



स्टेट फोकस पेपर 2023-24

State Focus Paper 2023-24

राज्य - गुजरात

State - Gujarat

राष्ट्रीय कृषि और ग्रामीण विकास बैंक

National Bank for Agriculture and Rural Development

गुजरात क्षेत्रीय कार्यालय, अहमदाबाद

GUJARAT REGIONAL OFFICE, AHMEDABAD



दृष्टि

ग्रामीण समृद्धि के लिए राष्ट्रीय विकास बैंक

ध्येय

सहभागिता, संधारणीयता और समानता पर आधारित वित्तीय और गैर-वित्तीय सहयोगों, नवोन्मेषों, प्रौद्योगिकी और संस्थागत विकास के माध्यम से समृद्धि लाने के लिए कृषि और ग्रामीण विकास का संवर्धन

Vision

Development Bank of the Nation for fostering rural prosperity

Mission

Promote sustainable and equitable agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity

स्टेट फोकस पेपर – 2023-24
STATE FOCUS PAPER – 2023-24

गुजरात / GUJARAT



राष्ट्रीय कृषि और ग्रामीण विकास बैंक
National Bank for Agriculture and Rural
Development

गुजरात क्षेत्रीय कार्यालय
नाबार्ड टावर, उस्मानपुरा
अहमदाबाद - 380013

GUJARAT REGIONAL OFFICE
NABARD TOWER, USMANPURA
AHMEDABAD - 380 013

Phone: (079) 27554044

Fax: (079) 27551584

e-mail: ahmedabad@nabard.org



Bhupendra Patel

Chief Minister, Gujarat State



Apro/jm/2022/12/07/rs

Dt: 07-12-2022

MESSAGE

The **National Bank for Agriculture and Rural Development (NABARD)** has been given many responsibilities related to the formulation of policies, planning and operations in agriculture and financial development. I congratulate **NABARD** for its unstinting role in the development of the State of Gujarat. It is heartening to note that this banking organization has completed **40 years** of dedicated work towards the cause of Agriculture and Rural Development and has in addition to its refinancing role, paved the way for many financial and development initiatives.

I am much pleased to unveil **State Focus Paper-2023-24** publication and dedicate it to the **Vibrant State of Gujarat**, so that the State continues to make huge strides in development. I am sure this document will provide the required fillip to agriculture and rural development and provide the much needed roadmap for creating conducive policies for various activities under priority sector. I request all the Banks, Financial Institutions and Departments of the State Government to use this document to bring prosperity in the rural and remote corners of Gujarat. I convey my best wishes to NABARD, Gujarat Regional Office for all their future endeavors in the coming year.

(Bhupendra Patel)



प्राक्कथन

गुजरात को देश के विकास का इंजन माना जाता है और 2026-27 तक भारत को 5.0 ट्रिलियन अमरीकी डॉलर की अर्थव्यवस्था बनने हेतु विकास दर को गति देने के लिए उचित मार्ग पर है। पिछले कुछ समय में राज्य की कृषि अर्थव्यवस्था में उच्च मूल्य वाली फसलों की ओर झुकाव, कृषि मूल्य श्रृंखला और खाद्य प्रसंस्करण क्षेत्र की दक्षता में सुधार जैसे गतिशील परिवर्तन आए हैं। राज्य विभिन्न क्षेत्रों में सक्षम नीतिगत समर्थन के माध्यम से कृषि, कृषि-संबद्ध गतिविधियों और मत्स्यपालन क्षेत्र में बेहतर प्रदर्शन हेतु प्रयासरत है।

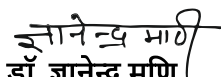
महामारी और अर्थव्यवस्था में इससे संबंधित अन्य चुनौतियों के बावजूद, राज्य में प्राथमिकता प्राप्त क्षेत्र ऋण वितरण में आधार स्तरीय ऋण प्रवाह वित्तीय वर्ष 2021-22 के लिए निर्धारित ₹2,18,279.65 करोड़ के एसीपी लक्ष्य को पार करते हुए ₹2,39,170.02 करोड़ रहा। वर्ष 2023, जिसे "इंटरनेशनल ईयर ऑफ़ मिलेट्स" घोषित किया गया है, की पृष्ठभूमि में गुजरात में मिलेट्स की खेती और उसके संवर्धन की स्थिति को स्टेट फोकस पेपर में यथोचित प्राथमिकता दी गई है।

