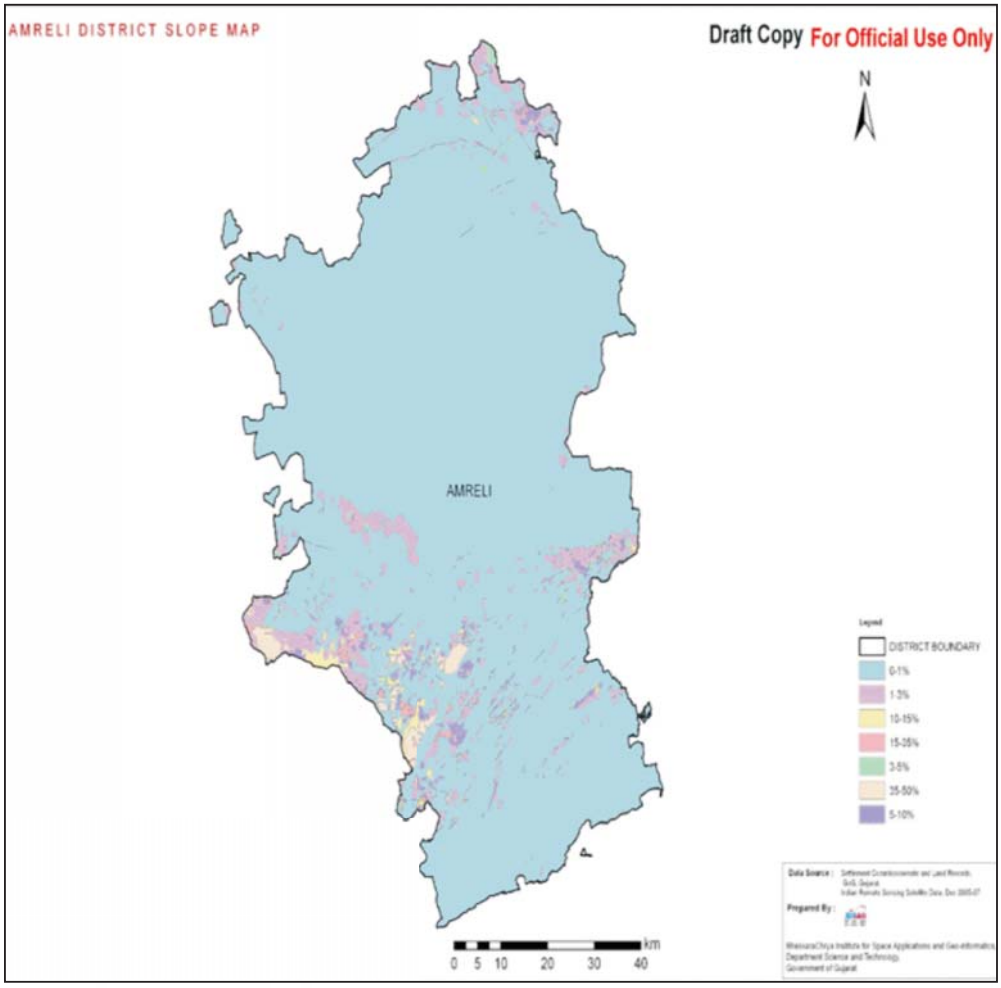

Fig. 2.5 Slope map of Amreli

2.8 Land use pattern

The total geographical area of the district is 7.36 lakh hectares. As per land utilization statistics, forest area is 6%, and cultivable area is 74 % of the geographical area. The taluka wise land utilization of district is given in Table 2.7, 2.8 and 2.9.

Table 2.7 Land utilization statistics of Amreli district

Land use pattern of the district	Geographical area	Cultivable area	Forest area	Land under non agric. use	Permanent pastures	Cultivable waste land	Land under misc. tree crop grove	Barren and uncultivable waste	Current fallows	Other fallow
Area (in 000 ha)	736.46	549.958	40.603	46.101	54.313	12.058	00.0	14.29	14.651	14.29

Source : Report of Amreli district Panchayat 2010-11

Table 2.8 Taluka wise land Utilization (preceding 3 years average) (Area in hectares)

Taluka	Geographical area	Forest Area	Land Under Non-agril. Use	Cultivb lewaste	Permanent pastures	Land under miscellaneous tree crops and groves	Current Fallows	Other Fallows	Net sown area	Gross cropped area	Cropping intensity (%)
Amreli	82220	-	2600	362	7203	0	949	156	70569	85483	121
Babara	79300	4500	3635	566	5899	0	326	0	59404	71218	120
Bagasara	33562	15	1802	150	2900	0	1256	408	26579	38550	145
Dhari	103479	17952	7573	2080	4705	0	67	42	69024	77448	112
Jafrabad	35471	2525	3183	172	3057	0	1680	158	22550	26372	117
Khambha	61114	9242	2737	1750	6200	0	1085	65	39113	46008	118
Kukavav	55557	57	2109	176	3500	0	705	104	48180	58253	121
Lathi	63377	503	3097	860	3655	0	0	27	53531	56186	105
Liliya	39500	135	2064	150	3651	0	540	132	32070	35177	110
Rajula	64734	2214	4506	2050	3955	0	5774	0	44370	58292	131
Savar Kundala	118144	3460	12795	3742	9598	0	2269	237	84608	104971	124
Total	**736458**	**40603**	**46101**	**12058**	**54323**	**0**	**14651**	**1329**	**549998**	**657958**	**120**

Source: Deputy Director of Agriculture, Amreli

Table 2.9 Land holding

Taluka	Marginal Farmers (Below 1 ha)		Small Farmers (Between 1 to 2 ha)		Large farmers (Above 2 ha)		Total	
	No.	Area	No.	Area	No.	Area	No.	Area
Amreli	5818	3950	10845	15752	12931	53460	29594	73162
Babara	3802	2284	7447	11173	11706	45958	23230	59860
Bagasara	2202	1332	4145	6162	5583	20703	52100	28438
Dhari	3809	2175	7679	11372	12950	57330	24438	70877
Jafrabad	2323	1468	3279	4835	4177	17280	9779	23883
Khambha	2079	1421	4774	7054	6650	29661	13508	38136
Kukavav	3315	2017	6257	9449	9495	36511	19067	47977
Lathi	3008	1885	6364	9465	10278	41697	19650	53047
Liliya	2150	1510	4717	6993	6231	24375	13098	32877
Rajula	4353	2863	7228	10590	8234	32709	19815	46162
Savar	7531	5335	13704	20162	15775	60797	37010	86294
Total	**35114**	**23992**	**74178**	**110931**	**101165**	**406152**	**210457**	**541075**

Source: District Panchayat report 2010-11 Amreli

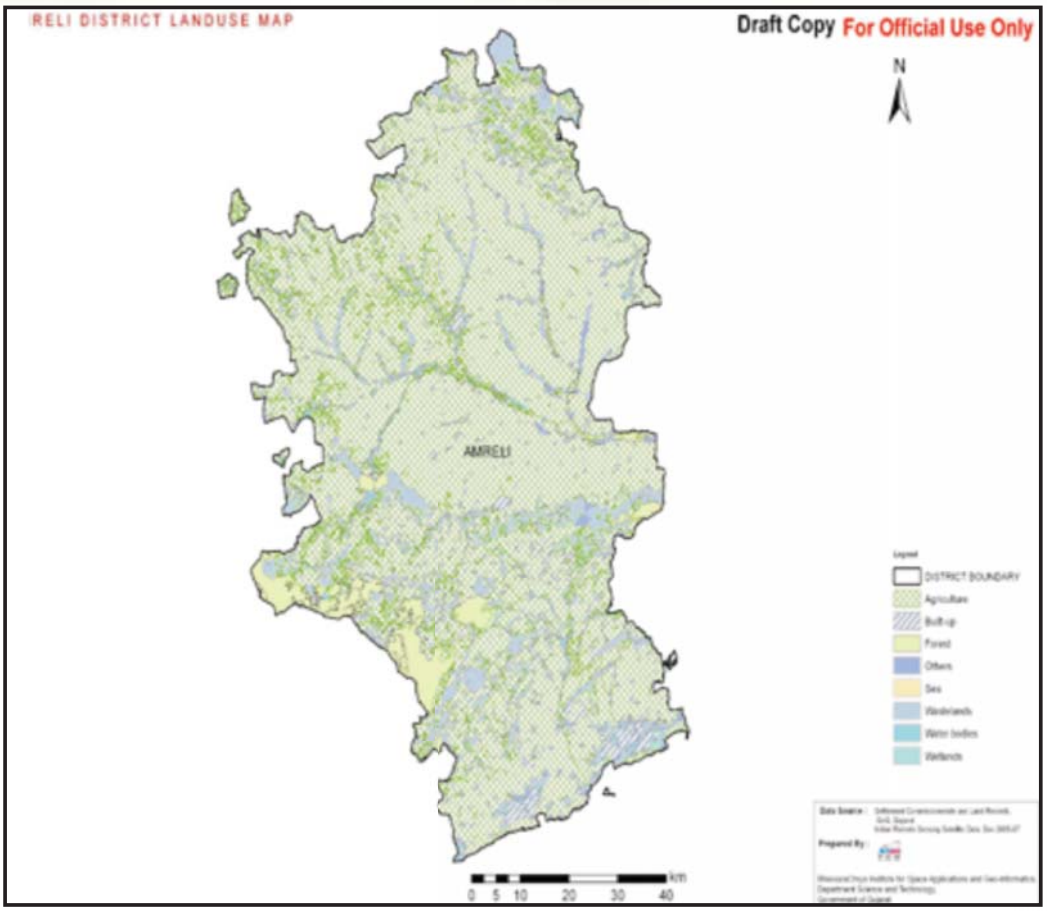

Fig. 2.6 Land use of Amreli

2.9 Forest

Forest in Gujarat constitutes 9.66% of the total geographical area. In Amreli 6% of the total geographical area of the district land is forest land. Out of the total forest area of 40603 hectares, area under Dhari and Khambha taluka is of 17952 and 9242 ha, respectively, which covers more than 50% of the total forest area of the district. The trees mainly under forest area are neem, wild babool, Rayan, Timbru, Karmada and other those having less water requirement. Looking at the degradation of the forest, land resources of the district has been granted with watershed programme through different government department agencies. There is a need for massive time bound programme in afforestation of wasteland.

2.10 Irrigation and Ground water

Main rivers of this district are (1) Shetruji, (2) Thebi-vadi, (3) Dhatarvadi, (4) Shel-dedumal, (5) Gagadio, (6) Navli, (7) Surajvadi and (8) Satali. Irrigation through check dams covers area of 3280 hectares of land. It is obvious that there is 2148 hectare area covered by canal irrigation, 97103 hectares by open wells and 37548 hectares by tube wells. Area under lift irrigation is about 134651 hectares (Table 2.10).

Table 2.10 Source wise Irrigation area (area in hectares)

Taluka	Canal (Area)	Well	Tube well	Lift Irrigation	Other Sources dams/check dams	Total
		Area	Area	Area	Area	Area
Amreli	-	8838	577	9415	80	9495
Babara	815	14471	2186	16657	460	17932
Bagasara	212	3324	2276	5600	120	5932
Dhari	720	10650	5426	16076	280	17076
Jafrabad	-	5372	2970	8342	60	8402
Khambha	120	6006	833	6839	260	7219
Kukavav	110	9004	4984	13988	100	14198
Lathi	-	6898	1116	8014	200	8214
Liliya	-	7795	4045	11840	100	11940
Rajula	171	7341	4458	11799	120	12090
Savar Kundala	-	17404	8677	20081	1500	27581
Total	**2148**	**97103**	**37548**	**134651**	**3280**	**140079**

Source:- District Panchayat report 2010-11

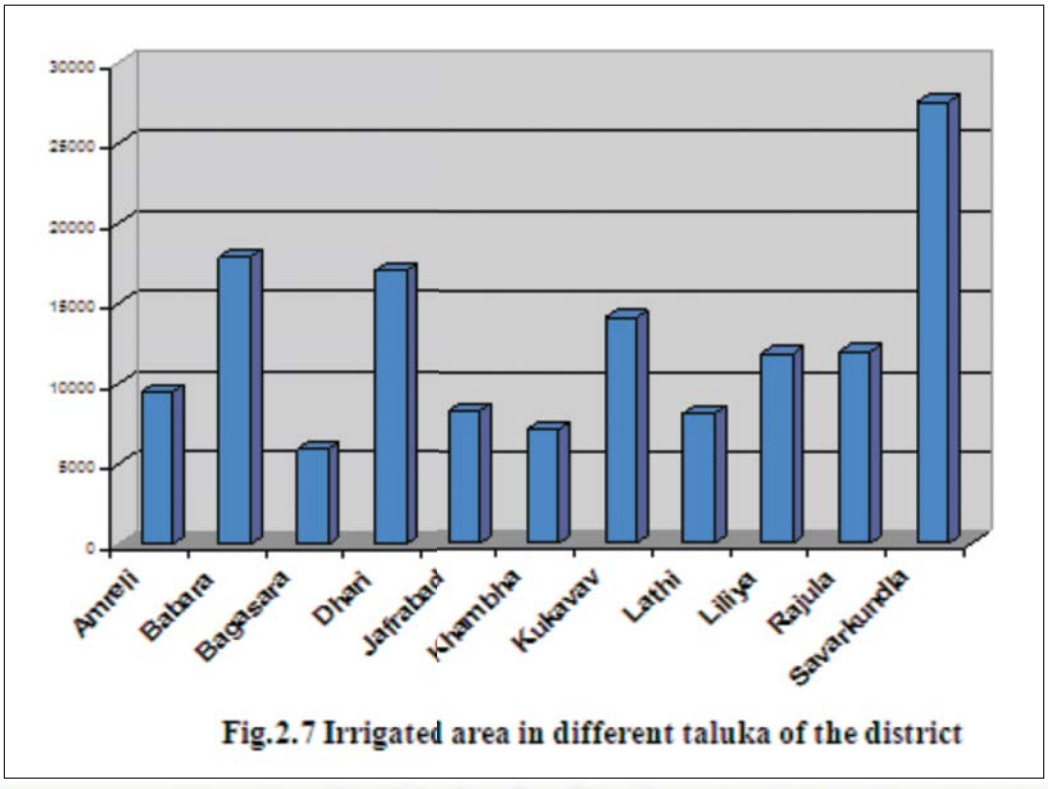

Fig.2.7 Irrigated area in different taluka of the district

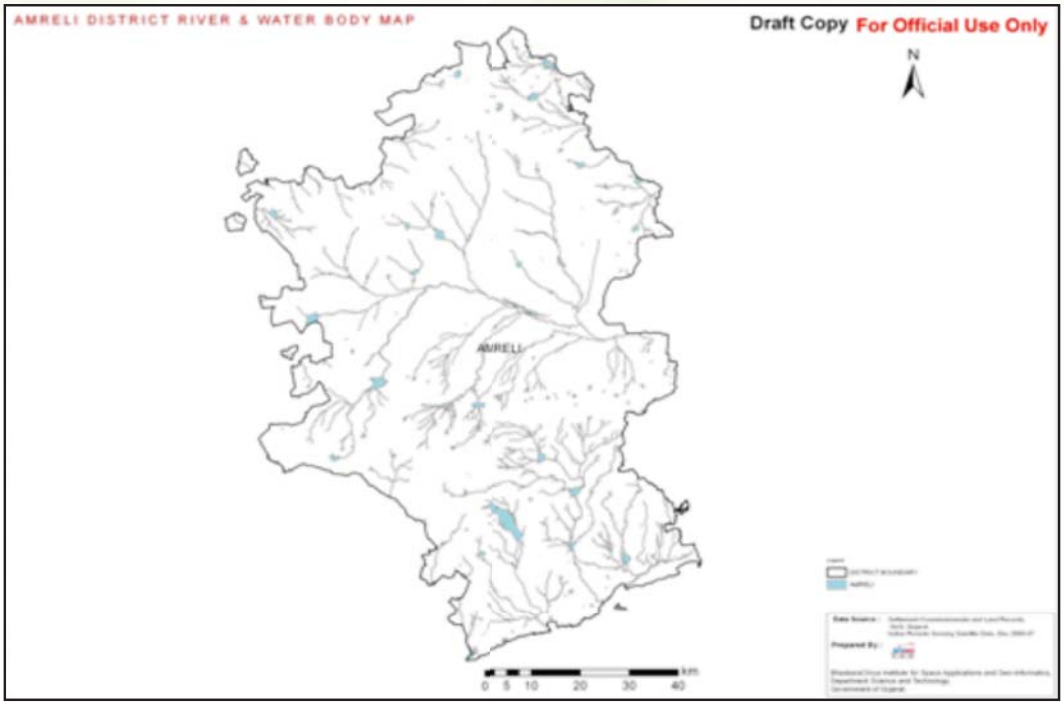

Fig. 2.8 River map of Amreli

Table 2.11 Irrigation project under Amreli Panchayat Irrigation Amreli

Sr. No.	Catagory of project	Taluka	Name of project	Water storage capacity milli. Cubic meter	Area under Irrigation in ha
1	Midal Irri.Project	Dhari	Khodiyar	29.94	7689
2	Midal Irr. Project	Kukavav	Sankroli vadia	7.86	1218
3	Midal Irr. Project	Rajula	Dhatarvadi	34.44	2480
4	Small Irri. Project	Bagasara	Munjiasar	13.64	1700
5	Small Irri. Project	Kukavav	Vadia	5.36	720
6	Small Irri. Project	Babara	Ghelo (I)	10.09	712
7	Small Irri. Project	Rajula	Raydi	6.97	1500
8	Small Irri. Project	Savar Kundala	Shel dedumal	8.11	1931
9	Small Irri. Project	Savar Kundala	Surajwadi	6.37	1215
10	Small Irri. Project	Amreli	Vadi	10.62	2700
11	Small Irri. Project	Amreli	Thebi	10.65	-
			Total	**144.05**	**21865**

Source : Irrigation Division J. Panchayat Amreli.

Table 2.12 Quality of water as per analysis report of Amreli district

Taluka	Permissible C-1	Moderately safe C-2	Moderately unsafe C-3	Unsafe C-4	Highly unsafe C-5
Amreli	00	00	25	55	20
Babara	00	05	50	35	10
Bagasara	00	00	55	35	10
Dhari	00	00	70	25	05
Jafrabad	00	00	65	30	05
khambha	00	00	80	20	00
Kukavav	00	05	75	20	00
Lathi	00	00	60	30	10
Liliya	00	00	50	30	20
Rajula	00	00	40	45	15
Savar Kundala	00	00	65	20	15

(For each taluka 20 samples were analyzed)

Source : Kabaria B.B. (2004) M.Sc. Thesis Submitted to, Junagadh Agricultural University, Junagadh

Inspite of big irrigation project, three medium and eight small irrigation project are existing in the district which cover 21865 hectares of land (Table 2.11). The quality of well and tube well water is not permissible and moderately unsafe to highly unsafe for irrigation. Only 5 % samples of Babara and 5% samples of Kukavav taluka categorized as moderately safe.(Table 2.12).

2.11 Micro Nutrient Status

Soils of Amreli district are copper (cu) sufficient. 5% soils of Lathi taluka are copper deficient. Same trend of iron has been observed. Only 5 to 20% soils are having iron deficiency. Looking to manganese soils are sufficient with this micronutrient. Zinc deficiency was observed in 48% of the soils.

Table 2.13 Micro Nutrient Status in the district

Taluka	Copper (Cu)		Iron(Fe)		Manganese (Mn)		Zinc (Zn)	
	Sufficient %	Deficient %	Sufficient %	Deficient %	Sufficient %	Deficient %	Sufficient %	Deficient %
Amreli	100	00	85	15	100	00	50	50
Babara	100	00	80	20	100	00	60	40
Bagasara	100	00	80	20	95	5	60	40
Dhari	100	00	100	00	100	00	45	55
Jafrabad	100	00	95	5	100	00	60	40
Khambha	100	00	90	10	85	15	60	40
Kukavav	100	00	85	15	100	00	50	50
Lathi	95	5	90	10	100	00	55	45
Liliya	100	00	85	15	100	00	50	50
Rajula	100	00	85	15	100	00	35	65
Savar Kundala	100	00	90	10	100	00	50	50
Average	99.55	0.45	87.72	12.28	98.18	1.82	52.27	47.73

(For each taluka 20 samples were analyzed)

Source : Micro Nutrient status Booklet , Dept. of Soil Science, Junagadh Agricultural University, Junagadh

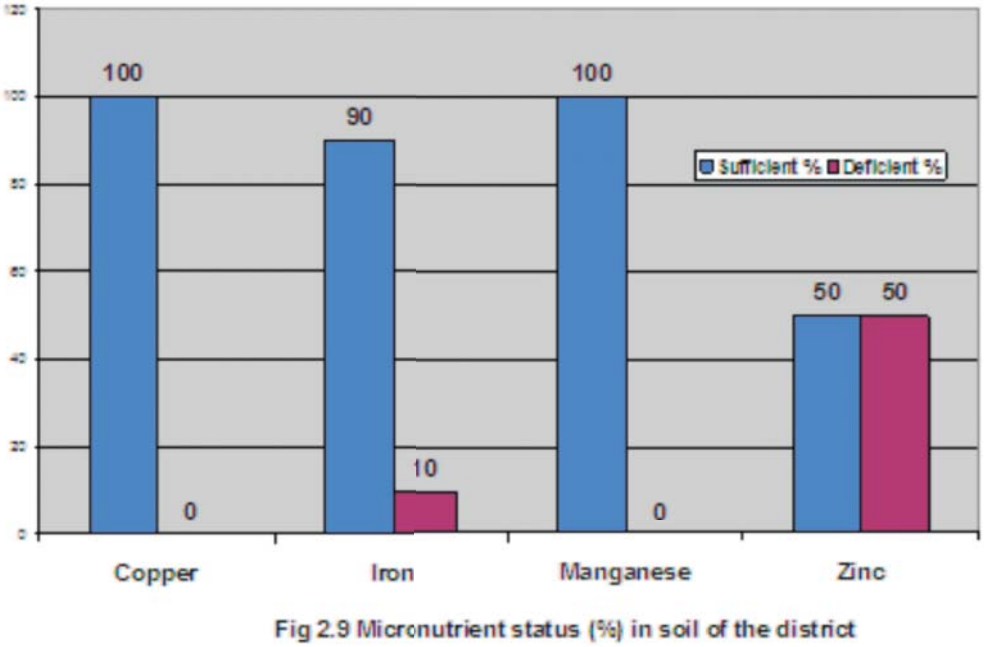

Fig 2.9 Micronutrient status (%) in soil of the district

2.12 Soil fertility indices

Overall 77.27% soils of Amreli district are Alkaline and only 22.73% soils are natural. There is no acidic soil in Amreli district. Looking to electric conductivity, 54.54% soils posses high electric conductivity, while 11.82% and 33.64% soils posses low and medium electric conductivity, respectively. From organic carbon availibility view point, 25.00%, 44.10% and 30.90% soils are low medium and high categories, respectively. From available nitrogen point of view 96.82%, 3.18% and 0.00% soils are containing low, medium and high content of nitrogen, respectively. 31.82%, 51.36% and 16.82% soils contain low, medium and high available phosphorus, respectively. 12.27%, 63.64% and 24.09% soils are falling in low, medium and high available potash respectively (Table 2.14 and 2.15).