राज्य के कृषि क्षेत्र के सामने कम उत्पादकता, सिंचाई सुविधाओं, उपज के विपणन, कम मशीनीकरण, अत्यधिक लवणता, लहरदार स्थलाकृति वाली भूमि आदि जैसी कई चुनौतियाँ। यह महसूस किया गया है कि राज्य सरकार द्वारा उपयुक्त रणनीति तैयार करके और सभी हितधारकों जैसे कि बैंकों, लाइन विभागों, स्वैच्छिक संघों आदि को उसके क्रियान्वयन में शामिल करके राज्य की कृषि और ग्रामीण अर्थव्यवस्था के समक्ष आने वाली इन चुनौतियों को आसानी से सुलझाया जा सकता है। किसानों व कृषि उपज के सामूहिकीकरण और विभिन्न जिलों में उपज आधारित समूहों को बढ़ावा देने से इनपुट प्रबंधन, उत्पादन प्रक्रिया और उत्पाद के विपणन से संबंधित कई समस्याओं को हल करने में सहायता प्राप्त हो सकती है।

यह हर्ष की बात है कि राज्य सरकार को ₹35,225 करोड़ की सहायता के माध्यम से 63,172 आरआईडीएफ परियोजनाओं के क्रियान्वयन का समर्थन करते हुए नाबार्ड ने राज्य में आधारभूत सुविधाओं के विकास में उल्लेखनीय योगदान दिया है। इससे 33 लाख हेक्टेर की सिंचाई क्षमता निर्मित हुई है, रोजगार का सृजन हुआ है और राज्य की ग्रामीण समृद्धि में वृद्धि हुई है।

मुझे वर्ष 2023-24 के लिए स्टेट फ़ोकस पेपर, जो राज्य के सभी 33 जिलों के लिए संभाव्यतायुक्त ऋण योजनाओं (पीएलपी) में अनुमानित ऋण संभाव्यता का एकत्रीकरण है, प्रस्तुत करते हुए अत्यंत खुशी हो रही है। लाइन विभागों, बैंकों और अन्य हितधारकों के साथ व्यापक परामर्श के माध्यम से मूल्यांकन करते हुए, इस दस्तावेज में आधारभूत सुविधाओं की उन कमियों पर भी प्रकाश डाला गया है जिन्हें राज्य सरकार द्वारा दूर किया जा सकता है। वर्ष 2023-24 के लिए राज्य में प्राथमिकता-प्राप्त क्षेत्र के लिए ऋण संभाव्यता **₹2,98,097.52 करोड़** आंकी गई है, जो पिछले वर्ष की तुलना में 20% की वृद्धि को दर्शाता है। कृषि के आधार स्तरीय ऋण प्रवाह का लक्ष्य **₹1,27,742.71 करोड़** है, जो राज्य में प्राथमिकता प्राप्त क्षेत्र ऋण वितरण के लिए मूल्यांकित कुल संभाव्यता का लगभग 42.85% है। कृषि सावधि ऋणों पर भी ध्यान केन्द्रित किया गया है, जो पूंजी निर्माण के लिए महत्वपूर्ण हैं और जिसके परिणामस्वरूप कृषि क्षेत्र में ऋण का बेहतर उपयोग हो सकता है।

गुजरात राज्य के लिए स्टेट फ़ोकस पेपर 2023-24 तैयार करने में अपने समर्थन और सहयोग के लिए मैं राज्य सरकार के विभागों, भारतीय रिज़र्व बैंक, एसएलबीसी, जिला प्रशासनों और समुदाय आधारित संगठनों (सीबीओ) का हार्दिक धन्यवाद व्यक्त करता हूँ। मुझे आशा है कि नीति निर्माताओं और अन्य हितधारकों द्वारा राज्य के आर्थिक विकास के लिए उपयुक्त उपाय प्रारंभ करने में यह दस्तावेज सहायक होगा। मुझे विश्वास है कि, फ़ोकस पेपर में चिन्हित की गई राज्य की उपयोग-योग्य संभाव्यताओं को सभी हितधारकों के एकनिष्ठ प्रयासों से पूर्णतः प्राप्त किया जाएगा। मेरा दृढ़ विश्वास है कि, हम सब मिलकर समग्र रूप से दीर्घकालिक विकास लक्ष्यों को प्राप्त करते हुए 2030 तक गुजरात को एक विकसित राज्य बनाने में समर्थ होंगे।