Table 2.14 Soil pH, EC and Organic carbon in the Amreli district

Sr. No.	Taluka	pH			EC (ds/m)			Organic carbon (%)		
		Acidic	Neutral	Alkaline	Low	Medium	High	Low	Medium	High
1	Amreli	-	5	95	-	20	80	15	25	60
2	Babara	-	30	70	20	20	60	15	40	30
3	Bagasara	-	15	85	10	30	60	10	35	55
4	Dhari	-	35	65	30	35	35	30	55	15
5	Jafrabad	-	10	90	-	45	55	45	25	30
6	Khambha	-	45	55	15	50	35	30	70	00
7	Kukavav	-	20	80	25	45	20	15	60	25
8	Lathi	-	20	80	15	35	50	30	45	25
9	Liliya	-	00	100	10	20	70	30	40	30
10	Rajula	-	30	70	5	30	65	25	50	25
11	Savar	-	40	60	5	40	55	30	40	30
	Averege	**-**	**22.73**	**77.27**	**11.82**	**33.64**	**54.54**	**25.00**	**44.10**	**30.90**

(For each taluka 20 samples were analyzed
Source: Kabaria B.B. (2004) M.Sc. Thesis Submitted to, Junagadh Agricultural University, Junagadh

2.15 Availability of Nitrogen, Phosphorus and Potash in soils of Amreli district.

Sr. No.	Taluka	Available Nitrogen (kg/ha)			Available Phosphorus (kg/ha)			Available Potash (kg/ha)		
		Low	Medium	High	Low	Medium	High	Low	Medium	High
1	Amreli	85	15	00	30	65	5	20	55	25
2	Babara	100	0.04	00	15	70	15	20	50	30
3	Bagasara	100	00	00	30	60	10	5	85	10
4	Dhari	90	10	00	25	65	10	10	75	15
5	Jafrabad	100	00	00	40	35	25	30	35	35
6	Khambha	100	00	00	35	45	20	30	60	10
7	Kukavav	100	00	00	30	35	35	00	90	15
8	Lathi	100	00	00	10	65	25	00	80	15
9	Liliya	100	00	00	10	70	20	00	70	30
10	Rajula	90	10	00	65	25	10	5	35	60
11	Savar	100	00	00	60	30	10	15	65	20
	Average	**96.82**	**3.18**	**0.00**	**31.82**	**51.36**	**16.82**	**12.27**	**63.64**	**24.09**

(For each taluka 20 samples were analyzed)
Source : Kabaria B.B. (2004) M.Sc. Thesis Submitted to, Junagadh Agricultural University, Junagadh

2.13 Information on animal husbandry

Animal keeping is one of the major components in the existing farming system of Amreli district. This area is conductive for rearing of cows, buffalos, sheep and goats. Cattle are found in almost all rural household, predominantly for milk purpose. Gir cow and Jafrabadi buffalo both are the word famous breeds believe to be originated from this region. Organic manure from cattle dung is also principal another reason for the animals being a part of farming system. Droughts animals are the integral part of agriculture, hencefore, considerable number of drought animals are available in the district. Cattle in particular and live stoke in general act as an alternate source of income of rural people.

Livestoke population in the district is presented in Fig.2.10 Availability of fodder is sufficient in the district to cater the demand. Cattle dung is an important source of Gobargas production, hencefore, large number of Gobargas plants are available in the district

Jafrabadi Buffalo

Gir Cow

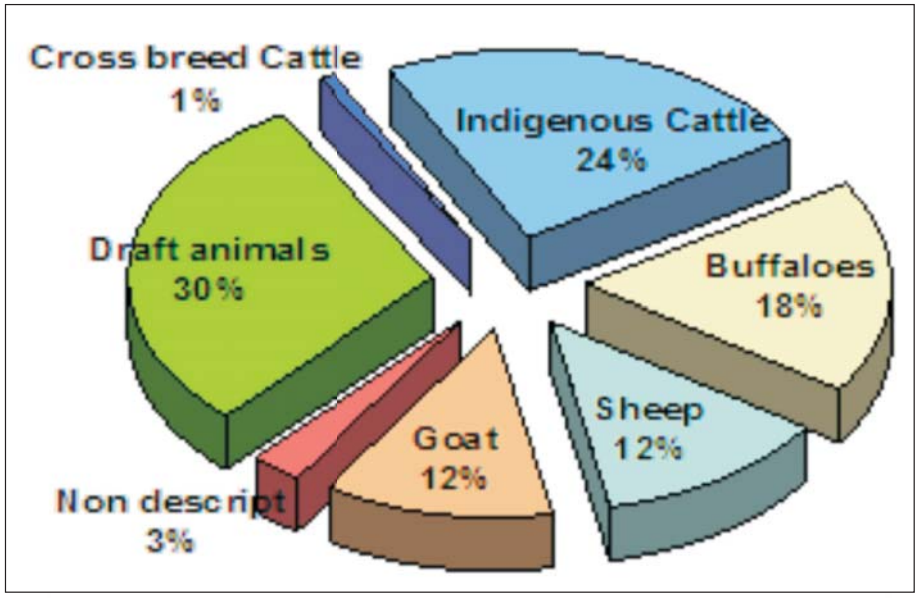

Fig.2.10 Livestoke population in the district

Veterinary Services

In all the 11 talukas of the district there are about 53 veterinary hospitals, 31 veterinary dispensaries, 24 First Aid Veterinary Centers and 53 Artificial Insemination Centers. 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. Department is also 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.

Dairy development

The Amreli district offers good scope for dairy development. Looking at the area with Gir Forest and river belts, it can sustain many more milch animals. No dairy cooperative structures are existence in the district for milk collection. There is a vast scope for dairy and animal husbandry development if such cooperative infrastructure facilities are established. With financial support for purchasing 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, goat and poultry rearing in the district.

2.14 Information on Fisheries

The district has a coastal line of about 62 km of Rajula and Jafrabad talukas with good potential for marine resources. There are 32 registered fisherman cooperative societies covering 3690 fisherman. The district is famous for pomphet, surmai and bombay duck. The total fish production is 91496 M.T. and more than 25000 net available in the district. There are 930 mechanized and 220 non mechanized boats, 22 ice factories with total capacity of 720 tones and 2 cold storages with a capacity of 40 tones/ day are available in the district. At present Pipavav Port is available to cater the needs of the exports.

2.15 Banking Sectors

The district has 201 bank branches cater to the credit requirement for crop loans (Table 2.16). Among them, the district is availing support of cooperative sector bank like Amreli Jilla Madhyasth Sahakari and Nagrik sahakari banks, which provide large amount of crop loan disbursement with lesser number of branches as compared to commercial bank (Table 2.17).Out of 541075 landholders, 68761 (12.71%) are taking the benefit of agriculture insurance scheme (Table 2.18). The per cent benefited landholders are much less and expected to the extent of 30% for this insurance scheme. To deal with the existing gap and getting more and more people accessing benefits, the banks have to be proactive in financing the government schemes and develop more bankable schemes to cover more number of peoples under various programmes. It is also proposed that respective departments should ensure that schemes are developed in coordination with the banks for long term funding support.

Table 2.16 Details of credit institutions in the district

Sr. No	Taluka	Number of institutions					Total
		Commercial Bank	RRBs	Cooperatives	PACSs	Others	
1	Amreli	23	2	7	4	-	36
2	Babara	7	2	7	-	-	16
3	Bagasara	6	4	-	-	-	10
4	Dhari	11	2	10	-	-	23
5	Jafrabad	3	1	3	-	-	7
6	Khambha	5	2	5	-	-	12
7	Kukavav	9	1	8	-	-	18
8	Lathi	8	1	8	-	-	17
9	Liliya	3	2	4	-	-	9
10	Rajula	12	2	5	2	-	21
11	Savar Kundala	15	1	15	1	-	32
	Total	**102**	**20**	**72**	**7**	**-**	**201**

Source: Lead bank Amreli

Table 2.17 Crop loan disbursement (Short term credit)

Taluka	Loan disbursed in 2011-12(**Rs Lakh**)		
	Coop. Bank	Commercial Bank	RRB
Amreli	8582.26	10737.59	398.00
Babara	7609.50	4740.03	518.40
Bagasara	4710.73	2278.30	-
Dhari	6414.29	7792.69	417.57
Jafrabad	1479.13	1233.50	214.08
Khambha	4486.24	3562.55	326.41
Kukavav	6552.76	6175.23	510.10
Lathi	9531.64	3998.16	-
Liliya	2347.12	1684.21	698.44
Rajula	2988.15	8255.23	314.45
Savar Kundala	11111.98	5740.30	55.00
Total	**66113.80**	**56197.70**	**3452.45**

Source: Lead bank Amreli 2010-11

Table 2.18 Agricultural Insurance Status (2011-12)

Taluka	Actual coverage of No. of farmers	Area coverage (ha)
Amreli	10856	26422
Babara	10124	25269
Bagasara	7061	17335
Dhari	7718	21160
Jafrabad	1915	5281
Khambha	5980	14954
Kukavav	8205	21360
Lathi	7498	20430
Liliya	2568	6924
Rajula	3995	9346
Savar Kundala	2841	6890
Total	**68761**	**175371**

Source: Amreli Jilla Madhasth Sahakari Bank, Amreli

Table 2.19 Co-oprarive societies/ farers organizations operating in the district

Sr. No.	Name of the Organization	Number/ units
1	Taluka Purchase and Sales Agriculture Produce union	9
2	Produce Union	378
3	Rural cooperative society	112
4	Milk Union	162
5	AMAR DAIRY	7
6	Fishing Union	24
7	Sheep Union	9
8	Poultry rearing Union	2
9	Water conservation Union	9
10	Group farming Union	26
11	Oilseed cooperative Union	132
12	Fruit and vegetable cooperative Union	22
13	Agro processing Union	5
14	Salt Producing Union	3
15	Women co-operative Union	25
16	Agriculture Produce Marketing Committee	10
17	Primary agricultural finance society	395
18	Non agricultural finance society	120
19	Sale societies	18
20	Processing co-operative society	12
21	Consumer stores (Grahak Bhadars)	74
22	Housing development society	85
	Total	**1639**

Source : SREP Amreli district, ATMA, Amreli and District panchayat report-2012 Amreli district

CHAPTER III

SWOT ANALYSIS

Introduction

SWOT analysis is a strategic planning method used to evaluate the Strengths, Weaknesses, Opportunities, and Threats involved in a project or in a business venture. Analysis of SWOT is 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 cannot 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.

3.1 SWOT analysis of the Amreli District as a whole

Strength

Amreli, the Head-Quarters of Amreli District, is well connected by bus routes to major towns of the states like Rajkot, Ahmedabad, Vadodara, Surat and Gandhinagar. There is a good network of the roads within the district and its towns and villages. The major strengths of the district are:

- vast area (more than 75% of geographical area) is under cultivation with a large number of crop species and horticultural crops.
- Major field crops grown are cotton, oilseeds, spices, fruits, vegetables and pulses.
- Productivity of all the major crops have higher than national average.
- Traditional organic farming practiced by few farmers.
- Enriched diversity of plant genetics materials.
- Improved farm implements are used for cultivation practices.
- Gir cows and Jafrabadi Buffaloes are famous breeds of this area, reared as milking animal.
- Major Talukas have their own APMC (Agricultural Produce Marketing Committee) and their marketing yards.
- District has two agricultural research centres and one KVK for extension education programmes.
- The major agricultural product based industries of Amreli district are edible oil industry, cotton ginning mills and onion processing unit.
- Cooperative based Mother Dairy.

Weakness

Amreli District is a Drought Prone District with erratic and less than normal rainfall recorded during the past several decades except present decade. Most of the rivers in this district are flowing only in

monsoon season and remain dry throughout the year. This enforced the over exploitation of ground water through open wells and deep bore wells, which resulted in poor quality of groundwater and ultimately hampered the crops in the region. Hence, it is absolutely essential to recharge the ground water table which has gone very deep during the last decade. 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

- Large number of marginal and small land holdings and fragmented land holdings.
- Savar Kundala, Liliya, Babara and Lathi Talukas having very limited irrigation facility.
- Poor fertility of soil, low in organic carbon and phosphorous.
- Increasing micronutrient deficiencies in soil.
- Inadequate processing and storage facilities.
- Improper management of cow dung and crop residue, poor adoption level of FYM, vermi-compost and farm crop residue.
- Critical technological gaps in specific area of crop like seed treatment, balanced use of fertilizers and insect pest and disease management in major crops.
- Ground Water is Saline and Water table is very deep.

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. The major crop cotton produced in the district is used in ginning mills, but there is a need of value addition industry for various cotton based products. There is wide scope of milk dairy development in the district. The industrial development opportunities are also tremendous in the major towns of this district. The specific opportunities for the district are

1. Wide scope for export of processed food products.
2. Productivity enhancement.
3. Farm mechanization.
4. Improve water use efficiency through MIS
5. Export oriented crop diversification.
6. Protected cultivation (low cost).
7. Scope for dairy enterprises.
9. Mango processing industries in Dhari.
11. Groundnut HPS industry.
12. Availability of non conventional energy sources Solar, wind and Sea waves.
13. Biomass utilization.
15. Export quality of Sesame, Groundnut, Wheat and Value added Onion and Garlic product.
17 Cotton based industries

Threats

Amreli District is well connected to industrial cities like Rajkot, Ahmedabad, Surat and Mumbai this has resulted in the large scale migration of farm labourers in various industries, especially diamond industry located in these towns. This has resulted in a great demand for agricultural labourers and the farmers in this district face a lot of problems in getting farm labourers. The district is receiving low rainfall and over exploitation of groundwater for irrigation created a serious threat of addition of salt in the soil, which resulted in degradation of land and reduction of farm produce, which ultimately initiated the migration of the farmers.

1. Unavailability of farm labourers due to industrialization
2. Over exploitation of groundwater.
3. Soil erosion.
4. Industrialization and urbanization.
5. Low literacy rate.
6. Large scale industrial development and mining in coastal area is a threat for agriculture land.
7. Climate change is a threat for horticultural crops for Mango, Sapota, etc.

3.2 SWOT analysis of farming situation of major crops and Growth Drivers of the district

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 as under

I. Farming System: Agriculture

i. Cropping Pattern : Groundnut

Strength	Weakness
a) Traditional knowledge for cultivation of crop in semi –arid region, where rain is the limiting factor. b) Good yield potentiality of groundnut under the soil & climate. Fodder quality also very nutritive for milch animals.	a) Poor quality of water in coastal area. b) Mono cropping of creates soil health problems. c) Shortage of quality seed.
Opportunities	**Threats**
a) Short duration salt resistant Cash crop. b) Better suitability under the soil, water and climate of district. c) Healthy available market, as it is the very important crop of this area. d) high quality of groundnut suitable for HPS	a) Drought and erratic rainfall restricts the yield. b) Lowering ground water table. c) Pest and diseases problems. d) Fluctuating in market price may affect the sustainability. e) Labour intensive harvesting, labour problem during peak seasons.

ii. Cropping Pattern : Groundnut + Wheat

Strength	Weakness
a) Groundnut–Wheat is the best cropping sequence in all AES. b) Congenial atmosphere of soil and climate for this sequence. c) Traditional knowledge of cultivation of these crops. d) Wheat yield potentiality / day is very high.	a) Irrigation is for 40% area only, restricts yield potentiality. b) Traditional practices are followed. c) Fluctuating in market price may affect the sustainability. d) Labour intensive harvesting, labour problem during peak seasons.
Opportunities	**Threats**
a) Groundnut–Wheat is the best Legume-cereal sequence provides better soil health condition and provide maximum opportunities to explore the yield potentiality in the region. b) Very good quality of Groundnut kernels and Wheat grains under this situation.	a) Erratic and uncertainty of rain restricts the yield. b) Fluctuating in market price may affect the sustainability. c) Pest and diseases especially in groundnut that affects the soil health and ultimately the entire sequence.

iii. Cropping Pattern : Bt. Cotton

Strength	Weakness
a) Cotton is highly remunerative cash crop as it restricts plant protection measures. b) Inter cropping in cotton provides higher income and restricts the risk. c) Knowledge for cultivation of the crop. d) Organic farming. e) Bio-control of pest.	a) Lack of high yielding & diseases, pest resistant varieties from JAU and Govt. Institutes. b) Erratic and uncertainty of rain restricts the yield. c) Irrigation is for 40% area only, restricts yield potentiality. d) Less risk bearing ability. Higher skills & knowledge is required for this crop.
Opportunities	**Threats**
a) Congenial atmosphere for this crop. b) One of the best cash crops for higher income. c) Providing fuel for cooking. d) Composting of cotton stalks can be done after chaffing. e) Inter cropping is one of the important tools for minimizing the risk.	a) Comparatively longer duration crop, it requires soil moisture for the longer time. b) Irregular rain restricts the crop growth and yield. c) Problems of sucking pests. d) Fluctuating in market price. e) High rainfall causes failure of the crop.

II Farming System: Agriculture + Animal husbandry

Strength	Weakness
a) Experience in management of animal husbandry and dairy. b) Knowledge of agriculture farming and feed and fodder management. c) Higher remunerative farming system as compared to only agriculture / animal husbandry. d) Co-operative activities certainly encourage this system.	a) Negligence towards maintenance of cattle. b) Risk bearing ability is low. c) Less availability of feed and fodder.
Opportunity	**Threats**
a) Availability of pure breed of cows (Gir cow) and buffalos (Jafarabadi) are very famous for higher milk yield. b) Risk is minimizing under this farming system. c) Finance can be easily available through bank. e) All Members of family may be involved. f) Increased availability of FYM and biogas.	a) Diseases infective. Veterinary facilities are limited. b) Unavailability of soft drinking water during the summer. c) Rapid decrease in the pasture/ grazing lands.

III. Farming System: Agriculture + Horticulture + Animal husbandry

Strength	Weakness
a) Experience in management of animal husbandry and dairy. b) Knowledge of agriculture farming and feed and fodder management. c) Higher remunerative farming system as compared to only agriculture / animal husbandry. d) Co-operative activities certainly encourage this system.	a) Negligence towards maintenance of cattle. b) Risk bearing ability is low. c) Less availability of feed and fodder.
Opportunity	**Threats**
a) Availability of pure breed of cows (Gir cow) and buffaloes (Jafarabadi) are very famous for higher milk yield. b) Risk is minimizing under this farming system. c) Finance can be easily available through bank. e) All members of family may be involved. f) Increased availability of FYM and biogas.	a) Diseases infective. Veterinary facilities are limited. b) Unavailability of soft drinking water during the summer. c) Rapid decrease in the pasture/ grazing lands.

IV. Farming System: Fisheries

Strength	Weakness
a) Longest coast line provide good production of sea food b) Good scope for cage culture of fin fish/ shell fish c) Sea coast provides very well facilities for fishing. d) Good qualities of fishes are available at the west coast. e) Very good environment for aquaculture.	a) No risk bearing ability in fishery business. a) Socio-economic status is poor. Technical know-how is very low. b) Not well established market for small fishermen.
Opportunities	**Threats**
a) Sea water is very near to this area. b) Demand of fish is very high. c) Technical support is available from Fisheries college Veraval and the fisheries department.	a) Low market price. b) People are mostly vegetarian. c) Poor financial capacity.

3.3 Sectoral / Regional Growth Drivers of the District

Groundnut farming and processing Cotton seed and groundnut oil Cattle feed and poultry farm Absorbent cotton and surgical cotton bandage.

3.3.1 Agriculture:

1. The economy of Junagadh is mainly based on agriculture. Increasing area under hybrids/ high yielding varieties in cotton, castor, bajra and improved variety in wheat.
2. Seed treatment and enhancing seed replacement rate.
3. Resource conservation technologies for sustaining and improving the productivity levels.
4. Groundwater recharge and increasing water use efficiency using MIS.
5. Demonstration and capacity building of field functionary and farmers for implementation of IPM, INM and IWM.
6. Training the farmers, traders, and other stakeholders on micro irrigation, protected cultivation, grading, post harvest technologies, value addition and market intelligence.
7. Establishment of rural godown with drying yards.
8. Formation of commodity groups for groundnut, cotton and wheat crops; as well as for cattle breeding and fisheries.
9. Encouraging contract farming and increasing cropping intensity through mechanization.
10. Increasing in the use of Trichodarma for management of soil born diseases in groundnut.
11. Manufacturing and repairing units of agriculture equipments/ implements and agricultural machine parts.

3.3.2 Soil Health:

1. Prevention of degradation of soil fertility using west biomass available from livestock, crop & farm.
2. Reclamation of salinity and sodicity in coastal area.

3.3.3 Horticulture:

1. Increasing area under fruits and vegetable crops by providing improved planting material.
2. Implementation of IPM and INM.
3. Demonstrations and trainings including farmers and field official.
4. Hightech green house for floriculture development.
5. Export oriented unit for horticulture crop (Keshar Mango)
6. High density plantation for mango.
7. Harvesting and post harvesting techniques for fruit crops.
8. Improvement in the processing and transportation technologies.

3.3.4 Forestry:

1. Increasing area under forests through plantation in community lands.
2. Increasing area under agro-forestry and plantation on farm bunds.
3. Demonstrations and trainings including farmers and field officials
4. Fodder and pasture land development.

3.3.5 Animal Husbandry:

1. Breed improvement through community bulls and A.I.
2. Balanced feed and mineral mixture feeding.
3. Demonstration and capacity building of field functionary and farmers.
4. Animal feed industry.
5. Improvement in the fodder availability.
6. Modernization of cattle rearing.

3.3.6 Fisheries:

1. Renovation of village/town ponds for fisheries and making availability of good quality fish seed (Rearing unit/hatcheries)
2. Capacity building of fish farmers and field functionary.
3. Processing plants for marine fish, fish oil and powder.

CHAPTER IV

DEVELOPMENT OF AGRICULTURAL SECTOR

4.1 Introduction

In this chapter, issues relating to utilization of natural resources available in the district and input management for the development of agriculture sector are discussed.

4.2 Land Use

In this District, total area is 7.36 lakh ha among it the net sown area is 74 % (5.50 lakh ha) and 0.41 lakh ha of land is covered by forest which is known as Gir forest. The Dhari and Khambha taluka covers more than 50% of the total forest area of the district. In forest region mainly woody tree like saag and bamboo, fruits tree like custard Apple (Sitafal) Rayan, Timbru, Karmada etc. are obtained.

The barren, uncultivable, degraded and waste lands which are present in the district to the tune of 0.28 lakh ha, can be reclaimed so that the net sown area could be increased. There is a need to improve the pastures in the district, which occupies about 0.54 lakh ha.

4.3 Soil Health Management

The soils of Amreli District are medium black, shallow black, saline/alkaline, hilly and costal alluvial. Medium black and saline-alkaline soils are predominantly seen in the district. However due to injudicious use of chemical fertilizes and pesticides the soil of the district going to be ill day by day. Irrigation water of high EC is adding salt in the soil in some of the taluka, causing deterioration of the soil. There is a need to increase soil health by checking chemical fertilizes and pesticides use and by using soil amendments.

4.4 Water Resources Management

The details on Irrigation water potential are given in Table 2.10. The district is having total irrigated area of 140079 hectares. Among different sources of irrigation, the major source is open well (97103ha) followed by bore-well (37548 ha.). The district is receiving comparatively less amount of rainfall (437-903mm) and due to lack of adoption of water harvesting practices and topography of land, limited area is under irrigation. The scarcity of irrigation water in all the blocks, except some parts of Dhari and Bagasara taluka is major hurdle in the growth of agriculture. The major scope for the development of agriculture in irrigated area is by increasing gross sown area and by adopting drip irrigation system particularly in horticultural and vegetable crops. Drip irrigation system is very good for saving water and increasing irrigated crop area. Now a days large number of farmers are adopting drip irrigation system, which covered 11868.63 hectare area of land under irrigation (Table 4.1). Specific extension activities are being proposed on these important aspects in the plan.

Table 4.1 Taluka wise information on drip/sprinkler

Taluka	Drip irrigation		Sprinkler irrigation	
	No. of farmers	Area (ha.)	No. of farmers	Area (ha.)
Amreli	1487	1967.48	841	1226.69
Babara	1468	1961.64	331	483.21
Bagasara	716	834.15	1035	1288.81
Dhari	960	1429.41	1362	1716.5
Jafrabad	110	132.28	594	651.16
Khambha	369	501.92	1411	1538.40
Kukavav	1356	1874.59	555	830.31
Lathi	1121	1589.91	218	319.31
Liliya	251	311.33	330	460.13
Rajula	631	862.13	1084	1499.56
Savar Kundala	1378	1953.80	1219	1711.06
Total	**6847**	**11868.63**	**8980**	**12165.14**

Source : Gujarat Green Revolution Co. Office Amreli

4.5 Major Crops and Varieties in the District

4.5.1 Common Varieties

Common varieties of crops grown in Amreli district are given below.

Sr.No.	Crops	Varieties
1	Groundnut	Bunch variety GG-2, GG-5, GG-7, GG-9 Semi spreading variety GG-20, Spreading Variety GG-11, GG-12, GG-13
2	Cotton	Bt. Cotton hybrids
3	Wheat	Lok-1, GW 496, GW 366
4	Bajra (Pearl Millet)	Kharif: GHB-558,538, 719,744,732,757,905 Summer: GHB-556,536,732,558
5	Pigeon Pea	Pigeon pea GT-100, BDN-2
6	Gramm	G G-1, GG-2, GG-3, GG- 4
7	Green Gramm	Guj. Mug-4, K-85
8	Black Gramm	Guj. Udad-1, T-9
9	Sesame	G Til 1, G Til 2, G Til 3,
10	Castor	GCH-4,GCH-6, GCH-7
11	Sorghum	GFS-4&5, Gundhari, S-1049

12	Garlic	Malek local, G Garlic 2,3,4
13	Onion	Local Pilipatti, Nasik Red, G White Onion-1, Agri Found Red
14	Tomato	G.Tomato-1, Junagadh Tomato-3, Junagadh Ruby
15	Brinjal	Pusa Purple Cluster, Junagdh Ravaiya
16	Isabgul	Gujarat Isabgul-1,2
17	Fenugreek	Gujarat Methi-1
18	Cumin	GC-1, GC-4
19	Coriander	GC-1,2
20	Mango	Kesar, Jamadar
21	Sapota(Chiku)	Kalipatti
22	Lamon	Kagji Lime
23	Ber	Umran, Gola, Seb, Mehrun, Kaithali
24	Papaya	Madhu Bindu, Taiwan
25	Custard Apple	GJCA-1, Sindhan

4.5.2 Cropping pattern

Major Cropping pattern in vogue in the district is given below:

i. Groundnut - Wheat – Green gram
ii. Groundnut - Wheat - Pulses
iii. Groundnut - Wheat - Vegetables
iv. Groundnut - Wheat – Summer Fodder
v. Groundnut - Wheat
vi. Groundnut-Spices
vii. Groundnut-Summer pearl millet
viii. Groundnut-Summer Sesame
ix. Groundnut-Onion
x. Cotton – Kharif Sesame
xi. Cotton – Summer Groundnut
xii. Cotton – Summer Fodder
xiii. Cotton – Summer Sesame

4.6 Input Management

Application of chemical fertilizers and pesticides would be deciding factor of the crop productivity. Hence, consumption of chemical fertilizers and pesticides in Amreli district is given in Table 4.2. As could be seen from the table, phosphoric fertilizers were largely used and they were followed by nitrogenous and potassium fertilizers.Liquid pesticide application was more than that of dust formulation of pesticide.

Table 4.2 Consumption of Chemical Fertilizers and Pesticides during 2011-12

Season	Fertilizers (in Tones)				Pesticides	
	Nitrogenous (N)	Phosphoric (P)	Potassium (K)	Total (NPK)	Dust (000 Kg)	Liquid (000Lit)
Kharif	2840	9880	300	13020	5400	400
Rabi	2020	1840	260	4120	-	200
Total	4860	11720	560	17140	5400	600

Source: DAO, Amreli

Table 4.3 Planning of plant protection chemical requirements (in kg or lit.)

Taluka	Pesticides used	Used in 2011-12	2012-13 (projected)	2013-14 (projected)	2014-15 (projected)	2015-16 (projected)	2016-17 (projected)
Amreli	Granule (q)	43.20	44.25	44.25	44.25	44.25	44.25
	Dust (q)	511.00	552.27	552.27	552.27	552.27	552.27
	Liquid (L)	3625	3879	3879	3879	3879	3879
Babara	G	15.20	16.80	16.80	16.80	16.80	16.80
	D	32.00	344.80	344.80	344.80	344.80	344.80
	L	8350	8568	8568	8568	8568	8568
Bagasara	G	10.30	11.31	11.31	11.31	11.31	11.31
	D	198.50	219.24	219.24	219.24	219.24	219.24
	L	12760	1457	1457	1457	1457	1457
Dhari	G	32.20	33.54	33.54	33.54	33.54	33.54
	D	468.40	489.09	489.09	489.09	489.09	489.09
	L	3430	3562	3562	3562	3562	3562
Jafrabad	G	18.30	19.39	19.39	19.39	19.39	19.39
	D	52.70	54.61	54.61	54.61	54.61	54.61
	L	3250	3470	3470	3470	3470	3470
Khambha	G	6.50	7.01	7.01	7.01	7.01	7.01
	D	263.20	274.08	274.08	274.08	274.08	274.08
	L	2200	2409	2409	2409	2409	2409
Kukavav	G	12.03	13.29	13.29	13.29	13.29	13.29
	D	354.20	379.70	379.70	379.70	379.70	379.70
	L	2255	24608	24608	24608	24608	24608
Lathi	G	65.10	66.88	66.88	66.88	66.88	66.88
	D	102.30	121.25	121.25	121.25	121.25	121.25
	L	1196	1294	1294	1294	1294	1294

Table 4.3 Contd…

Liliya	G	54.70	55.69	55.69	55.69	55.69	55.69
	D	53.40	55.45	55.45	55.45	55.45	55.45
	L	5724	5308	5308	5308	5308	5308
Rajula	G	26.30	27.69	27.69	27.69	27.69	27.69
	D	184.90	205.67	205.67	205.67	205.67	205.67
	L	3780	3892	3892	3892	3892	3892
SavarKundala	G	109.10	110.30	110.30	110.30	110.30	110.30
	D	173.20	185.67	185.67	185.67	185.67	185.67
	L	41255	51368	51368	51368	51368	51368
Total	**G**	**392.93**	**406.15**	**406.15**	**406.15**	**406.15**	**406.15**
	D	**2393.8**	**2881.83**	**2881.83**	**2881.83**	**2881.83**	**2881.83**
	L	**87825**	**109815**	**109815**	**109815**	**109815**	**109815**

Note: G-Granule (in kg), L-Liquid (in lit)
Source: Estimation based on pest status, crop area and insecticide requirement per hectare.

4.7 Farm Machinery / Farm Equipments

The number of farm machinery and equipments operated in Amreli district are given in Table 4.3. There is a large demand among the farmers for purchasing minitractors for adopting mechanized farming. Sufficient numbers of agricultural related service centres (395) are available in the district. Among them, 265 are of seed cum fertilizes suppliers (Table 4.4)

Table 4.4 Agricultural Implements and Machineries in Amreli District

Sr.	Items	Number
1.	Ploughs	
a)	Wooden	25000
b)	Iron	5000
	Total	30000
2.	Water Pumps for Irrigation Purpose	
a)	Oil Engine	4400
b)	Electric Motor	5600
	Total	10000
3.	Tractors	
a)	Government	70
b)	Private	6700
	Total	6770
4.	Rotavator	600
5.	Power thresher/harvester	90
6.	Simple thresher	3622
7.	Power tiller/mini tractors	1366
8.	Oil Ghanis	**250**

Source:DAO, Amreli

Table 4.5 Agro input dealer Service Centre in the district (Agriculture and Allied)

Taluka	No. of service centres	Classification				
		Seed/ferti. suply	Cattle feed	Irri. system	Farm equipt./ machinery	Diagno. service centre
Amreli	113	96	4	12	17	3
Babara	25	21	2	4	5	0
Bagasara	30	20	0	6	3	0
Dhari	40	27	0	2	6	2
Jafrabad	14	13	2	-	4	0
Khambha	7	1	1	1	-	0
Kukavav	37	15	0	4	11	0
Lathi	25	8	0	1	2	1
Liliya	26	10	0	-	3	-
Rajula	25	15	1	-	3	1
Savar Kundala	53	38	2	6	8	1
Total	**395**	**264**	**12**	**36**	**62**	**8**

Source: Gujarat Agriculture Directory 2011-12

4.8 Integrated Weed Management (IWM)

Weed is a major problem in the rainfed farming situation. If continuous rain exists for several days, the farmers are unable to remove weed with help of human labour. Further, shortage of labours and high wages of labour makes weeding 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 as proposed in this chapter.

4.9 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 aegis of 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.

Krishi Vigyan Kendra is one of the important institution in the district, which involved in transfer of technology related to agriculture and related occupations. At presentAmreli KVK is under the Junagadh Agricultural University, there are 11 talukas in the district and one KVK is able to cater the need of the farmers of the district.

4.10 Krishi Vigyan Kendra

The following are the objectives and activities of KVK:

1. Conducting the “On farm testing” for identifying technologies in terms of location specific sustainable land use systems.
2. Organize training to update the extension personnel with emerging advances in agricultural research on regular basis.
3. 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.
4. Organize the front line demonstration on various crops for generating production data and feedback information.
5. KVK should work as Knowledge power centre for the district

4.11 Special projects / programmes on going in the district

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

Schemes:

Table 4.6 Activities of Agriculture department of the district 2011-12 **(Rs. in Lakh)**

Name of the scheme	Activities under the scheme	Physical status		Financial status	
		Target	Achieve.	Target	Achieve.
AGR-2 Motivation of organic manure	Bio fertilizer (packets)	112278	112278	3.95	3.95
	Demonstrations (No.)	4	4	-	-
	organic manure (ha)	25.74	1162	25.74	25.73
	IPM (ha)	104	60	1.56	0.76
	Water protection sheets (Tadpatri No.)	2497	2477	39.97	39.63
	Open pipeline (No.)	429	503	19.3	18.60
	Open well (No.)	1	1	0.53	0.53
	Pump set (No.)	24	21	3.77	4.64
	Pipeline (No.)	3	2	0.30	0.24
	Improved farm implements (No.)	336	1070	16.80	17.06
	Crop protection implements (Spraying pumps No.)	562	1611	16.86	16.85
	Grain storage bins (No.)	705	659	5.64	5.27
AGR-4 Motivation of SC/ST farmers for increasing crop production	Input kits (No.)	2544	2664	19.21	20.20
	Organic /Green manuring (ha)	448	692	33.57	33.03
	Insecticides (kilogram/Litre)	335	361	2.67	2.34
	Spraying pumps (No.)	62	177	2.80	2.77
	IMP (ha)	45	36	0.67	0.45
	Bullocks	4	4	0.58	0.55
	Bullock carts	2	1	0.29	0.14
	Improved farm implements (No.)	293	277	7.26	6.82
	Pump set (No.)	18	30	6.01	5.91
	Field demonstrations (No.)	450	517	18.00	19.09
	Open pipeline (No.)	70	70	4.73	4.78
	Bio fertilizer (packets)	26500	26500	1.56	1.59
	Bio fertilizer demonstration (No.)	10	10	0.05	0.05
	Tadpatri (No.)	570	438	11.40	8.76
	Vermi compost (No.)	50	-	1.20	-
	Grain storage bins (No.)	400	289	4.00	3.24
	BPL kits (No.)	1603	1603	44.88	44.88
AGR-5 Intensive cotton development programme	Farm field schools (No.)	15	12	2.55	1.92
	Distribution of bio agent (ha)	350	197	3.15	1.60
	Pheromone track (No.)	350	42	1.05	0.31
	Manual Sprayer	0	0	0	0
ISOPOM scheme	1. Certified seed distribution (quintal)				
	Groundnut	334	281	4.00	3.37
	Sesame	42	86.42	0.50	1.04
	Castor	42	80.8	0.50	0.97
	2. Block demonstration (hectare)				
	Kharif Groundnut	738	738	29.52	29.52
	Sesame	932	950	13.98	14.23
	Castor	40	165	0.60	2.47
	3. Farm field schools (hectare)				
	Kharif Groundnut	470	534	3.78	3.78

Table 4.6 Contd….

Name of the scheme	Activities under the scheme	Physical status		Financial status	
		Target	Achieve.	Target	Achieve.
AGR-9 Work plan scheme	Wheat Certified seed distribution (Q)	750	701	3.75	3.50
	Wheat Field demonstration (No.)	12	6	0.24	0.12
	Wheat micro nutrient (hectare)	200	132	1.00	0.60
	Wheat Gypsum (hectare)	400	395	2.00	1.98
	Farmers training FFS type (No.)	1	0.17	-	-
	Cereals Certified seed distribution (Q)	20	-	0.16	-
	Gypsum (hectare)	75	75	0.38	0.38
National food security mission (Pulses) scheme	Certified seed distribution (quintal)	143	223.71	1.71	2.68
	Lime/Gypsum (hectare)	200	127	1.50	1.49
	Micro nutrients (hectare)	200	347	1.00	1.54
	Bio fertilizer (hectare)	200	-	0.20	-
	IPM (hectare)	250	145	1.88	1.05
	Pesticides (hectare)	240	223	1.20	1.06
	Weedicide (hectare)	10	13	0.05	0.05
	Nepsec sprayer (No.)	10	35	0.30	0.30
	Seed drill (No.)	4	4	0.60	0.60
	Rotawator (No.)	2	2	0.60	0.60
	Sprinkler set (No.)	6	6	0.45	0.45
	Pump set (No.)	20	18	2.00	1.70
	Open pipeline (set)	3	3	0.20	0.21
	Farm field schools (No.)	3	1	0.51	0.15
	Miscellaneous expenses	-	1.00	-	0.95
Rashtriya Krushi Vikas Yojana Stream-1	Rotavator (No.)	400	605	120.00	181.32
	Seed cum fertilizer drill (No.)	250	80	37.50	11.89
	Disc plough/ disc harrow/MB plough (No.)	150	266	22.50	29.10
	Combined harvester (No.)	1	2.00	-	-
	Lacer land leveler (No.)	1	2.00	-	-
	Power thresher (no.)	250	80	30.00	9.53
	Reaper, Paddy transplantor etc. (No.)	10	10	4.00	4.00
	Oil engine/Electric motor pumpset (No.)	450	598	100.60	78.88
	Plant protection equipment-manual/power/tractor operated (No.)	2000	6803	80.00	84.57
RKVY Stream-2 tractor unit	Tractor up to 18 HP (No.)	906	906	407.48	407.48
	Combined harvester (No.)	0	0	0	0
	Post harvester/processing unit (No.)	0	0	0	0
AGR-50 Tractor unit	Tractor up to 18 HP (No.)	-	-	-	-
	Tractor 18 to 40 HP (No.)	543	543	244.35	244.35
	Tractor 40 to 60 HP (No.)	285	285	171.00	171.00

4.12 Gap analysis

The issues related to yield gap and its sustainability and strategies for bridging these gaps for major agricultural crops are summarized in Table 4.9, 4.10 and 4.11.

Table 4.7 Sustainability issues and gap analysis of productivity of different crops and resources

Sr. No	Factors/ Constraints leading to gap	Strategies	Approach and methodology	Performance indicators/ outputs
1.	**Groundnut**			
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, etc.	Improvement in soil health, productivity enhancement (8 - 10%)
b.	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%)
c.	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%)
2	**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, productivity enhancement (9-12%)
b.	Weed problem due to lack of knowledge about scientific weed management	To popularize Integrated weed management	Creating awareness and adoption of INM 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	Spraying of potassium nitrate and other micronutrients	Creating awareness and adoption of INM through demonstrations, training, *shibir*, literature etc	Increase in productivity (10-15%)
e	Non availability of seed selling centre of Gujarat seed corporation	Establishment of seed selling counters by Gujarat State seed certification Agency 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%)
3.	**Gram**			
a.	Use of inferior quality seeds of local variety due to lack of awareness Low SRR	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

Table 4.7 Contd…

Sr. No	Factors/ Constraints leading to gap	Strategies	Approach and methodology	Performance indicators/ outputs
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, *shibir*s 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 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.	**Maize**			
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 improved variety as worthiness of variety through demonstration. Supplying seeds as mini kits.Motivate the progressive farmers for seed production at village level	Increased area under improved variety
6.	**Green gram**			
	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
7.	**Sesame**			
a	Low germination due to improper placement of seed and lack of knowledge about that of	To popularize scientific package of practices	Creating awareness through demonstrations, training, *shibir*, literature etc.	Increased yield (5-8%)
b	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%)
c	Insect pest and disease problem due to lack of knowledge of their management options	Integrated Pest and disease management	Creating awareness and adoption of IPM through demonstrations, training, *shibir*, literature etc.	Management of insect pests and diseases leads to increased yield (20-25%)

Table 4.7 Contd…

Sr. No	Factors/ Constraints leading to gap	Strategies	Approach and methodology	Performance indicators/ outputs
d	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%)
8.	**Bajra**			
a	Low adoption of improved package of practices due to lack of awareness	To popularize scientific package of practices	Creating awareness and adoption of scientific package of practices by means of extension tools	Increase in the production
b	Insect pest and disease problem due to lack of knowledge of their management options	Integrated Pest and disease management	Creating awareness and adoption of IPM through demonstrations, training, *shibir*, literature etc.	Management of insect pests and diseases leads to increased yield
c	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	Increase in yield
9.	**Wheat**			
a	Use of inferior quality seeds due to Lack of awareness	Increase seed replacement ratio & quality seed production through seed village. Create awareness for proper storage of seeds	Create awareness about the importance of improved variety through demonstration. Innovate the progressive farmers for seed production at village level	Increased area under improved variety (5%)
b	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%)
c	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%)

Table 4.8 Bridging the gaps for realizing the Vision- Agriculture sector

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
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
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

Farm Mechanization

Table 4.9 Yield gap analysis of Amreli district

Crop	Three Year (2008-11) Average Yield in kg/ha		Yield gap in kg/ha
	District	State	
Groundnut	772	1414	-642
Wheat	3361	2916	445
Cotton (Lint)	593	554	39
Sesame	381	387	-6
Gram	1444	1038	406
Bajra	1533	1464	69
Maize	1382	1350	32
Sorghum	1024	1166	-142
Castor	1968	1983	-15
Mung	438	448	-10
Urid	598	621	-23
Tur	947	960	-13
Cumin	475	556	-81
Garlic	5390	5977	-587
Onion	27400	27500	-100

Source: Directorate of Agriculture, Gujarat State, Krishi Bhavan,Sector-10/A, Gandhinagar, Year: 2008-09, 2009-10 and 2010-11

4.13 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, Crop diversification plan for next 5 years are presented in Table 4.10, 4.11, 4.12 and 4.13.

Consumption of chemical pesticides as granules, dust and liquid will also increase as seen in the Table 4.14 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. Financial outlay for the development of agriculture and capacity building of farmers and functionaries in the district is summarized in Table 4.16, 4.17, 4.18, 4.19, 4.20, and 4.21.


Coconut

Table 4.10 Crop Diversification Plan in next 5 years

Existing cropping pattern 2011-12		Crop Diversification proposed (Area in ha)									
Crop group	Area	2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)	
		Area under crop	Change in area with reference to 11-12 (+/-)	Area under crop	Change in area with reference to 11-12 (+/-)	Area under crop	Change in area with reference to 11-12 (+/-)	Area under crop	Change in area with reference to 11-12 (+/-)	Area under crop	Change in area with reference to 11-12 (+/-)
Pulses	14945	15500	+555	15600	+655	15700	+755	15700	+755	15800	+855
Oilseeds	330584	329481	-1103	329281	-1303	328981	-1603	328681	-1903	328281	-2303
Fruits	2747	2042	-705	1942	-805	2042	-705	2142	-605	2241	-505
Vegetables	2954	3500	+546	3600	+646	3700	+746	3800	+846	3900	+946
castor	293	1000	+707	900	+607	900	+607	1000	+707	1100	+807
Total	**351523**	**351523**		**351523**		**351523**		**351523**		**351523**	

Table 4.11 Area, Production and Yield of major crops of Amreli district area 00 ha, prod 00 mt, yield kg/ha

Sr. no.	Crop	2008-09			2009-10			2010-11			Average					
											Area		Production		Yield	
		Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	District	State	District	State	District	State
1	Bajara	148	266	1797	95	76	800	106	193	1821	116	7496	178	10970	1533	1464
2	Jowar	0	0	0	30	30	994	12	13	1070	14	1041	14	1215	1024	1166
3	Maize	6	9	1439	12	12	964	16	26	1638	11	4177	16	5638	1382	1350
4	Mung	38	16	433	36	14	388	54	26	481	43	1920	19	860	438	448
5	Udad	34	20	603	25	15	588	23	14	609	27	1008	16	262	598	621
6	Tur	6	6	988	6	5	861	7	7	985	6	2698	6	2590	947	960
7	Wheat	393	1120	2849	91	273	2970	550	2082	3785	345	11227	1158	32733	3361	2916
8	Gram	82	123	1500	18	51	1153	24	35	1482	41	1610	60	1672	1444	1038
9	Groundnut	2523	1232	488	2360	417	177	2210	3825	1731	2364	18839	1825	26643	772	1414
10	Sesame	186	79	422	163	40	246	200	90	450	183	2511	70	973	381	387
11	Castor	12	23	1963	8	16	1973	11	22	2008	10	4487	20	8897	1968	1983
12	Cotton	2271	7608	570	2455	6856	475	2694	11426	721	2473	24804	8630	80800	593	554
13	Cumin	92	43	468	19	8	404	28	15	546	46	2464	22	1370	475	556
14	Onion	42	1151	27210	19	521	26789	59	1616	27390	40	536	1096	14753	27400	27500
15	Garlic	26	132	5110	11	60	5669	22	126	5709	20	260	106	1556	5390	5977

Source: District wise area oduction and yield of important food and non food crops in Gujarat State year 2008-09, 2009-10 and 2010-11, Directorate of Agriculture, Gujarat State, Sector- 10-A, Gandhinagar

Table 4.12 Seed quantity requirement and SRR

Sr. no.	Crop	Area ('000 ha)	Seed rate kg/ha	Total seed qua. Tonnes	SRR	Seed quantity required, tonnes				
						2012-13	2013-14	2014-15	2015-16	2016-17
1	Bajara	116	3.750	435	100	435	435	435	435	435
2	Jowar	14	80	1120	50	560	616	650	680	720
3	Maize	11	25	275	40	110	120	135	150	165
4	Mung	43	25	1075	50	560	590	645	750	775
5	Udad	27	25	675	50	350	370	405	435	460
6	Tur	6	15	90	60	55	60	65	70	75
7	Wheat	345	120	41400	35	4490	16560	17800	1945	22700
8	Gram	41	75	3075	30	922	1076	1170	1260	1385
9	Groundnut	2364	120	283680	15	42552	51060	62410	65250	70920
10	Sesame	183	3	549	50	275	302	330	357	385
11	Castor	10	10	100	100	100	100	100	100	100
12	Cotton	2473	25	5441	100	5441	5441	5441	5441	5441
13	Cumin	46	15	690	35	240	262	283	305	333
14	Onion	40	10	400	20	80	100	130	140	200
15	Garlic	20	550	11000	35	3850	4400	4730	4950	5500

Table 4.13 Projection of Area, production and yield of Agricultural Crops in Amreli district (A:Area in '000 ha, P:Production in '000 tonnes, Y:Yield in kg/ha)

Sr. no.	Item	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
CEREALS																
1	Wheat	345	1158	3361	354	1250	3529	360	1350	3705	367	1458	3890	372	1574	4085
2	Jowar	14	14	1024	16	15	1075	17	16	1161	19	17	1219	20	19	1280
3	Bajra	116	178	1533	121	192	1609	125	207	1690	128	223	1774	132	242	1863
4	Maize	11	16	1382	11	17	1450	13	19	1520	14	20	1599	15	22	1680
	Total Cereals	486	1366	7300	502	1474	7663	515	1592	8076	528	1718	8482	539	1857	8908
PULSES																
5	Tur	6	6	947	6	7	994	6	7	1044	7	8	1096	8	8	1150
6	Mung	43	19	438	45	20	459	46	22	482	47	24	507	49	25	530
7	Urid	27	16	598	628	17	627	628	19	659	629	20	692	29	22	726
8	Gram	41	60	1444	43	65	1561	44	70	1592	45	75	1670	46	82	1750
	Total Pulses	117	101	3427	122	109	3596	124	118	3777	128	127	3965	132	137	4156
	Total Food Grain	603	1467	10727	624	1583	11259	639	1770	11853	656	1845	12447	671	1994	13964
OILSEED																
9	Groundnut	2364	1825	772	2410	1971	810	2458	2128	850	2500	2298	890	2550	2482	935
10	Sesame	183	70	381	75	186	400	192	81	420	198	88	440	203	95	660
	Total Oilseeds	2547	1895	1153	2485	2157	1210	2650	2209	1270	2698	2386	1330	2753	2577	1395
COMMERCIAL CROP																
11	Cotton	2473	8630	593	2520	9320	620	2590	10066	650	2640	10870	680	2690	11740	720
12	Castor	10	20	1968	11	22	2060	12	23	2160	13	25	2270	14	27	2390
13	Cumin	46	22	475	50	23	498	54	25	520	56	27	550	60	30	570
14	Garlic	20	106	5390	22	114	5650	23	123	5940	24	133	6230	25	144	6550
15	Onion	40	1096	27400	45	1183	28770	48	1278	30200	50	1380	31700	52	1490	33280
Total Commercials		2589	9874	35826	2648	10662	37598	2727	11515	39470	2783	12435	41430	2841	13431	43510
Total of cropped area		5739	13236	47706	5757	14402	50067	6016	15494	52593	6137	16666	55207	6265	18002	58869