डॉ. ज़ानेन्द्र मणि
मुख्य महाप्रबंधक



Foreword

Gujarat known as the *growth engine of the country*, is on the right path as far as its approach to accelerate its growth rate to help India to become the USD 5.0 trillion economy by 2026-27 is concerned. The State agriculture economy of late has witnessed dynamic changes like shift towards high value crops, improving efficiency in the Agriculture value chain and food processing sector. The State continues to strive towards better performance in agriculture, agri-allied activities and fisheries sector through able policy support across sectors.

Despite the pandemic and other associated stresses in the economy, the GLC flow to Priority Sector in the state stood at ₹2,39,170.02 crore surpassing the ACP target of ₹2,18,279.65 crore set for FY 2021-22. In the backdrop of the year 2023 that has been announced as the “International Year of Millets”, the status of cultivation and promotion of millets in Gujarat has been given due priority in the State Focus Paper.

The agriculture sector in the state faces various challenges like low productivity, irrigation facilities, supply chain gap, low mechanisation, high salinity, undulated landscape etc. It is felt that some of these challenges confronted with by the state agriculture and rural economy can easily be tackled by making suitable strategies by the State Government and putting these in place by involving all the stakeholders viz., banks, line departments, voluntary associations etc. The collectivisation of farmers and farm produce and promoting product based clusters in various districts could help solving many problems relating to input management, production process and marketing of the produce.

It is heartening to share that NABARD has contributed in a big way to the infrastructure development in the State by supporting the implementation of 63,172 RIDF Projects with an assistance of Rs. 35,225 crores to the State Government. This has created 33 lakh ha of irrigation potential, generated employment and enhanced the rural prosperity in the state.

It gives me immense pleasure in presenting the State Focus Paper for the year 2023-24 which is the aggregation of the credit potential estimated in Potential Linked Credit Plans (PLPs) for all the 33 districts of the state. This document has also highlighted the infrastructural gaps that can be bridged by the State Government, assessed through an extensive consultation process with the line departments, bankers and other stakeholders. The credit potential for priority sector in the State for the year 2023-24 has been assessed at **₹2,98,097.52 crore** which denotes an increase of 20% over the previous year. The target of GLC of agriculture is pegged at **₹1,27,742.71 crore** which is about 42.85% of the total potential assessed for Priority Sector in the state. Considerable focus has been given to the Agri Term loans as well, which are important for capital formation and can result in better credit absorption in the agriculture sector.

I extend my sincere thanks to State Government Departments, RBI, SLBC, District Administrations and Community Based Organizations (CBOs) for their support and cooperation extended in preparation of State Focus Paper 2023-24 for Gujarat. I hope that this document will help the policy makers and other stakeholders in initiating suitable measures for the economic development of the State. I am sure that the exploitable potential of the State as identified in the focus paper shall be realised in full with the concerted efforts of all stakeholders. It is my firm belief that together, we will be able to make Gujarat a developed State by 2030, achieving sustainable development goals in a holistic manner.