Table 4.14 Additional area to be brought under organic farming in next five years

Sl. No.	Taluka	Year-wise area to be brought under organic farming in next 5 years (ha)					
		2012-13	2013-14	2014-15	2015-16	2016-17	Total
1	Amreli	2	3	5	7	9	**26**
2	Babara	1	2	4	6	8	**21**
3	Bagasara	2	3	5	7	9	**26**
4	Dhari	2	3	5	7	9	**26**
5	Jafrabad	1	2	4	6	8	**21**
6	Khambha	1	2	4	6	8	**21**
7	Kukavav	2	3	5	7	9	**26**
8	Lathi	1	2	4	6	8	**21**
9	Liliya	1	2	4	6	8	**21**
10	Rajula	2	3	5	7	9	**26**
11	Savar Kundala	3	4	6	8	10	**31**
	Total	**18**	**29**	**51**	**73**	**95**	**266**

Table 4.15 Taluka wise Integrated pest management demonstration for agriculture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration Conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amreli	Groundnut	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	50	60	0 60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	50	60	0.30	60	0.30	60	0.30	60	0.30	60	0.30	150	1.50
	Castor	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Babara	Groundnut	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Cotton	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	50	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25	125	1.25
Bagasara	Groundnut	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Sesame	40	40	0.20	40	0.20	40	0.20	40	0.20	40	0.20	100	1.00
	Castor	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
Dhari	Groundnut	70	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sesame	40	40	0.20	40	0.20	40	0.20	40	0.20	40	0.20	100	1.00
Jafrabad	Groundnut	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Sesame	30	30	0.15	30	0.15	30	0.15	30	0.15	30	0.15	75	0.75

Table 4.15 Contd…

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Khambha	Groundnut	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	50	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25	125	1.25
Kukavav	Groundnut	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	60	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	40	40	0.20	40	0.20	40	0.20	40	0.20	40	0.20	100	1.00
Lathi	Groundnut	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	60	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	20	20	0.10	20	0.10	20	0.10	20	0.10	20	0.10	50	0.50
Liliya	Groundnut	30	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Cotton	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sesame	10	10	0.05	10	0.05	10	0.05	10	0.05	10	0.05	25	0.25
Rajula	Groundnut	70	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Sesame	50	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25	125	1.25
	Castor	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
Savar Kundala	Groundnut	70	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Cotton	60	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sesame	50	50	0.25	50	0.25	50	0.25	50	0.25	50	0.25	125	1.25
	Castor	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
Total		**1780**	**1990**	**17.70**	**1990**	**17.70**	**1990**	**17.70**	**1990**	**17.70**	**1990**	**17.70**	**8850**	**88.50**

***Each demonstration in 1 ha area, Demonstration cost @ 0.01 lakh/ha**

4.16 Taluka wise Integrated Nutrient management demonstrations for agriculture

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

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amreli	Groundnut	40	45	0.45	45	0.45	45	0.45	45	0.45	45	0.45	225	2.25
	Cotton	40	45	0.45	45	0.45	45	0.45	45	0.45	45	0.45	225	2.25
	Wheat	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
	Castor	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Babara	Groundnut	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Wheat	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Bagasara	Groundnut	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Wheat	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
	Castor	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
Dhari	Groundnut	45	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	40	45	0.45	45	0.45	45	0.45	45	0.45	45	0.45	225	2.25
	Wheat	50	55	0.55	55	0.55	55	0.55	55	0.55	55	0.55	275	2.75
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Jafrabad	Groundnut	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Cotton	40	45	0.45	45	0.45	45	0.45	45	0.45	45	0.45	225	2.25
	Wheat	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Gram	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50

Table 4.16 Contd…

1	2	3	4	5	6	7	8	9	10	11	12	13	14	16
Khambha	Groundnut	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Wheat	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Kukavav	Groundnut	45	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	45	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Wheat	40	45	0.45	45	0.45	45	0.45	45	0.45	45	0.45	225	2.25
	Gram	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
Lathi	Groundnut	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Cotton	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Wheat	40	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Gram	25	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
Liliya	Groundnut	20	25	0.25	25	0.25	25	0.25	25	0.25	25	0.25	125	1.25
	Cotton	20	25	0.25	25	0.25	25	0.25	25	0.25	25	0.25	125	1.25
	Wheat	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Gram	20	25	0.25	25	0.25	25	0.25	25	0.25	25	0.25	125	1.25
Rajula	Groundnut	45	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Cotton	45	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Wheat	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Gram	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
	Castor	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Savar Kundala	Groundnut	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Cotton	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Wheat	50	60	0.60	60	0.60	60	0.60	60	0.60	60	0.60	300	3.00
	Gram	30	35	0.35	35	0.35	35	0.35	35	0.35	35	0.35	175	1.75
	Castor	30	40	0.40	40	0.40	40	0.40	40	0.40	40	0.40	200	2.00
Total		**1740**	**2105**	**21.05**	**2105**	**21.05**	**2105**	**21.05**	**2105**	**21.05**	**2105**	**21.05**	**10525**	**105.25**

***Each demonstration in 1 ha area, Demonstration cost @ 0.01 lakh/ha**

Table 4.17 Taluka wise crop varietal demonstrations for agriculture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conduced in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										**Total**	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amreli	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Castor	-	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Babara	Groundnut	15	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	8	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Bagasara	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Castor	-	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	1.00	1.00
Dhari	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Jafrabad	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	-	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00

Table 4.17 Contd…

Khambha	Groundnut	15	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	1.00	1.00
Kukavav	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	5	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	8	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Lathi	Groundnut	15	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	-	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Liliya	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Greengram	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	-	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	1.00	1.00
	Ajwain	-	20	0.25	20	0.25	20	0.25	20	0.25	20	0.25	100	1.25
Rajula	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Castor	-	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Savar Kundala	Groundnut	10	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Castor	-	20	0.32	20	0.32	20	0.32	20	0.32	20	0.32	100	1.60
	Sesame	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Wheat	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Ajwain	-	20	0.25	20	0.25	20	0.25	20	0.25	20	0.25	100	1.25
Total		**392**	**920**	**11.10**	**920**	**11.10**	**920**	**11.10**	**920**	**11.10**	**920**	**11.10**	**4600**	**55.50**

***Each demonstration in 1 ha area, Demonstration cost @ 0.016 lakh/ha for groundnut and castor, 0.01 lakh/ha for sesame, greengram and wheat and 0.0125 lakh/ha for ajwain**

Table 4.18 Taluka wise Bio fertilizer demonstrations for agriculture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amreli	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Babara	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Bagasara	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Dhari	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Jafrabad	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75

Table 4.18 Contd…..

Khambha	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Kukavav	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Lathi	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Liliya	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Rajula	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Savar Kundala	Groundnut	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	15	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Wheat	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
	Gram	10	15	0.15	15	0.15	15	0.15	15	0.15	15	0.15	75	0.75
Total		**660**	**935**	**9.35**	**935**	**9.35**	**935**	**9.35**	**935**	**9.35**	**935**	**9.35**	**4675**	**46.75**

***Each demonstration in 1 ha area, Demonstration cost @ 0.01 lakh/ha**

Table 4.19 Taluka wise vermicompost demonstrations for agriculture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										**Total**	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Amreli	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Babara	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Bagasara	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Dhari	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Jafrabad	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50

Table 4.19 Contd……

Khambha	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Kukavav	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Lathi	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Liliya	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Rajula	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Savar Kundala	Groundnut	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Cotton	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sesame	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Wheat	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Gram	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Total		**385**	**770**	**7.70**	**770**	**7.70**	**770**	**7.70**	**770**	**7.70**	**770**	**7.70**	**3850**	**38.50**

***Each demonstration in 1 ha area, Demonstration cost @ 0.01 lakh/ha**

Table 4.20 Planning for farmers training programme **(Phy-no. Fin. Lakh Rs.)**

Name of Technology to be transferred	Cost/ Training Rs.*	Projections (Financial target in Lakh Rupees)										Total
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
1. Soil health management	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
2. Increasing seed replacement ratio of major crops	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
3. Plant health management	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
4. Agro processing	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
5. Organic farming	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
6. Installation and maintenance of drip Irrigation	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
7. Production technology of groundnut	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
8. Production technology of cotton	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
9. Biological control of Kharif crop	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.5**
Total	**2.25**	**90**	**22.5**	**90**	**22.5**	**90**	**22.5**	**90**	**22.5**	**90**	**22.5**	**112.5**

***30 farmers/training**

Table 4.21 Strengthening of APMC **(Phy-Area in ha, Fin-Rs. In Lakh)**

Particulars	Number 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
Strengthening of APMC	2	50	2	50	2	50	2	50	2	50	10	250
New APMC	2	150	2	150	2	150	2	150	2	150	10	750
Total	**4**	**200**	**4**	**200**	**4**	**200**	**4**	**200**	**4**	**200**	**20**	**1000**

Table 4.22 Seed planning/Seed village programme (Seed production enhancement)

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

Name of Crop	No. of Villages/ year in taluka	Seed rate (kg/ha)	2012-13		2013-14		2014-15		2015-16		2016-17		Total	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Wheat	20	120	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25
Gram	8	60	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Groundnut	15	120	100	12.0	100	12.0	100	12.0	100	12.0	100	12.0	500	60
Pulses	5	20	50	1.0	50	1.0	50	1.0	50	1.0	50	1.0	250	5
Bajara	5	3.750	50	1.0	50	1.0	50	1.0	50	1.0	50	1.0	250	5
Cumin	5	15	25	1.0	15	1.0	15	1.0	15	1.0	15	1.0	85	5
Sesame	10	3	20	1.0	3	1.0	3	1.0	3	1.0	3	1.0	32	5
Castor	10	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	**78**	**341.75**	**395**	**23.5**	**368**	**23.5**	**368**	**23.5**	**368**	**23.5**	**368**	**23.5**	**1867**	**117.5**

4.14 Agricultural Engineering

Due to the depletion of ground water and shortage of agricultural labour, agriculture in Amreli district has become very difficult and uneconomical. Measures to improve the ground water potential and mechanization of agriculture to solve the labour demand have become essential to make agriculture viable and remunerative.

To improve the ground water potential and to mechanize agriculture, the following components are proposed in this project.

a) Introduction of newly developed Agricultural machineries / Implements , b) Innovative Water Harvesting Structures c) Promoting concept of Mechanized Villages d) Popularization of Agricultural Mechanization through conventional machinery/ equipment e) Conventional Water Harvesting Structures, f) Soil Conservation Works and g) Water Management Works

Table 4.23 Protective Micro Irrigation Plan (Physical in ha)

Taluka	Area covered in 2011-12	2012-13 (projected)	2013-14 (projected)	2014-15 (projected)	2015-16 (projected)	2016-17 (projected)
Amreli	3190	3350	3570	3860	4020	4340
Babara	2440	2560	2740	2960	3080	3320
Bagasara	2120	2220	2380	2570	2670	2890
Dhari	3140	3300	3520	3800	3960	4280
Jafrabad	780	860	940	1020	1060	1170
Khambha	2040	2140	2290	2470	2570	2770
Kukavav	2700	2840	3030	3270	3410	3680
Lathi	1900	2000	3140	2310	2400	2600
Liliya	770	850	920	1030	1080	1160
Rajula	2360	2590	2720	2930	3160	3400
Savar Kundala	3660	3840	4100	4440	4620	4980
Total	**25100**	**26550**	**29350**	**30660**	**32030**	**34590**

Source: Gujarat Green Revolution Company office, Amreli

Table 4.24 Proposal for farm machinery and equipment/ implements **(Phy. unit/No. Fin Rs. in Lakh)**

Taluka: Amreli

Sr. No.	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	20	30	75.0	30	75.0	30	75.0	30	75.00	30	75.0	**150**	**375**
2	Tractor	6.00	50	70	420.0	70	420.0	70	420.0	70	420.0	70	420.0	**350**	**2100**
3	Rotavator	0.60	50	70	42.0	70	42.0	70	42.0	70	42.0	70	42.0	**350**	**210**
4	Cotton shredder	0.50	-	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
5	Power thresher	3.50	10	15	52.5	15	52.5	15	52.5	15	52.5	15	52.5	**75**	**262.5**
6	Plant protection equipment	0.20	700	1000	200.0	1000	200.0	1000	200.0	1000	200.0	1000	200.0	**5000**	**1000**
7	Electric pump set	0.30	80	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.30	50	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
9	Seed cum ferti. Drill	0.20	-	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	20	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
11	Groundnut decorticator	0.50	5	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1477**	**907.5**	**1477**	**907.5**	**1477**	**907.5**	**1477**	**907.5**	**1477**	**907.5**	**7385**	**4537.5**

Table 4.24 Contd…

Taluka: Babra

Sr. No.	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	20	50.0	20	50.0	20	50.0	20	50.0	20	50.0	**100**	**250**
2	Tractor	6.00	40	70	420.0	70	420.0	70	420.0	70	420.0	70	420.0	**350**	**2100**
3	Rotavator	0.60	40	70	42.0	70	42.0	70	42.0	70	42.0	70	42.0	**350**	**210**
4	Cotton shredder	0.40	-	20	8.0	20	8.0	20	8.0	20	8.0	20	8.0	**100**	**40**
5	Power thresher	3.50	15	20	70.0	20	70.0	20	70.0	20	70.0	20	70.0	**100**	**350**
6	Plant protection equipment	0.20	500	700	140.0	700	140.0	700	140.0	700	140.0	700	140.0	**3500**	**700**
7	Electric pump set	0.30	60	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
8	Oil engines	0.30	60	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
9	Seed cum ferti. Drill	0.20	-	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	-	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
11	Groundnut decorticator	0.50	-	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1152**	**832**	**1152**	**832**	**1152**	**832**	**1152**	**832**	**1152**	**832**	**5760**	**4160**

Table 4.24 Contd…

Taluka: Bagasara

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	30	75.0	30	75.0	30	75.0	30	75.0	30	75.0	**150**	**375**
2	Tractor	6.00	25	60	360.0	60	360.0	60	360.0	60	360.0	60	360.0	**300**	**1800**
3	Rotavator	0.60	25	60	36.0	60	36.0	60	36.0	60	36.0	60	36.0	**300**	**180**
4	Cotton shredder	0.50	5	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
5	Power thresher	3.50	10	15	52.5	15	52.5	15	52.5	15	52.5	15	52.5	**75**	**262.5**
6	Plant protection equipment	0.20	500	700	140.0	700	140.0	700	140.0	700	140.0	700	140.0	**3500**	**700**
7	Electric pump set	0.30	50	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.30	25	40	12.0	40	12.0	40	12.0	40	12.0	40	12.0	**200**	**60**
9	Seed cum ferti. Drill	0.20	5	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
11	Groundnut decorticator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
12	Combine harvester tractor operated	12.00	-	1	12.0	1	12.0	1	12.0	1	12.0	1	12.0	**5**	**60**
	Total			**1126**	**762.5**	**1126**	**762.5**	**1126**	**762.5**	**1126**	**762.5**	**1126**	**762.5**	**5630**	**3812.5**

Table 4.24Contd…

Taluka: Dhari

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	15	30	75.0	30	75.0	30	75.0	30	75.0	30	75.0	**150**	**375**
2	Tractor	6.00	50	70	420.0	70	420.0	70	420.0	70	420.0	70	420.0	**350**	**2100**
3	Rotavator	0.60	40	70	42.0	70	42.0	70	42.0	70	42.0	70	42.0	**350**	**210**
4	Cotton shredder	0.50	-	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
5	Power thresher	3.50	-	10	35.0	10	35.0	10	35.0	10	35.0	10	35.0	**50**	**175**
6	Plant protection equipment	0.20	750	1000	200.0	1000	200.0	1000	200.0	1000	200.0	1000	200.0	**5000**	**1000**
7	Electric pump set	0.30	80	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.30	50	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
9	Seed cum ferti. Drill	0.20	30	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	10	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
11	Groundnut decorticator	0.50	5	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
	Total			**1470**	**866**	**1470**	**866**	**1470**	**866**	**1470**	**866**	**1470**	**866**	**7350**	**4330**

Table 4.24Contd…

Taluka: Jafrabad

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	5	20	50.0	20	50.0	20	50.0	20	50.0	20	50.0	**100**	**250**
2	Tractor	6.00	10	15	90.0	15	90.0	15	90.0	15	90.0	15	90.0	**75**	**450**
3	Rotavator	0.60	5	20	12.0	20	12.0	20	12.0	20	12.0	20	12.0	**100**	**60**
4	Cotton shredder	0.50	-	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
5	Power thresher	3.50	-	5	17.5	5	17.5	5	17.5	5	17.5	5	17.5	**25**	**87.5**
6	Plant protection equipment	0.20	300	500	100.0	500	100.0	500	100.0	500	100.0	500	100.0	**2500**	**500**
7	Electric pump set	0.30	30	50	15.0	50	15.0	50	15.0	50	15.0	50	15.0	**250**	**75**
8	Oil engines	0.30	10	20	6.0	20	6.0	20	6.0	20	6.0	20	6.0	**100**	**30**
9	Seed cum ferti. Drill	0.20	-	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10**
10	Cultivator	0.50	-	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
11	Groundnut decorticator	0.50	5	5	2.5	5	2.5	5	2.5	5	2.5	5	2.5	**25**	**12.5**
	Total			**665**	**305**	**665**	**305**	**665**	**305**	**665**	**305**	**665**	**305**	**3325**	**1525**

Table 4.24 Contd…

Taluka: Khambha

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										Total	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	20	50.0	20	50.0	20	50.0	20	50.0	20	50.0	**100**	**250**
2	Tractor	6.00	10	20	120.0	20	120.0	20	120.0	20	120.0	20	120.0	**100**	**600**
3	Rotavator	0.60	10	20	12.0	20	12.0	20	12.0	20	12.0	20	12.0	**100**	**60**
4	Cotton shredder	0.50	-	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
5	Power thresher	3.50	-	10	35.0	10	35.0	10	35.0	10	35.0	10	35.0	**50**	**175**
6	Plant protection equipment	0.20	500	700	140.0	700	140.0	700	140.0	700	140.0	700	140.0	**3500**	**700**
7	Electric pump set	0.30	50	75	22.5	75	22.5	75	22.5	75	22.5	75	22.5	**375**	**112.5**
8	Oil engines	0.30	50	50	15.0	50	15.0	50	15.0	50	15.0	50	15.0	**250**	**75**
9	Seed cum ferti. Drill	0.20	-	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
11	Groundnut decorticator	0.50	5	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	1	12.0	1	12.0	1	12.0	1	12.0	1	12.0	**5**	**60**
	Total			**1006**	**446.5**	**1006**	**446.5**	**1006**	**446.5**	**1006**	**446.5**	**1006**	**446.5**	**5030**	**2232.5**

Table 4.24 Contd…

Taluka: Kukavav

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	20	50.0	20	50.0	20	50.0	20	50.0	20	50.0	**100**	**250**
2	Tractor	6.00	30	50	300.0	50	300.0	50	300.0	50	300.0	50	300.0	**250**	**1500**
3	Rotavator	0.60	30	50	30.0	50	30.0	50	30.0	50	30.0	50	30.0	**250**	**150**
4	Cotton shredder	0.50	-	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
5	Power thresher	3.50	10	20	70.0	20	70.0	20	70.0	20	70.0	20	70.0	**100**	**350**
6	Plant protection equipment	0.20	700	1000	200.0	1000	200.0	1000	200.0	1000	200.0	1000	200.0	**5000**	**1000**
7	Electric pump set	0.30	70	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.30	30	50	15.0	50	15.0	50	15.0	50	15.0	50	15.0	**250**	**75**
9	Seed cum ferti. Drill	0.20	-	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
11	Groundnut decorticator	0.50	5	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1392**	**754**	**1392**	**754**	**1392**	**754**	**1392**	**754**	**1392**	**754**	**6960**	**3770**

Table 4.24 Contd…

Taluka: Lathi

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	20	50.0	20	50.0	20	50.0	20	50.0	20	50.0	**100**	**250**
2	Tractor	6.00	30	50	300.0	50	300.0	50	300.0	50	300.0	50	300.0	**250**	**1500**
3	Rotavator	0.60	30	50	30.0	50	30.0	50	30.0	50	30.0	50	30.0	**250**	**150**
4	Cotton shredder	0.50	-	25	12.5	25	12.5	25	12.5	25	12.5	25	12.5	**125**	**62.5**
5	Power thresher	3.50	10	20	70.0	20	70.0	20	70.0	20	70.0	20	70.0	**100**	**350**
6	Plant protection equipment	0.20	700	1000	200.0	1000	200.0	1000	200.0	1000	200.0	1000	200.0	**5000**	**1000**
7	Electric pump set	0.30	70	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.30	30	50	15.0	50	15.0	50	15.0	50	15.0	50	15.0	**250**	**75**
9	Seed cum ferti. Drill	0.20	-	30	6.0	30	6.0	30	6.0	30	6.0	30	6.0	**150**	**30**
10	Cultivator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
11	Groundnut decorticator	0.50	5	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1377**	**752.5**	**1377**	**752.5**	**1377**	**752.5**	**1377**	**752.5**	**1377**	**752.5**	**6885**	**3762.5**

Table 4.24 Contd…

Taluka: Liliya

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	5	10	25.0	10	25.0	10	25.0	10	25.0	10	25.0	**50**	**125**
2	Tractor	6.00	10	15	90.0	15	90.0	15	90.0	15	90.0	15	90.0	**75**	**450**
3	Rotavator	0.60	10	15	9.0	15	9.0	15	9.0	15	9.0	15	9.0	**75**	**45**
4	Cotton shredder	0.50	-	15	7.5	15	7.5	15	7.5	15	7.5	15	7.5	**75**	**37.5**
5	Power thresher	3.50	-	5	17.5	5	17.5	5	17.5	5	17.5	5	17.5	**25**	**87.5**
6	Plant protection equipment	0.20	250	500	100.0	500	100.0	500	100.0	500	100.0	500	100.0	**2500**	**500**
7	Electric pump set	0.30	30	60	18.0	60	18.0	60	18.0	60	18.0	60	18.0	**300**	**90**
8	Oil engines	0.30	20	25	7.5	25	7.5	25	7.5	25	7.5	25	7.5	**125**	**37.5**
9	Seed cum ferti. Drill	0.20	10	25	5.0	25	5.0	25	5.0	25	5.0	25	5.0	**125**	**25**
10	Cultivator	0.50	-	15	7.5	15	7.5	15	7.5	15	7.5	15	7.5	**75**	**37.5**
11	Groundnut decorticator	0.50	-	5	2.5	5	2.5	5	2.5	5	2.5	5	2.5	**25**	**12.5**
12	Combine harvester tractor operated	12.00	-	1	12.0	1	12.0	1	12.0	1	12.0	1	12.0	**5**	**60**
	Total			**691**	**301.5**	**691**	**301.5**	**691**	**301.5**	**691**	**301.5**	**691**	**301.5**	**3455**	**1507.5**

Table 4.24 Contd…

Taluka: Rajula

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	10	15	37.5	15	37.5	15	37.5	15	37.5	15	37.5	**75**	**187.5**
2	Tractor	6.00	40	70	420.0	70	420.0	70	420.0	70	420.0	70	420.0	**350**	**2100**
3	Rotavator	0.60	30	70	42.0	70	42.0	70	42.0	70	42.0	70	42.0	**350**	**210**
4	Cotton shredder	0.50	-	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
5	Power thresher	3.50	-	10	35.0	10	35.0	10	35.0	10	35.0	10	35.0	**50**	**175**
6	Plant protection equipment	0.20	800	1000	200.0	1000	200.0	1000	200.0	1000	200.0	1000	200.0	**5000**	**1000**
7	Electric pump set	0.30	100	150	45.0	150	45.0	150	45.0	150	45.0	150	45.0	**750**	**225**
8	Oil engines	0.30	60	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
9	Seed cum ferti. Drill	0.20	30	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.50	10	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
11	Groundnut decorticator	0.50	-	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	**50**	**25**
12	Combine harvester tractor operated	12.00	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1507**	**857.5**	**1507**	**857.5**	**1507**	**857.5**	**1507**	**857.5**	**1507**	**857.5**	**7535**	**4337.5**

Table 4.24 Contd…

Taluka: Savarkundala

S/N	Item	unit/ cost Rs.	Equipment supplied in 11-12	Farm machinery and implement projections (Financial target in lakh Rupees)										**Total**	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Mini tractor	2.5	25	30	75.0	30	75.0	30	75.0	30	75.0	30	75.0	**150**	**375**
2	Tractor	6.0	40	70	420.0	70	420.0	70	420.0	70	420.0	70	420.0	**350**	**2100**
3	Rotavator	0.6	50	70	42.0	70	42.0	70	42.0	70	42.0	70	42.0	**350**	**210**
4	Cotton shredder	0.5	-	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	**100**	**50**
5	Power thresher	3.5	15	20	70.0	20	70.0	20	70.0	20	70.0	20	70.0	**100**	**350**
6	Plant protection equipment	0.2	1000	1200	240.0	1200	240.0	1200	240.0	1200	240.0	1200	240.0	**6000**	**1200**
7	Electric pump set	0.3	75	100	30.0	100	30.0	100	30.0	100	30.0	100	30.0	**500**	**150**
8	Oil engines	0.3	60	80	24.0	80	24.0	80	24.0	80	24.0	80	24.0	**400**	**120**
9	Seed cum ferti. Drill	0.2	-	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50**
10	Cultivator	0.5	30	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75**
11	Groundnut decorticator	0.5	8	15	7.5	15	7.5	15	7.5	15	7.5	15	7.5	**75**	**37.5**
12	Combine harvester tractor operated	12.0	-	2	24.0	2	24.0	2	24.0	2	24.0	2	24.0	**10**	**120**
	Total			**1687**	**967.5**	**1687**	**967.5**	**1687**	**967.5**	**1687**	**967.5**	**1687**	**967.5**	**8435**	**4837.5**
	Total (All Talukas)			**13550**	**7752.5**	**13550**	**7752.5**	**13550**	**7752.5**	**13550**	**7752.5**	**13550**	**7752.5**	**67750**	**38812.5**

Table 4.25 Proposal for Water harvesting structure **(Phy. unit/No. Fin Rs. in Lakh)**

Taluka	Item	unit/ cost Rs.	Water harvesting structures projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Check dam	6.00	10	60.00	10	60.00	10	60.00	10	60.00	10	60.00	**50**	**300**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	200	40.00	200	40.00	200	40.00	200	40.00	200	40.00	**1000**	**200**
Babra	Check dam	6.00	15	90.00	15	90.00	15	90.00	15	90.00	15	90.00	**75**	**450**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	50	200.00	50	200.00	50	200.00	50	200.00	50	200.00	**250**	**1000**
	Under ground tank	1.50	50	75.00	50	75.00	50	75.00	50	75.00	50	75.00	**250**	**375**
	Bore & Well recharging	0.20	200	40.00	200	40.00	200	40.00	200	40.00	200	40.00	**1000**	**200**
Bagasara	Check dam	6.00	15	90.00	15	90.00	15	90.00	15	90.00	15	90.00	**75**	**450**
	Percolation pond	1.00	80	80.00	80	80.00	80	80.00	80	80.00	80	80.00	**400**	**400**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	200	40.00	200	40.00	200	40.00	200	40.00	200	40.00	**1000**	**200**
Dhari	Check dam	6.00	15	90.00	15	90.00	15	90.00	15	90.00	15	90.00	**75**	**450**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	300	60.00	300	60.00	300	60.00	300	60.00	300	60.00	**1500**	**300**

Table 4.25 Contd……

Taluka	Item	unit/ cost Rs.	Water harvesting structures projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Jafrabad	Check dam	6.00	4	24.00	4	24.00	4	24.00	4	24.00	4	24.00	**20**	**120**
	Percolation pond	1.00	30	30.00	30	30.00	30	30.00	30	30.00	30	30.00	**150**	**150**
	Farm pond	4.00	15	60.00	15	60.00	15	60.00	15	60.00	15	60.00	**75**	**300**
	Under ground tank	1.50	50	75.00	50	75.00	50	75.00	50	75.00	50	75.00	**250**	**375**
	Bore & Well recharging	0.20	80	16.00	80	16.00	80	16.00	80	16.00	80	16.00	**400**	**80**
Khambha	Check dam	6.00	10	60.00	10	60.00	10	60.00	10	60.00	10	60.00	**50**	**300**
	Percolation pond	1.00	80	80.00	80	80.00	80	80.00	80	80.00	80	80.00	**400**	**400**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	200	40.00	200	40.00	200	40.00	200	40.00	200	40.00	**1000**	**200**
Kukavav	Check dam	6.00	5	30.00	5	30.00	5	30.00	5	30.00	5	30.00	**25**	**150**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	150	30.00	150	30.00	150	30.00	150	30.00	150	30.00	**750**	**150**
Lathi	Check dam	6.00	5	30.00	5	30.00	5	30.00	5	30.00	5	30.00	**25**	**150**
	Percolation pond	1.00	40	40.00	40	40.00	40	40.00	40	40.00	40	40.00	**200**	**200**
	Farm pond	4.00	50	200.00	50	200.00	50	200.00	50	200.00	50	200.00	**250**	**1000**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	160	32.00	160	32.00	160	32.00	160	32.00	160	32.00	**800**	**160**

Table 4.25 Contd……

Taluka	Item	unit/ cost Rs.	Water harvesting structures projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Liliya	Check dam	6.00	3	18.00	3	18.00	3	18.00	3	18.00	3	18.00	**15**	**90**
	Percolation pond	1.00	20	20.00	20	20.00	20	20.00	20	20.00	20	20.00	**100**	**100**
	Farm pond	4.00	15	60.00	15	60.00	15	60.00	15	60.00	15	60.00	**75**	**300**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	100	20.00	100	20.00	100	20.00	100	20.00	100	20.00	**500**	**100**
Rajula	Check dam	6.00	15	90.00	15	90.00	15	90.00	15	90.00	15	90.00	**75**	**450**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	30	120.00	30	120.00	30	120.00	30	120.00	30	120.00	**150**	**600**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	200	40.00	200	40.00	200	40.00	200	40.00	200	40.00	**1000**	**200**
Savar Kundla	Check dam	6.00	10	60.00	10	60.00	10	60.00	10	60.00	10	60.00	**50**	**300**
	Percolation pond	1.00	50	50.00	50	50.00	50	50.00	50	50.00	50	50.00	**250**	**250**
	Farm pond	4.00	50	200.00	50	200.00	50	200.00	50	200.00	50	200.00	**250**	**1000**
	Under ground tank	1.50	100	150.00	100	150.00	100	150.00	100	150.00	100	150.00	**500**	**750**
	Bore & Well recharging	0.20	300	60.00	300	60.00	300	60.00	300	60.00	300	60.00	**1500**	**300**
	Total		**4107**	**4550**	**4107**	**4550**	**4107**	**4550**	**4107**	**4550**	**4107**	**4550**	**20535**	**22750**

Table 4.26 Proposal for Soil conservation work **(Phy. unit/No. Fin Rs. in Lakh)**

Taluka	Item	unit/ cost Rs.	Soil conservation work projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Compartmental bounding	0.20	100	20.0	100	20.0	100	20.0	100	20.0	100	20.0	**500**	**100.0**
	Land shaping (ha)	0.50	50	25.0	50	25.0	50	25.0	50	25.0	50	25.0	**250**	**125.0**
Babra	Compartmental bounding	0.20	150	30.0	150	30.0	150	30.0	150	30.0	150	30.0	**750**	**150.0**
	Land shaping (ha)	0.50	80	40.0	80	40.0	80	40.0	80	40.0	80	40.0	**400**	**200.0**
	Terrace support wall (ha)	1.00	50	50.0	50	50.0	50	50.0	50	50.0	50	50.0	**250**	**250.0**
Bagasara	Compartmental bounding	0.20	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50.0**
	Land shaping (ha)	0.50	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75.0**
Dhari	Compartmental bounding	0.20	150	30.0	150	30.0	150	30.0	150	30.0	150	30.0	**750**	**150.0**
	Land shaping (ha)	0.50	80	40.0	80	40.0	80	40.0	80	40.0	80	40.0	**400**	**200.0**
	Terrace support wall (ha)	1.00	60	60.0	60	60.0	60	60.0	60	60.0	60	60.0	**300**	**300.0**
Jafrabad	Compartmental bounding	0.20	40	8.0	40	8.0	40	8.0	40	8.0	40	8.0	**200**	**40.0**
	Land shaping (ha)	0.50	40	20.0	40	20.0	40	20.0	40	20.0	40	20.0	**200**	**100.0**
	Terrace support wall (ha)	1.00	30	30.0	30	30.0	30	30.0	30	30.0	30	30.0	**150**	**150.0**
Khambha	Compartmental bounding	0.20	110	22.0	110	22.0	110	22.0	110	22.0	110	22.0	**550**	**110.0**
	Land shaping (ha)	0.50	150	75.0	150	75.0	150	75.0	150	75.0	150	75.0	**750**	**375.0**
	Terrace support wall (ha)	1.00	60	60.0	60	60.0	60	60.0	60	60.0	60	60.0	**300**	**300.0**

Table 4.26 Contd…

Taluka	Item	unit/ cost Rs.	Soil conservation work projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Kukavav	Compartmental bounding	0.20	30	6.0	30	6.0	30	6.0	30	6.0	30	6.0	**150**	**30.0**
	Land shaping (ha)	0.50	30	15.0	30	15.0	30	15.0	30	15.0	30	15.0	**150**	**75.0**
Lathi	Compartmental bounding	0.20	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50.0**
	Land shaping (ha)	0.50	50	25.0	50	25.0	50	25.0	50	25.0	50	25.0	**250**	**125.0**
	Terrace support wall (ha)	1.00	30	30.0	30	30.0	30	30.0	30	30.0	30	30.0	**150**	**150.0**
Liliya	Compartmental bounding	0.20	50	10.0	50	10.0	50	10.0	50	10.0	50	10.0	**250**	**50.0**
	Terrace support wall (ha)	1.00	60	60.0	60	60.0	60	60.0	60	60.0	60	60.0	**300**	**300.0**
Rajula	Compartmental bounding	0.20	100	20.0	100	20.0	100	20.0	100	20.0	100	20.0	**500**	**100.0**
	Land shaping (ha)	0.50	100	50.0	100	50.0	100	50.0	100	50.0	100	50.0	**500**	**250.0**
	Terrace support wall (ha)	1.00	80	80.0	80	80.0	80	80.0	80	80.0	80	80.0	**400**	**400.0**
Savar Kundla	Compartmental bounding	0.20	100	20.0	100	20.0	100	20.0	100	20.0	100	20.0	**500**	**100.0**
	Land shaping (ha)	0.50	100	50.0	100	50.0	100	50.0	100	50.0	100	50.0	**500**	**250.0**
	Terrace support wall (ha)	1.00	80	80.0	80	80.0	80	80.0	80	80.0	80	80.0	**400**	**400.0**
	Total		**2090**	**991**	**2090**	**991**	**2090**	**991**	**2090**	**991**	**2090**	**991**	**10450**	**4955.0**

Table 4.27 Proposal for Water management works **(Phy. unit/No. Fin Rs. in Lakh)**

Taluka	Item	unit/ cost Rs.		Water management work projections (Financial target in lakh Rupees)										Total	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	PVC pipe laying	0.20	20	30	6.0	30	6.0	30	6.0	30	6.0	30	6.0	**150**	**30.0**
	Ground level reservoir	1.00	20	30	30.0	30	30.0	30	30.0	30	30.0	30	30.0	**150**	**150.0**
	Fertigation assembly	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
Babra	PVC pipe laying	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	10	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	5	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
Bagasara	PVC pipe laying	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	10	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	5	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
Dhari	PVC pipe laying	0.20	5	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	10	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
Jafrabad	PVC pipe laying	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	5	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	5	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
Khambha	PVC pipe laying	0.20	5	15	3.0	15	3.0	15	3.0	15	3.0	15	3.0	**75**	**15.0**
	Ground level reservoir	1.00	5	15	15.0	15	15.0	15	15.0	15	15.0	15	15.0	**75**	**75.0**
	Fertigation assembly	0.20	5	15	3.0	15	3.0	15	3.0	15	3.0	15	3.0	**75**	**15.0**

Table 4.27 Contd…..

Taluka	Item	unit/ cost Rs.		Water management work projections (Financial target in lakh Rupees)										Total	
				2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Kukavav	PVC pipe laying	0.20	10	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
	Ground level reservoir	1.00	5	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	**50**	**50.0**
	Fertigation assembly	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
Lathi	PVC pipe laying	0.20	15	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	15	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
Liliya	PVC pipe laying	0.20	8	15	3.0	15	3.0	15	3.0	15	3.0	15	3.0	**75**	**15.0**
	Ground level reservoir	1.00	20	25	25.0	25	25.0	25	25.0	25	25.0	25	25.0	**125**	**125.0**
	Fertigation assembly	0.20	10	15	3.0	15	3.0	15	3.0	15	3.0	15	3.0	**75**	**15.0**
Rajula	PVC pipe laying	0.20	10	15	3.0	15	3.0	15	3.0	15	3.0	15	3.0	**75**	**15.0**
	Ground level reservoir	1.00	5	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	**50**	**50.0**
	Fertigation assembly	0.20	5	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
Savar Kundla	PVC pipe laying	0.20	10	20	4.0	20	4.0	20	4.0	20	4.0	20	4.0	**100**	**20.0**
	Ground level reservoir	1.00	10	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	**100**	**100.0**
	Fertigation assembly	0.20	5	10	2.0	10	2.0	10	2.0	10	2.0	10	2.0	**50**	**10.0**
	Total			**575**	**283**	**575**	**283**	**575**	**283**	**575**	**283**	**575**	**283**	**2875**	**1415.0**

Table 4.28 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
Amreli	82228	11225	11225	11225	11225	11225
Babara	79300	21701	21701	21701	21701	21701
Bagasara	33562	-	9506	9506	9506	9506
Dhari	103497	2751	2751	2751	2751	2751
Jafrabad	35471	-	8868	8868	8868	8868
Khambha	61114	-	15278	15278	15278	15278
Kukavav	55557	3653	3653	3653	3653	3653
Lathi	63377	17712	17712	17712	17712	17712
Liliya	39500	14063	14063	14063	14063	14063
Rajula	64734	-	16184	16184	16184	16184
Savar Kundala	120910	44620	44620	44620	44620	44620
Total	739232	115725	165561	165561	165561	165561
Amount Rs. In lakh		5786	8278	8278	8278	8278

Table 4.29 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 Amount per year
	No.	Amount as per year	No.	Amount as per year	No.	Amount as per year	No.	Amount as per year	
Amreli	10	70	300	4.50	200	50.00	2	8.00	132.50
Babara	10	70	300	4.50	200	50.00	2	8.00	132.50
Bagasara	8	56	250	3.75	100	25.00	2	8.00	92.75
Dhari	10	70	300	4.50	200	50.00	2	8.00	132.50
Jafrabad	10	70	300	4.50	200	50.00	2	8.00	132.50
Khambha	10	70	300	4.50	200	50.00	2	8.00	132.50
Kukavav	8	56	250	3.75	100	25.00	2	8.00	92.75
Lathi	8	56	250	3.75	100	25.00	2	8.00	92.75
Liliya	8	56	250	3.75	100	25.00	2	8.00	92.75
Rajula	10	70	300	4.50	200	50.00	2	8.00	132.50
Savar Kundala	12	84	350	5.25	250	62.50	2	8.00	159.75
Total	**104**	**728**	**3150**	**47.25**	**1850**	**462.5**	**22**	**88**	**1325.75**

Table 4.30 Establishment of Rural godown

(Fin. in lakh Rs.)

Sr.no	Taluka	Existing (2011-12)		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		Total	
		No	capacity(MT)	No	Fin	No	Fin	No	Fin	No	Fin	No	Fin	No	Fin
1	Amreli	6	5000	20	14.00	25	17.50	25	17.50	30	21.00	30	21.00	130	91.00
2	Babara	4	4000	10	7.00	15	10.50	15	10.50	20	14.00	20	14.00	80	56.00
3	Bagasara	4	4000	20	14.00	25	17.50	25	17.50	30	21.00	30	21.00	130	91.00
4	Dhari	6	5000	20	14.00	25	17.50	25	17.50	30	21.00	30	21.00	130	91.00
5	Jafrabad	4	4000	20	14.00	25	17.50	25	17.50	30	21.00	30	21.00	130	91.00
6	Khambha	4	4000	10	7.00	15	10.50	15	10.50	20	14.00	20	14.00	80	56.00
7	Kukavav	4	4000	10	7.00	15	10.50	15	10.50	20	14.00	20	14.00	80	56.00
8	Lathi	4	4000	10	7.00	15	10.50	15	10.50	20	14.00	20	14.00	80	56.00
9	Liliya	4	4000	10	7.00	15	10.50	15	10.50	20	14.00	20	14.00	80	56.00
10	Rajula	6	5000	20	14.00	25	17.50	25	17.50	30	21.00	30	21.00	130	91.00
11	Savar Kundala	6	5000	25	17.50	30	21.00	30	21.00	35	24.50	35	24.50	155	108.50
	Total	**52**	**48000**	**175**	**122.5**	**230**	**161**	**230**	**161**	**285**	**199.5**	**285**	**199.5**	**1205**	**843.5**

Table 4.31 Capacity Bounding for agricultural Engineering next 5 years. (Phy No of training Fin Rs. in Lakh)

Sr. No	Project component	No of training	Cost/ training	2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		Total
				Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
1	Installation and maintenance of drip irrigation	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
2	Use of plastic in Agric.	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
3	Training of Bio gas plants	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
4	Water shed management	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
5	Energy conservation in Agric.	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
6	Bio compost of Farm waste	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
7	Post-harvest technology	30	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	**12.50**
	Total	**210**	**1.75**	**70**	**17.50**	**70**	**17.50**	**70**	**17.50**	**70**	**17.50**	**70**	**17.50**	**87.50**

CHAPTER V

DEVELOPMENT OF ALLIED SECTOR

Introduction

Development of allied agricultural sectors has been incorporated as a component of District Agricultural Plan so as to ensure a holistic development of Amreli district. In this chapter, various ongoing schemes and technological interventions required for the development of agriculture allied sectors like horticulture, animal husbandry, fisheries, agricultural engineering, agricultural marketing and agri-business and water resources for Amreli district are discussed.

5.1 Horticulture

The area,production and productivity of fruits vegetables and spices in Amreli district and Gujarat State(year 2010-11) are shown in Table 5.1, 5.2and 5.3, respectively.The on-going schemes for horticultural development in Amreli district (Table 5.4)would throw light on the current status and the priorities to be given for future horticultural development. The details about present progress in polyhouse/net house technology and facilities available for Agri-Poly Clinic in the district are given in Table 5.5 to 5.6. There is a need to promote high tech horticulture through constructing low cost polyhouse/net house in the district. The issues related to yield gap and/or sustainability and strategies for bridging these gaps are summarized in Table 5.7and 5.8.

Table 5.1 Area, Production and productivity of various fruit crops in Amreli district (2010-11)

(Area in ha. Production in MT, productivity in MT/ha)

Sr. No.	Crop	Amreli			Gujarat State		
		Area	Prod.	Productivity	Area	Prod.	Productivity
1	Mango	6480	40500	6.25	130019	911302	7.01
2	Chiku	565	4379	7.75	28800	287989	10.00
3	Citrus	440	3806	8.65	39189	409134	10.44
4	Ber	165	1559	9.45	12261	128533	10.48
5	Banana	35	1138	32.51	64680	3978023	61.50
6	Guava	245	2266	9.25	10222	150741	14.75
7	Pomegranate	5	31	6.20	5795	60338	10.41
8	Papaya	30	1110	37.00	17796	973973	54.73
9	Custard apple	20	128	6.40	5381	55621	10.34
10	Aonla	60	525	8.75	12481	121514	9.74
11	Coconut	146	1190	8.50	20099	206780	10.29
12	Others	1.5	98	6.53	6298	42913	6.81
	Total	**8192.5**	**56730**	**147.24**	**353021**	**7326861**	**216.5**

Table 5.2 Area, Production and productivity of various vegetable crops in Amreli district (2010-11)
(Area in ha. Production in MT, productivity in MT/ha)

Sr. No.	Crop	Amreli			Gujarat State		
		Area	Prod.	Productivity	Area	Prod.	Productivity
1	Onion	6500	195000	30.00	62010	1514091	24.42
2	Brinjal	2900	49300	17.00	72008	1236265	17.17
3	Cabbage	395	7505	19.00	28204	553559	19.63
4	Okara	1800	11700	6.50	54458	592512	10.88
5	Tomato	2100	35700	17.00	38802	978438	25.22
6	Cauliflower	250	47.50	19.00	21104	387413	18.36
7	Cluster bean	2050	12300	6.00	30962	283466	9.16
8	Cowpea	1600	12800	8.00	23954	247862	10.35
9	Cucurbits	1100	5782	5.26	52809	766361	14.51
10	Others	1400	9240	6.60	66288	937700	14.15
	Total	**20095**	**339374.5**	**134.36**	**450599**	**7497667**	**163.85**

Table 5.3 Area, Production and productivity of various Spices in Amreli district (2010-11)
(Area in ha. Production in MT, productivity in MT/ha)

Sr. No.	Crop	Amreli			Gujarat State		
		Area	Prod.	Productivity	Area	Prod.	Productivity
1	Cumin	9500	5225	0.55	292847	219215	0.75
2	Fennel	5	4	0.80	52809	97504	1.85
3	Chilli Dry	175	193	1.10	38670	38050	1.24
	Green		560	3.20		223020	5.77
4	Garlic	3299	20124	6.10	35898	250085	6.97
5	Coriander	298	209	0.70	20561	32634	1.59
6	Turmeric	5	75	15.0	1936	28468	14.70
7	Fenugreek	174	348	2.00	5244	13915	2.65
8	Ajawan	25	15	0.60	5299	4334	0.82
	Total	**13481**	**26753**	**30.05**	**453264**	**907225**	**36.34**

Table 5.4 On-going Schemes for Horticulture Development and state and central sector

Sr No.	Name of Scheme	Type of Activity	
		Extension component	Development Component
1	Production of seedlings grafts of horticulture crops	Area expansion demonstration	Demonstration of planting material
2	Development of small orchards	Area expansion	Production and maintenance of fruit crops
3	Modernization of old orchards	Training	Maintenance of fruit crops
4	Farm pond establishment	-	Water resources.
5	Secured farming	Green house plastic mulching and shade net	Drip irrigation sets sprinklers sets
6	INM / IPM	Farmers training Block demonstration IPM demonstration INM demonstration Micronutrient	P.P. equipment Solar trap Pheromone trap Organic manure Production of parasites
7	Organic farming	Demonstration Vermicopost Biofertilizers	Organic manure P.S.B., Azospirilum Tricodarma and methyle
8	Human resource development scheme	-	Technology development Resource development
9	Front line demonstration	Demonstration	Certified seed Seeding / Graft Drip irrigation set

Source : SREP of Amreli district, ATMA, Amreli.