Dr. Gyanendra Mani
Chief General Manager

INDEX

Chapter No.	Particulars	Page No
	Appendix-A Broad Sector-wise Projections	i
	Appendix-B Sector-wise & Sub-Sector-wise Credit Potential	ii
	Map of Gujarat	iii
	Executive Summary	iv
1	State Profile	1
2	Banking/ Financial Sector Profile	10
3	NABARD's perception on the development perspective of the State	17
4	Potential Credit Outlays	39
4.1	Credit Potential for Agriculture - Farm Credit	41
4.1.1	Crop Production, Maintenance and Marketing	41
4.1.2	Water Resources	45
4.1.3	Farm Mechanization	50
4.1.4	Plantation & Horticulture including Sericulture	53
4.1.5	Forestry & Wasteland Development	58
4.1.6	Animal Husbandry - Dairy, Poultry, Sheep, Goat, Piggery etc	61
4.1.7	Fisheries - Inland, Marine, Brackish etc.	69
4.1.8	Integrated Farming System	73
4.1.9	Others –Bullocks, Bullock Carts, two wheelers etc.	76
4.2	Agriculture Infrastructure	
4.2.1	Construction of Storage Facilities - Warehouses, Market yards including Cold Storage units/ Cold Storage Chains	78
4.2.2	Land Development , Soil Conservation and Watershed Development	82
4.2.3	Others- e-NAM, Tissue Culture, Agri-biotech, Seed Production, Bio-Pesticides/ Bio-fertilizers, Vermi Composting, etc	87
4.3	Ancillary Activities	
4.3.1	Food and Agro Processing	91
4.3.2	Agri Ancillary Activities-Others	95
4.3.3	Others - Miscellaneous	99
4.4	MSME-Working Capital and Investment Credit	104
4.5	Export Credit	109
4.6	Education	115
4.7	Housing	117
4.8	Social Infrastructure involving bank credit	121
4.9	Renewable Energy	124
4.10	Informal Credit Delivery System	128
5	Infrastructure Support	131
6	Details of policy initiatives of GoI, RBI, NABARD and the State Govt.	140

Annexure No	Particulars	
I	District-wise and sub-sector wise PLP projections for 2023-24	155
II	Agency-wise, broad sector-wise flow of Ground Level Credit in the state-Target, Achievements and Percentage of achievement for last three years and Target for 2022-23	156
III	Critical infrastructure support to be provided	157
IV	Critical interventions required in various sectors/Sub-sectors	166

List of Tables

Table No.	Particulars	Page no.
1.1	Land use pattern of Gujarat	4
1.2	Sector-wise/ Activity-wise distribution of Co-operatives in Gujarat	8
2.1	Banking at a Glance in Gujarat State - March 2022	12
2.2	Deposits at a glance	12
2.3	Advances at a glance	13
2.4	Priority Sector Advances by Banks as on March 2022	14
2.5	Performance under State Credit Plan	15
3.1	Disbursement of Agriculture Credit (Long & Short Term)	19
3.2	Productivity of the major crops of Gujarat	20
3.3	Comparison of cost of production of various crops in Gujarat, All India and other states.	20
3.4	Category wise number of farmers and landholding.	21
3.5	Working capital for AH&F – Progress under Saturation drive	22
3.6	Details of Credit Guarantee Scheme	29
3.7	Sub-components of IFS model and their respective share in area (1 ha model) and income	36
4.1	Sub sector-wise credit projection assessed for the year 2023-24	40
4.2	Area under Production, Production & Productivity of Major Crops	41
4.3	Status of development of water resources.	45
4.4	Comparative status of utilization of ground water	46
4.5	Farmers covered as per land holding under Micro Irrigation Scheme	46
4.6	Potential of Farm Mechanization in Gujarat	50
4.7	Crop-wise clusters identified by the Department of Horticulture	53
4.8	Livestock population of All India as well as Gujarat as per 20th Livestock Census Survey Data	61
4.9	Production of Milk, Eggs and Wool	62
4.10	Per capita Availability of Livestock Products in Gujarat.	62
4.11	Number of animals slaughtered for meat production	65
4.12	Marine and Inland fish production and foreign export	69
4.13	IFS model for 1 Ha. land area	75
4.14	GLC Flow to Land Development Sector in Gujarat	84
4.15	NABARD Refinance to Land Development Sector in Gujarat	84
4.16	Commodity Profile of Gujarat	92
4.17	SHG-Bank Linkage programme – Status - Agency wise position	99
4.18	Enrolment under PMSBY, PMJJBY and APY	101
4.19	The trend of MSME financing in Gujarat state during years 2020 to 2022	105
4.20	NPA trend in MSME sector in Gujarat	105
4.21	Export Trends of Gujarat	110