Table 5.5 Taluka wise poly house/net house in the District

Taluka	Poly house (no.)	Net house (no.)
Amreli	1	5
Babara	-	3
Bagasara	-	7
Dhari	-	4
Jafrabad	-	-
Khambha	-	1
Kukavav	4	-
Lathi	-	7
Liliya	-	-
Rajula	-	-
Savar Kundala	-	2

Source: Department of horticulture, Amreli

Table 5.6 Facilities available for Agri- Poly Clinic

Sr. No	Particulars	Amreli	Babara	Bagasar	Dhari	Jafraba	Khamb	Kukava	Lathi	Liliya	Rajula	Savar Kundal
1.	No. of Agri-polyclinic	2	-	-	2	-	-	-	-	-	-	-
2.	Facilities available (yes/no)											
a)	Farmer's training	√	-	-	-	-	-	-	-	-	-	-
b)	Demonstration	√	√	√	√	√	√	√	√	√	√	√
c)	Diagnosis of soil and water samples	√	√	-	√	-	-	-	-	-	√	√
d)	Diagnosis of pest and disease	√	√	√	√	√	√	√	√	√	√	√
e)	Production of vermin-compost	√	-	√	-	-	-	-	-	-	-	-
f)	Green house	√	√	-	-	-	-	-	-	-	-	-
g)	Dormitory facility	√	√	-	-	-	-	-	-	-	-	-
h)	Library	√	-	-	-	-	-	-	-	-	-	-
i)	crop Museum	√	-	-	-	-	-	-	-	-	-	-
j)	Computer	√	√	√	√	√	√	√	√	√	√	√
3.	Farmers benefited/year	15000	-	-	5000							

Poly House

Table 5.7 Sustainability issues and gap analysis of productivity of different crops and resources

Sr. No.	Crop	Factors/Constrains leading to gap	Strategies	Approach and methodology	Performance indicators	Sustainability outputs
1	**Vegetables**					
	Comparatively low area under vegetable crops	Lack of continuous irrigation facility 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 vegetable crop	Increase the income of the farmers and secure the livelihoods.
	Poor management in roof top cultivation	Limited availability of water and lack of awareness regarding roof top cultivation	Popularize the importance of nutritional security	Creating awareness and adoption of roof top cultivation with low energy drip through demonstrations, training, shibir, literature etc	Strengthening roof top cultivation practices	Improvement in health of rural people
2	**Papaya**					
	Problems of insect pests and diseases	Incidence of papaya mosaic, stem rot disease and whitefly infestation	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
	Management of crop residue	High cost of labour and problem of disposal	Popularize the use of papaypa stem and converting in compost	Creating awareness for shredder and converting it in compost through demonstrations, training, shibir, literature etc	Proper use of crop residue	Improvement in soil health

Table 5.7 Contd..

	Non adoption of Value added product from Papaya	Lack of awareness and high cost of the processing plant	2. Popularize the preparation of value added products pappin and tutifuti from green fruits	Motivate and provide incentives to the farmers for establishing papapya pappin unit and other value added products	Proper utilization of crop residue and increase income of the farmers	Remunerative price and employment generation
	Low post harvest management in papaya	Lack of awareness and high cost of the processing plant	Establishment of ripening chamber and packaging unit	Establishment of ripening chamber and packaging unit on co-operative basis	Increase in keeping quality for foreign market	Increase income of the farmers.
3	**Plantation crops**					
	Less area under fruit crops	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
4	**Floriculture**					
	Negligible area under flower crops	Lack of awareness, small land holdings, limited irrigation facility and marketing of the produce	Popularize flower trees for sustainable income in identified area and market linking	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**					
	Negligible area under medicinal, aromatic and spices crops	Lack of awareness, small land holdings, limited irrigation facility and marketing of the produce	Popularize medicinal aromatic and spices crops for sustainable income in identified area and market linking	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 5.8 Bridging the gaps for realizing the Vision- Horticulture sector

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 balance fertilizers
	Mechanization in vegetable crops	Educating the farmers about the mechanization in vegetable crops.
	Cold storage	Establishment of cold storage at taluka level
	Market linkages	Strengthening market linkages through AGMARK net
	Collection centres	Establishment of collection centres
	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 saplings, grafting, 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 use of plant protection equipment	Educate the farmers about proper use of plant protection equipments
	Ripening chambers	Establishment of banana ripening chamber
	Banana pack house	Establishment of banana pack house
	Value addition	Establishment of banana fiber production units, Establishment of wafer production units
	Recycling of banana residue	Converting of banana residue in small pieces through shredders and using it for composting
	Coco-peat and kernel water unit	Establishment of Coco-peat and kernel water unit
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**	
	Organic farming	Educating farmers through demonstration and training in cluster approach
	Medicinal and aromatic plants	Educating farmers through demonstration and training in cluster approach

Mango, sapota, citrus are the important fruit crops of the district, whereas onion, chilli, brinjal and okara are the major vegetable crops. Cumin is predominant spice crop grown in the district. The area under food crops will increase by 10 % during 12th plan (Table 5.9). Mango is most important fruit crop in the district in which rejuvenation of old tree is required. Planning of rejuvenation of mango and sapota is given in Table 5.10

Table 5.9 Area expansion plan for horticultural crops (Area in ha.)

Existing crop (2011-12)		2012-13 (projected)	2013-14 (projected)	2014-15 (projected)	2015-16 (projected)	2016-17 (projected)
Crop	Area	Area	Area	Area	Area	Area
Mango	6377	6500	6690	6820	6880	7000
Citrus	437	445	460	470	475	480
Ber	160	163	168	171	173	176
Guava	240	245	252	156	160	264
Banana	35	36	37	37	38	39
Papaya	27	28	29	30	32	35

Source: Department of Horticulture, Amreli

Table 5.10 Rejuvenation plan for horticultural crops (Area in ha)

Area brought under rejuvenation (2011-12)		2012-13 (projected)	2013-14 (projected)	2014-15 (projected)	2015-16 (projected)	2016-17 (projected)
Crop	Area	Area	Area	Area	Area	Area
Mango	26.00	30.00	30.00	30.00	30.00	30.00
Sapota	5.00	5.00	5.00	5.00	5.00	5.00

Source: Department of Horticulture, Amreli

The project components and justification for taking up such projects relating to horticultural development in Amreli district are given below.

Protected cultivation of vegetables offers distinct advantages of quality, productivity and favourable market price to the growers. Vegetable growers can substantially increase their income by taking protected cultivation of vegetables in off- season, as the vegetables produced during the normal season generally do not fetch good returns due to availability of large quantity of these vegetables in the markets. Off season cultivation of cucurbits under low plastic tunnels is one of the most profitable technologies. Insect proof net houses can be used for virus-free cultivation of tomato, chilli, sweet pepper and other vegetables mainly during the rainy season. These low cost structures are also suitable for growing pesticide-free green vegetables. Low cost green houses can be used for high quality vegetable cultivation for long duration (6-10 months) mainly in sub -urban areas of the country to fetch remunerative price to the producers.

The Horticultural crops are prone to several diseases and pests which partially or completely damage the crops. So plant protection becomes essential. Assistance for Bio- Pesticides and Bio-control agents / Sex pheromones is also necessary.

The technologies identified and farmer's trainings programmes for horticultural development in Amreli district is furnished in Table 5.11 to 5.17.

Table 5.11 Taluka wise integrated pest management demonstration in next 5 year in horticulture crops(Phy-ha., Fin.-lakh Rs.)

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Ber	25	50	0.50	50	0.50	50	050	50	0.50	50	0.50	250	2.50
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Babara	Cumin	20	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
	Sapota	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Bagasara	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Dhari	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	30	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Jafrabad	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	050
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Vegetables	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50

Table 5.11 Contd…..

Khambha	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Mango	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetables	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Kukavav	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Lathi	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Ajama	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetables	20	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
Liliya	Cumin	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Ajama	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Rajula	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Savar Kundala	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetables	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Total	**-**	**1225**	**1900**	**19.00**	**1900**	**19.00**	**1900**	**19.00**	**1900**	**19.00**	**1900**	**19.00**	**9500**	**95.00**

***Area under each demonstration is 1 ha, Demonstration cost @ 0.01 lakh/ha**

Table 5.12 Taluka wise Integrated nutrient management demonstration in next 5 year for horticulture (Phy-ha., Fin.-lakh Rs.)

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	20	50	0.50	50	0.50	50	0.50	50	0.50	50	0.50	250	2.50
Babara	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
Bagasara	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Vegetable	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
Dhari	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Jafrabad	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50

Table 5.12 Contd…..

Khambha	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
Kukavav	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Lathi	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Ajama	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
Liliya	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Ajama	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetable	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Rajula	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	20	30	0.30	30	0.30	30	0.30	30	0.30	30	0.30	150	1.50
	Vegetable	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Savar Kundala	Cumin	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
	Mango	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Sapota	05	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Vegetable	50	70	0.70	70	0.70	70	0.70	70	0.70	70	0.70	350	3.50
Total		**1330**	**1950**	**19.70**	**1950**	**19.70**	**1950**	**19.70**	**1950**	**19.70**	**1950**	**19.70**	**9830**	**98.30**

***Area under each demonstration is 1 ha, Demonstration cost @ 0.01 lakh/ha**

Table 5.13 Taluka wise distribution of Micro Irrigation System (MIS) for horticulture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	MIS distribution projections (Financial target in lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Cumin	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Papaya	03	3.0	03	3.0	03	3.0	03	3.0	03	3.0	15	15.0
	Garlic	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Vegetables	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
Babara	Garlic	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Vegetables	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
Bagasara	Cumin	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Sapota	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Papaya	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Garlic	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Vegetables	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
Dhari	Cumin	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Mango	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Sapota	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Papaya	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Garlic	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Jafrabad	Cumin	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Garlic	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0

Table 5.13 Contd…..

Khambha	Mango	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Sapota	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Papaya	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Kukavav	Garlic	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Lathi	Cumin	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Liliya	Cumin	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Rajula	Sapota	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Garlic	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Vegetables	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Savar Kudala	Cumin	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
	Mango	10	10.0	10	10.0	10	10.0	10	10.0	10	10.0	50	50.0
	Sapota	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Papaya	05	5.0	05	5.0	05	5.0	05	5.0	05	5.0	25	25.0
	Garlic	20	20.0	20	20.0	20	20.0	20	20.0	20	20.0	100	100.0
Total		**453**	**453.0**	**453**	**453.0**	**453**	**453.0**	**453**	**453.0**	**453**	**453.0**	**2265**	**2265.0**

Table 5.14 Taluka wise varietal demonstration for horticulture crops **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Papaya	-	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Babara	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Bagasara	Papaya	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Dhari	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Jafrabad	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50

Table 5.14 Contd..

Khambha	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Kukavav	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Lathi	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Cluster bean	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Ajwain	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Liliya	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Cluster bean	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Ajwain	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Rajula	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Savar Kundala	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Total		**155**	**340**	**3.4**	**340**	**3.4**	**340**	**3.4**	**340**	**3.4**	**340**	**3.4**	**1700**	**17.00**

***Area under each demonstration is 1 ha, Demonstration cost @ 0.01 lakh/ha**

Table 5.15 Taluka wise bio fertilizer demonstrations for hortiiculture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Papaya	-	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Babara	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Bagasara	Papaya	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Dhari	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Jafrabad	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50

Table 5.15 Contd..

Khambha	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Kukavav	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Lathi	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Cluster bean	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Ajwain	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Liliya	Okra	-	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Cluster bean	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Ajwain	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Rajula	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Savar Kundala	Papaya	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Chili	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Total		**165**	**360**	**3.6**	**360**	**3.6**	**360**	**3.6**	**360**	**3.6**	**360**	**3.6**	**1800**	**18.00**

***Area under each demonstration is 1 ha, Demonstration cost @ 0.01 lakh/ha**

Table 5.16 Taluka wise vermicompost demonstrations for horticulture **(Phy-ha., Fin.-lakh Rs.)**

Taluka	Crop	Demonstration conducted in 2011-12*	Demonstration projections (Financial target in lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Amreli	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
Babara	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Bagasara	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Dhari	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Jafrabad	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50

Table 5.16 Contd…..

Khambha	Cumin	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Kukavav	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Lathi	Cumin	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Liliya	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Rajula	Cumin	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Tomato	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Brinjal	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Savar Kundala	Cumin	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Tomato	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Brinjal	10	20	0.20	20	0.20	20	0.20	20	0.20	20	0.20	100	1.00
	Garlic	5	10	0.10	10	0.10	10	0.10	10	0.10	10	0.10	50	0.50
Total		**260**	**520**	**5.2**	**520**	**5.2**	**520**	**5.2**	**520**	**5.2**	**520**	**5.2**	**2600**	**26.00**

***Area under each demonstration is 1 ha, Demonstration cost @ 0.01 lakh/ha**

Table 5.17 Planning for farmers training programme in Horticultural crops **(Phy-no. of trainings Fin. Lakh Rs.)**

Sr. No	Name of Technology to be transferred	Cost/ Training Rs.*	Projections (Financial target in Lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin		
1	Value addition on fruits and vegetable production	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
2	Nursery management	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
3	IPM in vegetable and fruit crops	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
4	Net/Poly house management	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
5	Organic farming in spices crops	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
6	Small scale processing value addition in food and vegetables crops (for women)	0.25	10	2.50	10	2.50	10	2.50	10	2.50	10	2.50	50	**12.5**
	Total	**-**	**60**	**15.00**	**60**	**15.00**	**60**	**15.00**	**60**	**15.00**	**60**	**15.00**	**300**	**75.00**

*25 trainees/training

The proposal for Supply of plant protection equipment (Foot sprayer, establishment of mango ripening chamber, establishment of mango pack house, providing training in small scale fruit and vegetable processing and establishment of small scale Fruit and vegetable processing units in Amreli district is given in Table 5.18 with the total outlay of Rs 2310 lakhs.

Table 5.18 Planning of establishing facilities for horticultural development in Amreli district

Sr. No.	Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
1.	**Supply of plant protection equipment** equally in each taluka **(Foot sprayer)**						
	Number of units	50	50	50	50	50	**250**
	Cost @ Rs 8,000 **(Rs. in lakhs)**	**4.0**	**4.0**	**4.0**	**4.0**	**4.0**	**20.0**
2.	**Establishment of mango ripening chamber**						
	Number of units (Dhari & Khambha)	-	-	1	1	-	**2**
	Cost @ Rs. 85 Lakhs **(Rs. in lakhs)**	**-**	**-**	**85.0**	**85.0**	**-**	**170.0**
3.	**Establishment of mango pack house**						
	Number of units(Dhari, Savar Kundala & Khambha)	1	-	1	-	1	3
	Cost @ Rs 3 lakh (9m x 6m) **(Rs. in lakhs)**	**3.0**	**-**	**3.0**	**-**	**3.0**	**9.0**
4.	**small scale fruit and vegetable processing trainings**						
	Three days Trainings (50trainees/ training)	10	10	10	10	10	50
	Cost/training (Rs in Lakhs),Rs. 800/trainees / 3 days(Rs.in lakhs)	**4.00**	**4.00**	**4.00**	**4.00**	**4.00**	**20.00**
5.	**Establishment of small scale Fruit and vegetable processing units**						
	Number	8	8	8	8	8	40
	Cost/ @ 0.30/unit(Rs in Lakhs)	**2.4**	**2.4**	**2.4**	**2.4**	**2.4**	**12.00**
	Total Amount	**13.4**	**10.4**	**98.4**	**95.4**	**13.4**	**231.0**

5.2 Animal Husbandry

Livestock enterprise is an important complementary activity to the crop activities. Basic information about livestock population, breeding animal, non descript and draft animal, etc. in Amreli district is given in Table 5.19. Information about existing position of fodder availability, gobargas facility, veterinary services and prominent diseases occurring in the district is presented in Table 5.20 to 5.23. So far dairy development is concerned, a total of 169 cooperative milk units are active for collecting 1467.5 lakh liters of milk (Table 5.24). Out of which buffalo milk is of 873.3 lakh liters and cow milk is of 534.0 lakh liters (Table 5.25). Position of fodder supply and deficit is given in Table 5.26 and 5.27.

Table 5.19 Taluka wise breeding animals (agewise) as well as non descript and draft animals

Taluka	Cow		Buffalo		Total		Non descript animals	Draft animals
	Below 3 years	Above 3 years	Below 3 years	Above 3 years	Cow	Buffalo		
Amreli	8043	16275	7364	14729	24318	22094	1274	38410
Babara	10945	21890	6910	13820	32834	20730	20	39490
Bagasara	5162	10325	3414	6829	15488	10244	0	19602
Dhari	12294	24588	9426	18852	36882	28278	1663	42971
Jafrabad	6110	12220	2845	5690	18331	8536	2700	16625
Khambha	8590	18980	6872	13745	27571	20618	1357	18904
Kukavav	6884	13768	5232	10464	20652	15697	1373	16683
Lathi	6998	13997	4330	8660	20996	12990	3844	14344
Liliya	3744	7488	2570	5140	11233	7710	1826	16765
Rajula	8148	16296	7935	15870	24444	23805	13476	39630
Savar Kundala	12078	24156	9889	19978	36235	29867	1236	62176
Total	**88976**	**179983**	**62787**	**133777**	**268984**	**200569**	**28769**	**325600**

Source : Deputy Director of Animal Husbandry of Amreli

Table 5.20 Taluka-wise fodder availability (Area=000ha, Production=Lakhtonnes)

Taluka	Amreli	Babara	Bagasara	Dhari	Jafrabad	Khambha	Kukavav	Lathi	Liliya	Rajula	Savar Kundala	Total
Area (ha) under fodder crop	6.98	3.16	1.66	2.35	2.48	2.05	1.05	3.92	4.70	2.10	4.11	**34.56**
Quantity available (tonnes)	9.67	0.49	0.41	0.47	3.43	0.39	0.21	0.54	0.61	0.31	0.76	**17.29**

Source: District Panchayat Amreli

Table 5.21 Taluka-wise Gobergas Plants

Taluka	Amreli	Babara	Bagasara	Dhari	Jafrabad	Khambha	Kukavav	Lathi	Liliya	Rajula	Savar Kundala	Total
No. of Gobergas Plants	625	387	406	491	105	305	583	297	285	388	603	**4475**

Source : Gujarat Agro Industries Corporation Ltd, Amreli

Table 5.22 Taluka-wise existing veterinary institutions

Talukas	GPs	Institutions (No)						
		VH	VD	Mobile veterinary centre	A.I Centers	FAV C	Total	GPs without any veterinary institutions
Amreli	65	7	5	-	7	2	21	44
Babara	57	5	3	-	5	2	15	42
Bagasara	31	2	1	-	2	1	06	25
Dhari	69	6	4	-	6	3	19	50
Jafrabad	39	3	2	-	3	1	09	30
Khambha	52	5	3	-	4	2	15	37
Kukavav	45	5	3	-	5	3	16	29
Lathi	47	6	3	-	6	3	18	29
Liliya	37	4	2	-	4	2	12	25
Rajula	70	4	2	-	4	2	12	58
Savar Kundala	80	6	3	-	6	3	18	62
Total	**592**	**53**	**31**	**-**	**53**	**24**	**161**	**431**

Surce: Deputy director of Animal husbandry Amreli

Table 5.23 Taluka-wise prominent disease occurrence in animals.

Taluka	2009-10	2010-11	2011-12
Amreli	-	PPR	-
Babara	FMD	-	-
Dhari	Rabies, FMD	-	PPR
Kukavav	PPR	-	-
Liliya	FMD	-	-
Total	**5**	**1**	**1**

Source : Deputy Director of Animal Husbandry of Amreli

Table 5.24 Dairy Development during 2011-12 in Amreli District

Sr. No	Name of the Taluka	Co-Operative milk units	Quantity of milk production (in'000 liters)	value of milk produced (Rs. in lakh)
1	Amreli	20	14780	3695
2	Babara	13	6130	1530
3	Bagasara	11	5600	1400
4	Dhari	17	7200	1800
5	Jafrabad	15	4500	1130
6	Khambha	16	20270	5070
7	Kukavav	12	13120	3280
8	Lathi	12	13250	3315
9	Liliya	13	7500	1875
10	Rajula	15	14100	3525
11	Savar Kundala	25	40300	10075
	Total	**169**	**146750**	**36695**

Table 5.25 Average annual milk production of Livestock (in lakh liters)

Taluka	Cow milk	Buffalo milk	Goat milk.	Total milk production
Amreli	48.3	96.2	6.2	150.7
Babara	65.2	90.2	6.7	162.1
Bagasara	30.8	44.6	1.6	76.9
Dhari	73.2	123.1	6.2	202.6
Jafrabad	36.4	37.2	1.6	75.2
Khambha	54.7	89.8	5.9	150.4
Kukavav	41.0	68.3	3.6	112.9
Lathi	41.7	56.5	5.0	103.2
Liliya	22.3	33.6	2.3	58.2
Rajula	48.5	103.6	9.8	161.9
Savar kundla	72.0	130.0	13.9	215.9
Total	534.0	873.3	62.7	1470.10

Source: Deputy Director of Animal Husbandry, Amreli

Table 5.26 Demand and supply of green fodder (Million tones per year)

Demand	Supply	Deficit	Deficit %
2.62	1.73	0.89	33.96

Table 5.27 Demand and supply of dry fodder (Million tones per year)

Demand	Supply	Deficit	Deficit %	Excess %
2.28	2.75	-	-	20.60

5.2.1 Strength / Gaps

(a) Dairy Cattle

i) Strength

- Amar Dairy available for collecting milk in the district
- Enhanced marketing potential in the neighbourhoods
- Large scale participation of private players

ii) Weakness

- Fodder scarcity
- Inadequate health care
- Endemic for Anthrax and Foot and Mouth Disease.
- Inadequate barren lands for conversion to grazing area.

(b) Sheep and Goat

i) Strength

- Nomadic rearing – Vast uncultivable land – Rain fed area
- Sizeable number of breedable population
- Consumer's preference – By-product (leather) is efficiently utilized

ii) Weakness

- Non-availability of superior Rams and Bucks
- Unorganized marketing resulting in wild price fluctuations
- Absence of mechanism to promote the sector (Financial assistance)

Interventions Required Areas

- Green fodder development
- Financial Assistance for Animal component
- Incentive to farmers through cards
- Improved livestock health care
- Hygienic utilization of offal
- Capacity building protocols
- Cattle feed production

Table 5.28 Sustainability issues and gap analysis of productivity in Dairy industry

Sr. No.	Particular	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 agencies A.H deptt and co-operatives should jointly approach in a farmers participatory approach	Strengthening AI by establishing new AI centres, Mobile AI centres and semen storage facilities	Improvement in livestock breed which increase the milk production.
b	Poor Housing management	Lack of awareness and poor economic condition of the farmers	Proper housing management	Creating awareness and increase adoption of proper housing management through training,demonstrations and literature	Increase the health, hygiene and milk production	Increase milk production
c	Imbalanced feeding	Lack 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/ cattle 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 fodder 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	Lack of awareness about scientific calf rearing	Popularize scientific calf rearing	Creating awareness and increase adoption of scientific calf rearing through training, demonstrations and literature	Reduce calf mortality and production elite future herds	Increase income of the farmers
f	Goat rearing	Lack of knowledge about rearing	Popularize scientific goat rearing	Creating awareness and increase adoption of scientific goat rearing through training, demonstrations and literature	Increase milk and meat production Provide household nutrition to poor family	Increase income and health of the farmers
g	Poultry	Lack of knowledge about rearing	Popularize scientific poultry rearing	Creating awareness and increase adoption of scientific poultry rearing through training, demonstrations and literature	Increase egg and meat production Provide household nutrition to poor family	Increase income and health of the farmers

Table 5.29 Bridging the gaps for realizing the Vision- Dairy sector

Issue	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	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 farmers.	To supply economically productive animals Improving production and quality of milk in district
	Supply of health packages for livestock of landless farmers.	Culling 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 to 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

5.2.3 Activities for development of Animal Husbandry

Increasing fodder production, control of cattle diseases, supply of subsidized mineral mixtures, establishment of bulk milk coolers, strengthening of manufacturing facilities for milk products, etc were focused in the proposals for Amreli district. Major emphasis on disease diagnosis, controlling parasite diseases, establishment of Mobile Veterinary Clinic for off – campus treatment in remote areas, upgrading the existing Animal Disease Investigation Unit as Mobile Veterinary Clinic and renovation of existing Veterinary dispensaries to provide better on-campus treatment have been given(Table 5.30). Pilot project for fodder development (Table 5.31) and training for animal husbandry(Table 5.32) in the district have also been proposed. The total cost of the proposal is Rs. 9075 lakhs. This will be implemented by the Department of Animal Husbandry.

The district of Amreli possesses 1.37 lakhs sheep and 1.34 lakh goats. However the economic traits in the small ruminants are poor due to heavy inbreeding and poor nutrition resulting in decreased meat production. Non-availability of quality male and female germplasm has resulted in severe inbreeding in small ruminant production of the district. The farmers mainly depend on Government farms for the quality male germplasm. However if the SHG / tribes/elite farmers are encouraged to establish germplasm production centres, the inbreeding could be minimized and meat production increased.

Extension services are the tools for Technology transfer in time to improve the socio economic condition of farmers. For better services, the extension unit need better audio visual aids, demonstration units and other infrastructure to provide conducive atmosphere for the farmers to learn.

Table 5.30 Planning for Identified technologies for Animal Husbandry **(Phy. =No. of units Fin=Rs. In lakhs)**

Taluka: Amreli

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	1	2.5	1	2.5	1	2.5	1	2.5	5	12.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.00	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**1288**	**178**	**1287**	**158**	**1287**	**158**	**1287**	**158**	**1287**	**158**	**6386**	**810.0**

Table 5.30 Contd….

Taluka: Babara

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										**Total**	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	-	-	-	-	-	-	1	2.5	2	5.0
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.00	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	70	3.5	70	3.5	70	3.5	70	3.5	70	3.5	350	17.5
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**1208**	**174**	**1206**	**151.5**	**1206**	**151.5**	**1206**	**151.5**	**1207**	**154**	**6033**	**782.5**

Table 5. 30 Contd….

Taluka: Bagasara

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										**Total**	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	50	0.5	50	0.5	50	0.5	50	0.5	50	0.5	250	2.5
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	300	1.5	300	1.5	300	1.5	300	1.5	300	1.5	1500	7.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	50	0.5	50	0.5	50	0.5	50	0.5	50	0.5	250	2.5
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Orientation training of milk production at society level	0.20	1	2.5	1	2.5	1	2.5	1	2.5	1	2.5	5	12.5
Livestock farmer workshops	2.50	1	2.5	-	-	-	-	-	-	1	2.5	2	5.0
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.00	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**889**	**173.5**	**887**	**151**	**887**	**151**	**887**	**151**	**888**	**153.5**	**4438**	**780.0**

Table 5. 30Contd…

Taluka: Dhari

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	1	2.5	1	2.5	1	2.5	1	2.5	5	12.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	0.5	10	0.5	10	0.5	10	0.5	10	0.5	50	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Buffalos Dairy farm	3.00	15	45.0	15	45.0	15	45.0	15	45.0	15	45.0	75	225.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**1293**	**188.5**	**1292**	**168.5**	**1292**	**168.5**	**1292**	**168.5**	**1292**	**168.5**	**6461**	**862.5**

Table 5. 30 Contd…

Taluka: Jafrabad

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	100	10.0
Milk tools	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	-	-	1	2.5	-	-	-	-	-	-	1	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	20	1.0	20	1.0	20	1.0	20	1.0	20	1.0	100	5.0
Buffalos Dairy farm	3.00	5	15.0	5	15.0	5	15.0	5	15.0	5	15.0	25	75.0
Cow Dairy farm	2.70	5	13.5	5	13.5	5	13.5	5	13.5	5	13.5	25	67.5
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**1297**	**144**	**1297**	**126.5**	**1296**	**124**	**1296**	**124**	**1296**	**124**	**5582**	**642.5**

Table 5. 30 Contd…

Taluka: Khambha

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	500	5.0	500	5.0	500	5.0	500	5.0	500	5.0	2500	25.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	-	-	-	-	-	-	-	-	1	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	70	3.5	70	3.5	70	3.5	70	3.5	70	3.5	350	17.5
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Sub Total		**1603**	**177.5**	**1601**	**155**	**1601**	**155**	**1601**	**155**	**1601**	**155**	**8007**	**797.5**

Table 5. 30 Contd…

Taluka: Kukavav

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Chaff cuter	0.10	50	5.0	50	5.0	50	5.0	50	5.0	50	5.0	250	25.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	100	1.0	100	1.0	100	1.0	100	1.0	100	1.0	500	5.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	1	2.5	-	-	-	-	1	2.5	3	7.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	100	25.0
Travis provide in villages	0.05	60	3.0	60	3.0	60	3.0	60	3.0	60	3.0	300	15.0
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Sub Total		**1193**	**173**	**1192**	**153**	**1191**	**150.5**	**1191**	**150.5**	**1192**	**153**	**6009**	**780.0**

Table 5. 30 Contd…

Taluka: Lathi

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Chat cuter	0.10	100	10.0	100	10.0	100	10.0	100	10.0	100	10.0	500	50.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Milk tools	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	-	-	-	-	1	2.5	-	-	-	-	1	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Travis provide in villages	0.05	70	3.5	70	3.5	70	3.5	70	3.5	70	3.5	350	17.5
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Sub Total		**1542**	**175.5**	**1541**	**155.5**	**1542**	**158**	**1541**	**155.5**	**1541**	**155.5**	**7707**	**800.0**

Table 5. 30 Contd…

Taluka: Liliya

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Chat cuter	0.10	100	10.0	100	10.0	100	10.0	100	10.0	100	10.0	500	50.0
Supply of mineral mixture	0.05	500	2.5	500	2.5	500	2.5	500	2.5	500	2.5	2500	12.5
Medicine	-	200	2.5	200	2.5	200	2.5	200	2.5	200	2.5	1000	12.5
Milk tools	0.01	500	5.0	500	5.0	500	5.0	500	5.0	500	5.0	2500	25.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	1	2.5	-	-	-	-	-	-	-	-	1	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.0	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	60	3.0	60	3.0	60	3.0	60	3.0	60	3.0	300	15.0
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**1748**	**184**	**1746**	**161.5**	**1746**	**161.5**	**1746**	**161.5**	**1746**	**161.5**	**8732**	**830.0**

Table 5. 30 Contd…

Taluka: Rajula

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										Total	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Chat cuter	0.10	100	10.0	100	10.0	100	10.0	100	10.0	100	10.0	500	50.0
Supply of mineral mixture	0.05	1000	5.0	1000	5.0	1000	5.0	1000	5.0	1000	5.0	5000	25.0
Medicine	-	600	6.0	600	6.0	600	6.0	600	6.0	600	6.0	3000	30.0
Milk tools	0.01	500	5.0	500	5.0	500	5.0	500	5.0	500	5.0	2500	25.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	45.0
Farmers study tour	0.05	100	5.0	100	5.0	100	5.0	100	5.0	100	5.0	500	25.0
Skill development for technical staff	0.05	50	2.5	50	-	-	-	-	-	-	-	100	2.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	-	-	-	-	-	-	1	2.5	-	-	0	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	10	2.5	10	2.5	10	2.5	10	2.5	10	2.5	50	12.5
Strengthening of veterinary Institution	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Genetic up gradation of livestock	50.00	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	80	4.0	80	4.0	80	4.0	80	4.0	80	4.0	400	20.0
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	5	0.5	5	0.5	5	0.5	5	0.5	5	0.5	25	2.5
Sub Total		**2552**	**190.5**	**2551**	**168**	**2501**	**168**	**2501**	**170.5**	**2501**	**168**	**12606**	**865.0**

Table 5. 30 Contd…

Taluka: Savar Kundala

Project component	unit cost Rs. In lakh	Identified technologies projections (Financial target in Lakh Rupees)										**Total**	
		2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
		Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Fodder seeds	0.01	200	2.0	200	2.0	200	2.0	200	2.0	200	2.0	1000	10.0
Chat cuter	0.10	100	10.0	100	10.0	100	10.0	100	10.0	100	10.0	500	50.0
Supply of mineral mixture	0.05	1000	5.0	1000	5.0	1000	5.0	1000	5.0	1000	5.0	5000	25.0
Medicine	-	400	4.0	400	4.0	400	4.0	400	4.0	400	4.0	2000	20.0
Milk tools	0.01	500	5.0	500	5.0	500	5.0	500	5.0	500	5.0	2500	25.0
Mobile Veterinary Clinic	25.00	1	25.0	-	5.0	-	5.0	-	5.0	-	5.0	1	40.0
Farmers study tour	0.05	150	7.5	150	7.5	150	7.5	150	7.5	150	7.5	750	37.5
Skill development for technical staff	0.05	50	2.5	50	2.5	50	2.5	50	2.5	50	2.5	250	12.5
Orientation training of milk production at society level	0.20	5	1.0	5	1.0	5	1.0	5	1.0	5	1.0	25	5.0
Livestock farmer workshops	2.50	-	-	-	-	-	-	1	2.5	-	-	0	2.5
Study tour of farmers to livestock and poultry research station	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Fodder production by SHGs 10 ha block/year	0.25	20	5.0	20	5.0	20	5.0	20	5.0	20	5.0	100	25.0
Strengthening of veterinary Institution	0.50	20	10.0	20	10.0	20	10.0	20	10.0	20	10.0	100	50.0
Genetic up gradation of livestock	50.00	1	50.0	1	50.0	1	50.0	1	50.0	1	50.0	5	250.0
Deworming treatment in animals	0.50	10	5.0	10	5.0	10	5.0	10	5.0	10	5.0	50	25.0
Travis provide in villages	0.05	70	3.5	70	3.5	70	3.5	70	3.5	70	3.5	350	17.5
Buffalos Dairy farm	3.00	10	30.0	10	30.0	10	30.0	10	30.0	10	30.0	50	150.0
Cow Dairy farm	2.70	10	27.0	10	27.0	10	27.0	10	27.0	10	27.0	50	135.0
Rabbit farm (4)	0.10	10	1.0	10	1.0	10	1.0	10	1.0	10	1.0	50	5.0
Sub Total		**2577**	**198.5**	**2576**	**173.5**	**2576**	**178.5**	**2576**	**181**	**2576**	**178.5**	**12881**	**910.0**
Total		**17190**	**1957**	**17176**	**1722**	**17125**	**1724.5**	**17124**	**1727**	**17127**	**1729.5**	**84842**	**8860**

Table 5.31 Projection of pilot project for fodder development in the Amreli district

Taluka	No. of villages/Taluka	Area (ha)	Financial requirement (Rs. in lakh)					Total
			2012-13	2013-14	2014-15	2015-16	2016-17	
Amreli	3	30*	30.0#	2.5	2.5	2.5	2.5	40.0
Babara	3	30	30.0	2.5	2.5	2.5	2.5	40.0
Kukavav	3	30	30.0	2.5	2.5	2.5	2.5	40.0
Lathi	3	30	30.0	2.5	2.5	2.5	2.5	40.0
	Total	**120**	**120.0**	**10.0**	**10.0**	**10.0**	**10.0**	**160.0**

*10 ha./village, #10 lakh/village (includes Rs.7.5 lakh as nonrecurring for each village

Table 5.32 Training in animal husbandry **(Phy. =No. of training, Fin=Rs. In lakhs)**

No.	Project component	Unit cost Rs. In lakh	(Financial target in Lakh Rupees)										Total	
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)			
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
1	Care for animals	0.25	11	2.75	11	2.75	11	2.75	11	2.75	11	2.75	55	13.50
2	Fodder management	0.25	11	2.75	11	2.75	11	2.75	11	2.75	11	2.75	55	13.50
3	Artificial Insemination	0.25	11	2.75	11	2.75	11	2.75	11	2.75	11	2.75	55	13.50
4	Nutrient management in milky animals	0.25	11	2.75	11	2.75	11	2.75	11	2.75	11	2.75	55	13.50
	Total		**44**	**11.00**	**44**	**11.00**	**44**	**11.00**	**44**	**11.00**	**44**	**11.00**	**220**	**55.00**

Source :- Deputy Director Animal Husbandry,. Amreli 250 training/ year, and 25trainees/training

5.3 Fisheries Development

In Amreli district, costal area of 62 km is available in Jafrabad and Rajula talukas. There could be a scope for marine fisheries development in these talukas. The details about the fisheries development in the district are given below (Table 5.33):

- Lot of scope for developing inland fish farming
- In the inland side, major carps such as Catla, Rohu, Mrigal, Common Carp and fresh water prawns are harvested.
- Marine fish catching may be improved by increasing the number of fishing boats and their technology.
- Marine fish (catch) needs processing industry. Annual marine fish catching is about 95000 Mt in the district and about 13800 fishermen are engaged in this business.

Table 5.33 Fisheries Development and Production in Amreli District

Sr. No	Taluka	No. of Boats		Marine Fish catch (Tonne)	Number of Fisherman engaged
		Mechanized	Non mechanized		
1	Jafrabad	700	120	71200	11500
2	Rajula	230	50	24000	2300
	Total	**930**	**220**	**95200**	**13800**

Source: Fisheries Department, Jafrabad

5.3.1. Gaps Identified

- Unpredictable monsoon leads to water scarcity at times.
- Many water bodies receive water only during monsoon .
- Mismatch of major carp breeding season and water availability in tanks.
- Lack of proper infrastructure facilities for seed rearing, fish landing and marketing
- Low average unit fish production of long season tanks
- Lack of post harvest facility like cold store/ fish processing unit

5.3.2. Intervention Required Are as

- Infrastructure development to attain self sufficiency in fish seed production through private and government participation.
- Expansion of fish culture in all water bodies
- Fish processing units for marine fish.
- Infrastructure development to modernize the existing marketing facilities in key areas
- Capacity building training to the fish farmers.

Project proposal helping fisher men for fisheries development in the district has been prepared with the outlay of Rs70.0 lakhs Table 5.34.

Table 5.34 Proposal for fisheries development

(Phy. = No. and Fin.= Rs. in lakh)

Sr.No	Project title	Unit Cost (Rs in lakh)	Projections (Financial target in Lakh Rupees)										Total
			2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
1	New boats	1.0	5	5.00	5	5.00	5	5.00	5	5.00	5	5.00	**25**
2	Supply of mopeds fitted with Ice box to retails fish venders	0.15	10	1.50	10	1.50	10	1.50	10	1.50	10	1.50	**7.5**
3	Supply of fishing implements	0.05	25	1.25	25	1.25	25	1.25	25	1.25	25	1.25	**6.25**
4	Capacity building and training to the fish farmers	0.25	3	3.75	3	3.75	3	3.75	3	3.75	3	3.75	**18.75**
5	Fish drying instruments	0.50	5	2.50	5	2.50	5	2.50	5	2.50	5	2.50	**12.5**
	Total		**48**	**14**	**48**	**14**	**48**	**14**	**48**	**14**	**48**	**14**	**70.0**

5.4 Forestry

Forest in Gujarat constitutes 9.66% of the total geographical area. In Amreli 6.0 % of the district land is forest land. 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 aforestation of wasteland. With more aforestation it will help in supplementing income generation activities with minor forest based collection. However, arrangement for due price realization has to be ensured.

Table 5.35 Bridging the gaps for realizing the Vision- Forestry sector

No	Thrust Areas/ Issues	Program	Activities	Approach
1	Forestry	Agro-forestry	Educating farmers through demonstration and training and providing units	Training and Demonstrations
		Minor forest products	Educating farmers through demonstration and training and providing units	Training and Demonstrations
		Bamboo cultivation	Providing nursery and planting material	Providing units
		Tree cover improvement	Providing tree covers	Providing tree covers
2	Fisheries	Establishment of fisheries/ prawn production units at village level	Providing units (ponds) at cooperative base	Providing units


Forest

Table 5.36 Farm protection and agro-forestry programme **(Phy. ='00'm , Fin=Rs. In lakhs)**

Sr. No	Project component	Cost/ 100m	2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		Total
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
Farm protection													
1	Barbed fencing	0.15	250	37.5	250	37.5	250	37.5	250	37.5	250	37.5	**187.5**
2	Chain link fencing	0.25	150	37.5	150	37.5	150	37.5	150	37.5	150	37.5	**187.5**
	Total		**400**	**75**	**400**	**75**	**400**	**75**	**400**	**75**	**400**	**75**	**375**

Source : Department of Forest Amreli

Table 5.37 Agro-forestry programme by forest department **(Phy. = No , Fin=Rs. In lakhs)**

Sr. No	Plant seedlings	Cost/ seedling (Rs)	2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)		Total
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	
1	Medicinal plants	20/-	10000	2.0	10000	2.0	10000	2.0	10000	2.0	10000	2.0	10.0
2	Sage/sesame plants. per plant)	40/-	10000	4.0	10000	4.0	10000	4.0	10000	4.0	10000	4.0	20.0
3	Fruit plants (Rs. per seedling)	20/-	5000	1.0	5000	1.0	5000	1.0	5000	1.0	5000	1.0	5.0
4	Ever green plants (Rs. per plants)	10/-	10000	1.0	10000	1.0	10000	1.0	10000	1.0	10000	1.0	5.0
	Total		35000	8.0	35000	8.0	35000	8.0	35000	8.0	35000	8.0	40.0

Source : Department of Forest Amreli

Table 5.38 Action Plan for social forestry **(Phy. = Ha. and Fin.= Rs. in lakh)**

Activity	2011-12		Year-wise target									
	Phy	Fin	2012-13 (projected)		2013-14 (projected)		2014-15 (projected)		2015-16 (projected)		2016-17 (projected)	
			Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin	Phy	Fin
Communal Forest Project	304	260.55	361	256.68	395	287.48	442	321.97	462	351.0	508	382.54
Special component for SC	227	127.36	202	121.35	197	133.15	206.85	140.00	215.12	147.84	225	155.60
Total	**531**	**387.91**	**563**	**378.03**	**592**	**420.63**	**648.85**	**461.97**	**677.12**	**498.84**	**733**	**538.14**

Source : Department of Forest Amreli

CHAPTER VI

DISTRICT PLAN

Introduction

The proposed district plan includes agriculture, horticulture, forestry, animal husbandry and innovative as well as miscellaneous schemes as the major activities undertaken in the Amreli district. The existing status of these sectors reported in detail in the preceding chapters with the proposed outlays for XII plan.

6.1 Growth drivers

The targets will achieve using different growth drivers in agriculture and allied

Sectors as follows:

6.1.1 Agriculture

a) Crop diversification for more remunerative crops.
b) Development of high yielding varieties & hybrids.
c) Developing varieties of pulses, suitable for intercropping.
d) Increase area under hybrids and improved varieties in crops.
e) Resource conservation technologies for sustaining and improving the productivity levels.
f) Mechanization for increasing water use efficiency.
g) Seed grading, seed treatment and enhancing seed replacement rate.
h) IPM, INM and IWM.
i) Demonstrations and capacity building of field functionaries and the farmers
j) Human resource development.

6.1.2 Horticulture

a) Increasing area under fruits and vegetable crops.
b) Providing improved planting material of fruit crops.
c) IPM and INM
d) Encouraging income and employment generating vocations through agro based vocations *viz.* vermin composting and food preservation etc.
e) Demonstrations and trainings including farmers and field officials
f) Establishment of facilities to evolve Tissue culture protocols for important crops.

6.1.3 Forestry

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

6.1.4 Soil Health Card

a) Research on soils to make it suitable for growing quality crops.

b) Prevention of degradation of soil fertility & care of soil health.

c) Reclamation of salinity in canal command area.

d) Proper facilities of soil & water testing laboratory (Micronutrients & Ground water quality) in the district.

e) Use of waste biomass available from livestock, Crop & Farm for maintaining residues to maintaining proper soil health.

f) Popularization of organic farming.

6.1.5 Animal Husbandry

a) Breed improvement through community bulls and A.I.

b) Mineral mixture feeding

c) Deworming

d) Fodder production and preservation

e) Balanced feeding

f) Demonstrations and capacity building of field functionary and farmers

6.1.6 Fishery

a) Utilization of village/Panchayat pond

6.2 New Project Proposal

6.2.1 Establishment of Seed Testing Laboratory at Amreli

Seed testing is very important for the successful implementation of seed certification programme and seed law enforcement programms. Certified Seed Samples, Official seed samples from quality control wing and the service samples sent by the farmers, seed dealers and seed producers are tested in the laboratories.

At present, seed samples are being sent to Junagadh district for analysis. This process is delaying to have the results on hand in time. Therefore, it is necessary to establish Seed Testing Laboratory at Amreli district.

Table 6.1 Establishment of Seed Testing Laboratory at district headquarter

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Civil work(Rs. in lakhs)	24.0	--	--	--	--	24.0
Cost of Instrument/ Equipment (Rs. in lakhs)	--	6.0	--	--	--	6.0
Total	**24.0**	**6.0**	**--**	**--**	**--**	**30.0**

List and cost of instrument/equipment for Seed Testing Laboratory

S/N	Name of the Instrument/Equipment	Approx. Qty req. for One lab	Approx. cost/ unit (Rs.)	Aprox. cost for one lab. (Rs)
1	Weighing Balance-Top Loading	1	5000	5000
2	Illuminated purity Work board	1	4000	4000
3	Electronic Weighing balance (0.1 mg)	1	30000	30000
4	Soil type divider	1	7500	7500
5	Digital moisture meter with stabilizer	1	17500	17500
6	Germination trays	200	175	35000
7	Petri dishes	50	300	15000
8	Thermometer	1	300	300
9	Hygrometer	1	1500	1500
10	Cabinet Germinator (Double door) along with stabilizer	1	225000	225000
11	Air Conditioner (split type) along with stabilizer	2	35000	70000
12	Work Table	5	4000	20000
13	Work Chair	4	2500	10000
14	Trolley(Movable)	1	5000	5000
15	Computer with accessories	1	60000	60000
16	Germination Paper (Roll towel) in Kgs	200	165	33000
17	Filter paper (Nos)	50	35	1750
18	Seed Storage Rack	2	6000	12000
19	Telephone Connection with Broad band	1	1250	1250
20	Miscellaneous items			46200
	Total			600000

(Note: The above list of equipments is tentative. Based on the actual price of the equipments, the quantity and cost indicated for each of the above mentioned items may be altered and some of the equipments may be deleted so as to accommodate the purchase of equipments within the overall provision).

6.2.2 Establishment of Soil Testing Laboratory at taluka level

Land is a valuable asset of a farmer and its health has to be properly maintained. Each and every soil as well as crop has differential nutrient requirements. Generally farmers are applying fertilizers without knowing soil nutrient status and the requirement of the crops, which is quite more than the actual requirement of the crop/soil. Inadvertent use of chemical fertilizers not only increasing the cost of production but also creates the soil health problems. Therefore, application of the fertilizers should be based on nutrient status of the soils as well as nutrient requirement of the crop grown on that soil. Nutrients availability of the crops from soil also depends on the pH of that soil. Hence the knowledge of nutrient status of the soil is very important, so that farmer can maintain soil health and reduce the cost of production.

Knowledge of the nutrient availability in the soil ensures the farmers to apply proper dose of fertilizer for the crop which is to be grown in next year. If such system of fertilizer application is adopted by the farmers, large number of samples to be analyses every year. At present six laboratories at four talukas are established. To provide this facility at each taluka seven more soil testing laboratories are proposed to be established with the Financial outlay of 461.30 lakh (Table 6.14).

Table 6.2 Existing Soil Testing Laboratories in the District

Taluka	Soil Testing Laboratory under	No. (Static)	Particulars		Laboratories having analytical system
			Annual Capacity	No. Analyzed	
Amreli	Govt.sector	1	250000	13241	-
	Cooperative & public undertaking	2	250000	15000	-
Babara	Govt.sector	1	35000	9898	-
Rajula	Cooperative & public undertaking	1	30000	9964	-
Savar Kundala	Cooperative & public undertaking	1	45000	9998	-
	Total	6	610000	58101	-

Source: Soil testing laboratory APMC, Amreli

Table 6.3 Establishment Cost of Soil Testing Laboratory at Seven Taluka*

Rs. in lakh

Sr. No.	Items	Total Cost of Laboratories of					
		2012-13	2013-14	2014-15	2015-16	2016-17	Total
A.	Recurring Contingencies						
a)	Chemicals	-	7.00	7.00	8.75	10.50	33.25
b)	Glass wares	-	7.00	7.00	8.75	10.50	33.25
c)	Instrument and miscellaneous	-	5.25	7.00	10.50	10.50	33.25
	Total	**-**	**19.25**	**21.00**	**28.00**	**31.50**	**99.75**
B.	Non-Recurring contingencies						
a)	Office cum laboratory	140.00	-	-	-	-	140.00
b)	Furniture and fixtures	35.00	-	-	-	-	35.00
c)	Equipments	-	102.55	-	-	-	102.55
	Total	**175.00**	**102.55**	**-**	**-**	**-**	**277.55**
C	Contractual service	16.80	16.80	16.80	16.80	16.80	84.00
	Total (A+B+C)	**191.80**	**138.60**	**37.80**	**44.80**	**48.30**	**461.30**

* Includes Bagsara, Kukavav, Khambha, Dhari,Jafarabad, Lathi, Liliya

Table 6.4 Instruments required for Soil Testing Laboratory (Rs. in lakh)

Sr. No.	Particulars	Qty.	Cost (lakhs)	Justification
1	Rotary shaking machine	One	0.75	For sample testing
2	Hot Plate	One	0.15	For sample testing
3	Analytics digital electronic balance	One	1.50	For sample weighing
4	Refrigerator	One	0.25	Storage of samples
5	U.V. visible spectrophotometer	One	2.00	For examination of sample
6	Flame photometer	One	0.75	For examination of sample
7	pH meter	One	0.25	For pH measurement
8	EC meter	One	0.25	For EC measurement
9	Jeep	One	5.50	For farm visit
10	Research computer with CC TV	One	1.50	For examination of sample and display on computer
11	LCD projector	One	1.00	effective presentation
12	Universal oven	One	0.75	For sample drying
	Total		**14.65**	

6.2.3 Establishment of Tissue Culture Laboratory

Establishment of one tissue culture Laboratory at district head quarter is required to produce and supply disease free seedlings of important agricultural and fruit crops to the farmers.

Table 6.5 Project for establishing tissue culture laboratory. (Rs.in lakh)

Sr. No	Programme /Schemes	No. of Unit	Unit Cost	2012-13	2013-14	2014-15	2015-16	2016-17	Total
1	A Project for establishing Tissue culture Laboratory	1	100.0	100.0 (1)	10.0*	10.0*	10.0*	10.0*	140.0
	Total	-	-	100.0	10.0	10.0	10.0	10.0	140.0

* Maintenance cost

6.2.4 Installation of Solar Photo Voltaic Pumps (SPV)

Renewable energy i.e solar energy is the alternate source of diesel and electricity used in lifting the water for irrigation. Such technology available for converting the abundant sunshine into electricity for farm usage is SPV pumps for pumping out the irrigation water.

Advantages of SPV water pump

- Cutting cost of on diesel and electricity, as it operates on abundantly available solar energy
- Negligible operational and maintenance cost
- Environmentally safe and pollution free
- Un-interrupted supply, no fear of power cut.

Keeping in view this new innovative idea the project proposal is made with the financial out lay of 150 lakh.

Table 6.6 Fund requirement for Installation of Solar Photovoltaic Pumps (SPV)

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units	5	5	5	5	5	25
Cost @ Rs 6.00 lakh (Rs. in lakh)	30	30	30	30	30	150

6.2.5 Weather Watch and Forecasting System

The farmers of the district are prone to vagaries of nature. The crop damage due to hailstorms, chilling temperature, high temperature, stormy winds has become a common features 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 district headquarter with the Financial outlay of Rs. 100 lakh.

Table 6.7 Cost of project on Weather Watch and Forecasting System

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units	1	--	--	--	--	1
Cost @ Rs 100 lakh (Rs. in lakh)	100	--	--	--	--	100

6.2.6 Agril Informatics and training halls at block 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. Field functionaries also face a lot of problems. Therefore, to train the farmers through agro informatics service equipped with computer and e-connectivity and linking them with head quarters of line departments, KVK and the SAUs the project with Financial outlay of 275.0 lakh is proposed.

Table 6.8 Fund requirement for establishing agril. informatics and training centers at block level

Particulars	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Number of units	2	2	2	2	3	11
Cost @ Rs 25 lakh (Rs. in lakh)	50	50	50	50	75	275

6.2.7 Establishment of Wind Farm

The department of natural resources energy has established wind farm in Amreli district. Natural condition in some of the talukas found to be suitable for establishing wind farm. The details for establishing wind farm project is given in Table 6.20

Table 6.9 Proposal of Wind Farm Project in Amreli district.

Sr. No.	Taluka	Unit no	Area require (acre)	Wind velocity require (km/ hr)	Production (MW)	Height of unit (m)	Cost of One project(lakh)
1	Dhari	1	2.00	5.00 to 24.00	350	82	100.00
2	Khambha	1	2.00	5.00 to 24.00	350	82	100.00
3	Jafrabad	1	2.00	5.00 to 24.00	350	82	100.00
4	Babara	1	2.00	5.00 to 24.00	350	82	100.00
	Total	**4**	**8.00**	**-**	**1400**	**-**	**400.00**

6.3 Miscellaneous activities

6.3.1 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 taluka is proposed to be organized during *Rabi* or *Kharif* seasons in the district with the financial requirement 2 of Rs. 5 lakh per Mela.

Table 6.10 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	2	10	2	10	2	10	2	10	3	15	11	55

6.3.2 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 in each Taluka in five years with a grant of Rs. 50,000/- per camp. Interaction of farmers with field officers of department and other farmers, motivate the farmers for improving the health and productivity of their livestock.

Table 6.11 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	2	1.0	2	1.0	2	1.0	2	1.0	3	1.5	11	5.5

6.3.3 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. 25 thousands each are proposed for best agriculture, animal husbandry, horticulture, agro forestry farmers.

Table 6.12 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	1.25	5	1.25	5	1.25	5	1.25	5	1.25	25	6.25

6.3.4 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. 50,000 per diagnostic kit is required in each taluka of the district in the 12th Five Year Plan.

Table 6.13 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	2	1.0	2	1.0	2	1.0	2	1.0	3	1.50	11	5.5

Table 6.14 Consolidated Budget Proposal of the Amreli district **(Rs. In lakh)**

Budget proposal head-wise	**2012-13**	**2013-14**	**2014-15**	**2015-16**	**2016-17**	**Total**
I Agriculture						
IPM Demonstration	17.70	17.70	17.70	17.70	17.70	88.50
INM Demonstration	21.05	21.05	21.05	21.05	21.05	105.25
Varietal Demonstra.	11.10	11.10	11.10	11.10	11.10	55.50
Bio ferti. Demon.	9.35	9.35	9.35	9.35	9.35	46.75
Vermi compo Demo.	7.70	7.70	7.70	7.70	7.70	38.50
Capacity building for farmers	22.5	22.5	22.5	22.5	22.5	112.50
Strengthening of APMC	200	200	200	200	200	1000.00
Seed planning/Seed village programme	23.50	23.50	23.50	23.50	23.50	117.50
Farm machinery and equipments	7752.50	7752.50	7752.50	7752.50	7752.50	38762.50
Water harvesting structure	4550.00	4550.00	4550.00	4550.00	4550.00	22750.00
Soil conservation work	991.00	991.00	991.00	991.00	991.00	4955.00
Water management work	283.00	283.00	283.00	283.00	283.00	1415.00
Watershed development	5786.00	8278.00	8278.00	8278.00	8278.00	38898.00
Renewable energy development	1325.75	1325.75	1325.75	1325.75	1325.75	6628.75
Construction of Rural godowns	122.50	161.00	161.00	199.50	199.50	843.50
Capacity building	17.50	17.50	17.50	17.50	17.50	87.50
Total of Agriculture	**21141.15**	**23671.65**	**23671.65**	**23710.15**	**23710.15**	**115904.80**

Table 6.14 Contd……

II Horticulture						
IPM	19.00	19.00	19.00	19.00	19.00	95.00
INM	19.70	19.70	19.70	19.70	19.70	98.50
Distribution of MIS	453.00	453.00	453.00	453.00	453.00	2265.00
Varietal Demonstra.	3.40	3.40	3.40	3.40	3.40	17.00
Bio ferti. Demon.	3.60	3.60	3.60	3.60	3.60	18.00
Vermi compo Demo.	5.20	5.20	5.20	5.20	5.20	26.00
Capacity building for farmers	15.00	15.00	15.00	15.00	15.00	75.00
Establishing facilities for horti. development	13.40	10.40	98.40	95.40	13.40	231.00
Total of Horticulture	**532.30**	**529.30**	**617.30**	**614.30**	**532.30**	**2825.50**
III Animal Husbandry						
Identify technologies	1957.00	1722.00	1724.50	1727.00	1729.50	8860.00
Pilot project for fodder	120.00	10.00	10.00	10.00	10.00	160.00
Trainings	11.00	11.00	11.00	11.00	11.00	55.00
Total of Animal Husbandry	**2088.00**	**1743.00**	**1745.50**	**1748.00**	**1750.50**	**9075.00**
IV Fisheries	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**70.00**
V Forestry						
Farm protection	75.00	75.00	75.00	75.00	75.00	375.00
Agro forestry	8.00	8.00	8.00	8.00	8.00	40.00
Social forestry	378.03	420.63	461.97	498.84	538.14	2297.61
Total of Forestry	**461.03**	**503.63**	**544.97**	**581.84**	**621.14**	**2712.61**
VI New innovative projects						
Establishment of Seed Testing Laboratory	24.0	6.0	-	-	-	30
Establishment of soil testing laboratories (7 units)	191.80	138.60	37.80	44.80	48.30	461.3
Establishment of tissue culture laboratories	100.00	10.00	10.00	10.00	10.00	140
Establishment of Solar Photovoltaic Pumps	30.00	30.00	30.00	30.00	30.00	150
Weather Watch and Forecasting System	100.00	-	-	-	-	100
Establishing agril. informatics and training centers	50.00	50.00	50.00	50.00	75.00	275
Wind farm project	400.00	-	-	-	-	400
Total of New innovative projects	**895.8**	**234.6**	**127.8**	**134.8**	**163.3**	**1556.30**

Table 6.14 Contd……

VII Miscellaneous activities						
Krishi mela	10.00	10.00	10.00	10.00	15.00	55.00
Clinical capms	1.00	1.00	1.00	1.00	1.50	5.50
Farmers puraskars	1.25	1.25	1.25	1.25	1.25	6.25
Disease Diagnostic Kits	1.00	1.00	1.00	1.00	1.50	5.50
Total of Miscellaneous activities	**13.25**	**13.25**	**13.25**	**13.25**	**19.25**	**72.25**
Grand Total	**25145.53**	**26709.43**	**26734.47**	**26816.34**	**26810.64**	**132216.5**

Table 6.15 Sector wise Budget proposal for Amreli district (Rs in lakh)

Budget proposal head-wise	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Agriculture	**21141.15**	**23671.65**	**23671.65**	**23710.15**	**23710.15**	**115904.80**
Horticulture	**532.30**	**529.30**	**617.30**	**614.30**	**532.30**	**2825.50**
Animal Husbandry	**2088.00**	**1743.00**	**1745.50**	**1748.00**	**1750.50**	**9075.00**
Fisheries	**14.00**	**14.00**	**14.00**	**14.00**	**14.00**	**70.00**
Forestry	**461.03**	**503.63**	**544.97**	**581.84**	**621.14**	**2712.61**
New innovative projects	**895.8**	**234.6**	**127.8**	**134.8**	**163.3**	**1556.30**
Miscellaneous activities	**13.25**	**13.25**	**13.25**	**13.25**	**19.25**	**72.25**
Grand Total	**25145.53**	**26709.43**	**26734.47**	**26816.34**	**26810.64**	**132216.5**

Stakeholders meeting

Stakeholders meeting of Amreli Taluka ▶

◀ Stakeholders meeting of Rajula Taluka

◀ Stakeholders meeting of Dhari Taluka

Stakeholders meeting of Lathi Taluka ▶

ANNEXURE

Proceeding of Approval by District Level Planning Committee (RKVY)

તા.૧૭/૦૧/૧૩ ના રોજ જિલ્લા વિકાસ અધિકારીશ્રીના અધ્યક્ષ સ્થાને જિલ્લા પંચાયત કચેરી, અમરેલીના સભા ખંડમાં કોમ્પ્રીહેન્સીવ ડીસ્ટ્રીકટ એગ્રીકલ્ચર પ્લાન (સી–ડીએપી) ની સમીક્ષા તેમજ મંજૂરી અર્થે મળેલ ડીસ્ટ્રીકટ પ્લાનીંગ કમીટી (આરકેવીવાય) બેઠકની કાર્યવાહીની નોંધ.

માનનીય જિલ્લા વિકાસ અધિકારી, શ્રી આલોકકુમાર પાંડે સાહેબ અન્ય અગત્યની કામગીરીમાં વ્યસ્ત હોઈ તેમની સુચના મુજબ મીટીંગની કાર્યવાહી શ્રી સી.જે.ધડુક, જિલ્લા ખેતીવાડી અધિકારીશ્રીનાં અધ્યક્ષ સ્થાને શરૂ કરવામાં આવેલ.

શ્રી સી.જે. ધડુક, જિલ્લા ખેતીવાડી અધિકારીએ બેઠકમાં ઉપસ્થીત તમામ સભ્યોને આવકારી બેઠકની કાર્યવાહી શરૂ કરી. અધ્યક્ષશ્રીની અનુમતીથી ડો.બી.એ.મોણપરા, સંશોધન વૈજ્ઞાનિક (પાક સંવર્ધન) અને નોડલ વૈજ્ઞાનિકશ્રીએ સૌપ્રથમ અધ્યક્ષશ્રી તથા જિલ્લા પ્લાનીંગ કમીટીનાં સભ્યશ્રીઓને આવકારી સી–ડીએપી પ્લાનની પુર્વ ભૂમિકાથી માહિતગાર કર્યા. સી–ડીએપી તૈયાર કરવાનો હેતુ, આંકડાકીય માહીતીનું એકત્રિકરણ, આંકડાકીય પૃથ્થકરણ, જિલ્લાનાં કૃષિ અને સંલગ્ન વિભાગના વિકાસને લગત ત્રુટીઓ નકકી કરવી તથા ત્રુટીઓના નિવારણ માટેની યોજના અને અમલીકરણ વિષે બારમી પંચવર્ષિય યોજના દરમ્યાન પાંચ વર્ષનાં ખર્ચની દરખાસ્તની સવિસ્તાર માહીતી આપી.

વધુમાં જણાવેલ કે ગુજરાત રાજયના દરેક જિલ્લાના કૃષિ પ્લાન તૈયાર કરવાના થાય છે. જે પૈકી સૌરાષ્ટ્રના સાત જિલ્લાઓનો સી–ડીએપી પ્લાન બનાવવા માટે જુનાગઢ કૃષિ યુનિવર્સિટીને જવાબદારી સોપેલી છે. સૌરાષ્ટ્રના સાત જિલ્લાઓના સી–ડીએપી પ્લાન તૈયાર કરી જુનાગઢ કૃષિ યુનિવર્સિટીએ કૃષિ અને સહકાર વિભાગમાં તા.૩૦/૦૮/૨૦૧૨ ના રોજ રજુ કરેલ. જેમા ચર્ચાના અંતે એવું નકકી કરવામાં આવેલ કે સી–ડીએપી જેતે જિલ્લાની ડીસ્ટ્રીકટ પ્લાનિંગ કમીટી (આરકેવીવાય) સમક્ષ રજુ કરીને મંજૂરી મેળવવી.

અમરેલી જિલ્લા કૃષિ પ્લાનનું પાવર પોઈન્ટ પ્રેજન્ટેશન કરવામાં આવેલ. ત્યાર બાદ સર્વે સભ્યશ્રીઓએ ચર્ચામાં ભાગ લેતા નીચે મુજબના સુચનો જણાવેલ.

(૧) ખેડુતોએ ઉત્પન્ન કરેલ જણસીના પોષણક્ષમ ભાવ મળે તે માટે જિલ્લામાં સહકારી માળખું વિકસાવવાની ખાસ જરૂર છે. ખાસ કરીને બાગાયતી પાકોમાં મુલ્ય વર્ધન ઉપર ભાર મુકવાની જરૂર છે.

(૨) બાયોપેસ્ટીસાઈડ ઉપર ખેતી પાકોમાં નિદર્શનો લેવા.

(૩) ખેડુતો માટે જે રીતે ટ્રેનીંગની દરખાસ્ત કરેલ છે તેજ રીતે વિસ્તરણ પ્રવૃતિ સાથે સંકળાયેલ સ્ટાફ માટે પણ ટ્રેનિંગ પ્રોગ્રામની દરખાસ્ત કરવી જોઈએ.

(૪) પિયતનાં પાણીમાં ક્ષારનું પ્રમાણ વધારે હોય તેવા વિસ્તારમાં ક્ષારનું પ્રમાણ ઘટાડવા માટેની યોજના મુકવી જેથી જમીનની ફળદ્રુપતા જળવાઈ રહે.

(૫) જમીનનાં પૃથ્થકરણ માટે તાલુકા કક્ષાએ જમીન ચકાસણી પ્રયોગશાળા હોય તો ખેડુતોને જમીનનુ પૃથ્થકરણ કરાવવાનું સરળ બને.

(૬) રાસાયણીક ખાતરોનો વપરાશ ભલામણ મુજબ કરવા ઉપર ખાસ ભાર મુકવો.

(૭) જમીન ધોવાણ અટકાવવા માટેનાં ઉપાયોનો સમાવેશ કરવો જેથી જમીનની ઉત્પાદન શકિત જળવાઈ રહે.

(૮) લીલીયા, લાઠી, અમરેલી, સાવરકુંડલા અને ધારી તાલુકાનાં ખારા પાટમાં સુધારણા માટે આયોજન કરવાની જરૂરીયાત છે.

(૯) સુર્યશકિત અને પવન શકિત સંચાલિત ઉપકરણોનો વ્યાપ વધારવા ઉપર ભાર મુકવાની જરૂર છે.

(૧૦) રાની પશુઓથી ખેતરોમાં થતુ નુકશાન અટકાવવા યોજનાકીય મદદ પુરી પાડવાની ખાસ જરૂરત છે.

(૧૧) જાફરાબાદ–રાજુલા તાલુકાના દરિયાકાંઠાના ભુગર્ભ જળ ખારા થતા જાય છે અને તે આગળ વધે છે. તેને અટકાવવા પગલા લેવાની જરૂર છે.

(૧૨) ગૌચર વિકાસ માટે જરૂરી આયોજન કરવા ઉપર ભાર મુકવાની જરૂરીયાત છે.

ચર્ચાના અંતે મીટીંગમાં હાજર રહેલ સર્વે સભ્યશ્રીઓએ સર્વાનુમતે અમરેલી જીલ્લાના કૃષિ પ્લાનને આવકારી આગળની કાર્યવાહી માટે મંજુરી આપેલ.

મિટીંગના અંતમાં શ્રી સી.જે.ધડુક, જિલ્લા ખેતીવાડી અધીકારી, અમરેલીએ માનનીય જિલ્લા વિકાસ અધિકારીશ્રી તથા મીટીંગમાં હાજર તમામ અધીકારીશ્રીઓનો ચર્ચામાં રસ પુર્વક ભાગ લઈ સુચનો કરવા બદલ આભાર માની બેઠક પુર્ણ થયેલ જાહેર કરેલ.

જિલ્લા નોડલ વૈજ્ઞાનિક અને સંશોધન વૈજ્ઞાનિક (પાક સંવર્ધન) કૃષિ સંશોધન કેન્દ્ર જુનાગઢ કૃષિ યુનિવર્સિટી અમરેલી	સહ અધ્યક્ષ અને જિલ્લા ખેતીવાડી અધિકારી જિલ્લા પંચાયત અમરેલી	અધ્યક્ષ અને જિલ્લા વિકાસ અધિકારી જિલ્લા પંચાયત અમરેલી

જા.નં. જુકૃયુ/સંવે/કૃસંકે/ટેક–૧/૨૫૦,૨૫૧ /૧૩ તા. ~~૧૭/૦૧/૨૦૧૩~~ અમરેલી.

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નકલ જયભારત સાથ રવાના :–

૧) જિલ્લા વિકાસ અધિકારીશ્રી, જિલ્લા પંચાયત કચેરી, અમરેલી
૨) નિયામકશ્રી, જિલ્લા ગ્રામ વિકાસ એજન્સી, અમરેલી
૩) જિલ્લા આયોજન અધિકારીશ્રી, અમરેલી
૪) નાયબ પશુપાલન નિયામકશ્રી, જિલ્લા પંચાયત કચેરી, અમરેલી
૫) નાયબ બાગાયત નિયામકશ્રી, અમરેલી
૬) મેનેજરશ્રી, લીડ બેન્ક, લાયબ્રેરી ચોક, અમરેલી
૭) નાયબ કાર્યપાલક ઈજનેરશ્રી (સિંચાઈ), જિલ્લા પંચાયત કચેરી, અમરેલી
૮) મદદનીશ મત્સ્યઘોગ નિયામકશ્રી, જાફરાબાદ
૯) મેનેજરશ્રી, ગુજરાત લેન્ડ ડેવલપમેન્ટ બેન્ક, અમરેલી
૧૧) પ્રોગ્રામ કો–ઓર્ડીનેટરશ્રી, કૃષિ વિજ્ઞાન કેન્દ્ર, જુ.કૃ.યુ., અમરેલી
૧૨) જિલ્લા રજીસ્ટ્રારશ્રી (સહકારી મંડળીઓ), બહુમાળી ભવન, અમરેલી
૧૩) નાયબ ખેતી નિયામકશ્રી (વિસ્તરણ), બહુમાળી ભવન, અમરેલી (ડી.એસ.ગઢીયા)
૧૪) નાયબ ખેતી નિયામકશ્રી (આયજન), કૃષિ ભવન, ગાંધીનગર
૧૫) જિલ્લા ખેતિવાડી અધિકારીશ્રી, જિલ્લા પંચાયત કચેરી, અમરેલી
૧૬) મેનેજીંગ ડીરેકટરશ્રી, અમરેલી જિલ્લા દુધ ઉત્પાદક સહકારી સંઘ લી. અમરેલી (અમર ડેરી)
૧૭) ચેરમેનશ્રી, ખેતિવાડી ઉત્પન્ન બજાર સમિતિ, અમરેલી, બાબરા, લાઠી, લીલીયા, સાવરકુંડલા, રાજુલા, ધારી, બગસરા, ખાંભા, ટીંબી (જાફરાબાદ), દામનગર (લાઠી).

Agricultural Research Station, Junagadh Agricultural University
Keriya Road, Amreli
Presentation of
Comprehensive District Agricultural Plan (C-DAP), Amreli District
Place: Jilla Panchayat Office, Conference Hall, Amreli, Date: 17/01/2013

S/N	Name	Designation	Signature
1		નાયબ બિયારણ અધિકારીશ્રી, જુ.કૃ.યુ., અમરેલી	
2	ડી. જે. દુધાત	નાયબ જિલ્લાવાણી અધિકારીશ્રી નાયબ ખેતીવાડી, અમરેલી	
3	કે. કે. ડોબરિયા	બાગાયત મદદનીશ નિયામક (વિ) અમરેલી	
4	Dr. B. A. Monpara	Research Scientist, Amreli	
5	G. S. Dave	Asst. Dir. of Agri: (Ext.) Sub Div. Amreli	
6	હરીભાઈ ગોરધનભાઈ કોરડીયા	સેક્રેટરી APMC ધારી	
7	Acharya D. C.	I/C. Secretary - A. P. M. C. - Dhari	
8	Jaydeep N. Kachela	APMC/MRIB DRDA	
9	C. R. Pathelia	Asstt. Superintendent of Fisheries Jafrabad	
10	Nitin C. Ponsuriya	Project incharge - AMR Dairy	
11	DR. K. V. Vibhakar	DY. Director of A. H. Dist. O. — Amreli	
12	Dr. D. M. PATHAK	Training Associate, KVK, Amreli	
13	Suresh Kathiriya	A.P.M.C-Dhari	
14	P. M. Nimbla	Hort. offi., Amreli	
15	D. A. Gohil	Research Officer DPO Amreli	
16	R. D. SHIRIMALI	LEAD BANK AMRELI	
17	S. M. Makwana	Dy. Ex. Engineer (IRRI)	
18	P. D. Pandya	Secretary APMC Amreli	
19	H. H. JOSHI	ખેતીવાડી અધિકારીશ્રી	
20	R. S. Sikarwar	Asstt. Director (S.O) GSLDC Amreli	

S/N	Name	Designation	Signature
21	B.V. Dadachel	Asso. Res. Scientist (Ento.) ARS. Amreli	
22	H.J. Kalpadiy	Asso. Res. scientist. (Pl. Path.) ARS. Amreli	
23	P.M. Lakhani	Agril. Asstt. A.R.S. J.A.U. Amreli.	
24	D.A. Rathod	Agril. Asstt. ARS. JAU. Amreli	
25	D.V Sagathia	Driver A.R.S. JAU Amreli