List of Tables

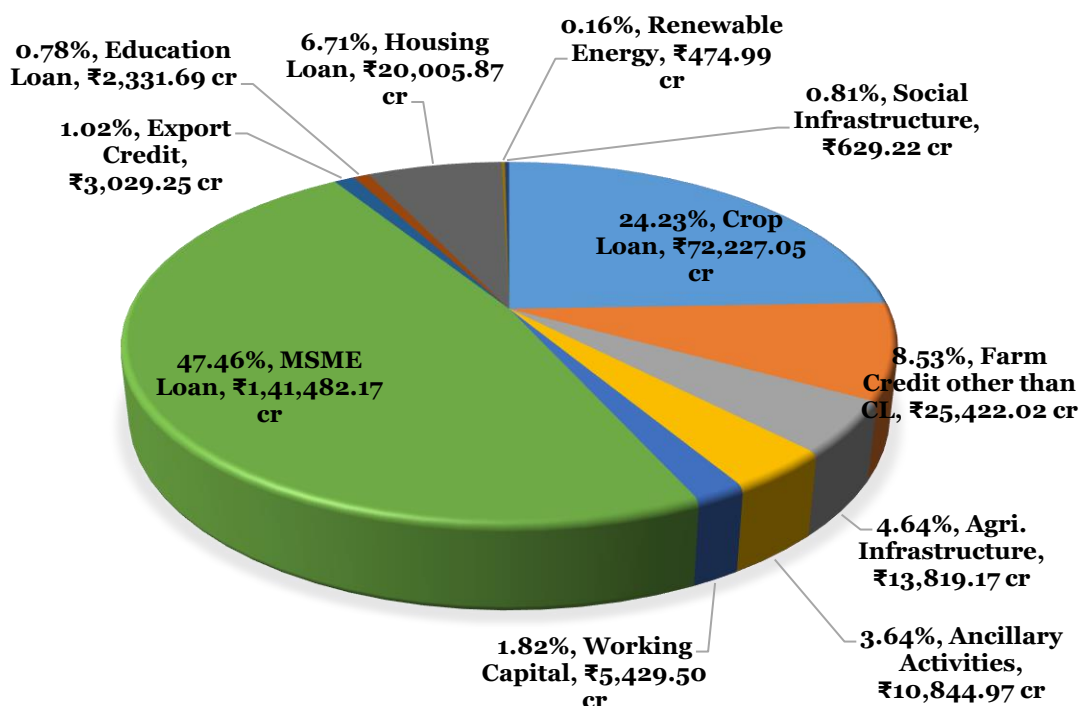
Table No.	Particulars	Page no.
4.22	Parameters of comparison of states to asses export credit ecosystem	111
4.23	Comparison of Export credit to GSDP ratio between states	112
4.24	Social Sector (Health, Education, Drinking Water) projects	122
4.25	Cost and subsidy details of family size Biogas as per capacity	124
4.26	SHG – Bank Linkage programme– Agency wise	128
4.27	SHGs- Grading and Sanction status	128
4.28	SHGs – Details of Disbursement.	129
4.29	Status of NPA as percentage to Loan Outstanding in Bank lending to SHGs in Gujarat	129
5.1	Broad sector wise details of projects sanctioned and amount disbursed	136
5.2	Progress of Sardar Sarovar Narmada Nigam Limited project	138
6.1	Sector-wise/ Activity-wise distribution of Co-operatives in India	142
6.2	Comparison of Credit Guarantee Schemes for FPOs and Animal Husbandry and Dairying	144

Appendix A

Broad Sector-Wise Credit Projection Year 2023-24

Sr. No.	Broad Sectors	₹ Crore
I	Crop Loan	72,227.05
	Farm Credit other than CL	25,422.02
	Agri. Infrastructure	13,819.17
	Ancillary Activities	10,844.97
	Working Capital for Animal Husbandry & Fisheries	5,429.50
	Total Agriculture	1,27,742.71
II	MSME Loan	1,41,482.17
III	Export Credit	3,029.25
IV	Education Loan	2,331.69
V	Housing Loan	20,005.87
VI	Renewable Energy	474.99
VII	Others (SHGs/JLGs etc.)	2,401.61
VIII	Social Infrastructure	629.22
	Grand Total	2,98,097.52

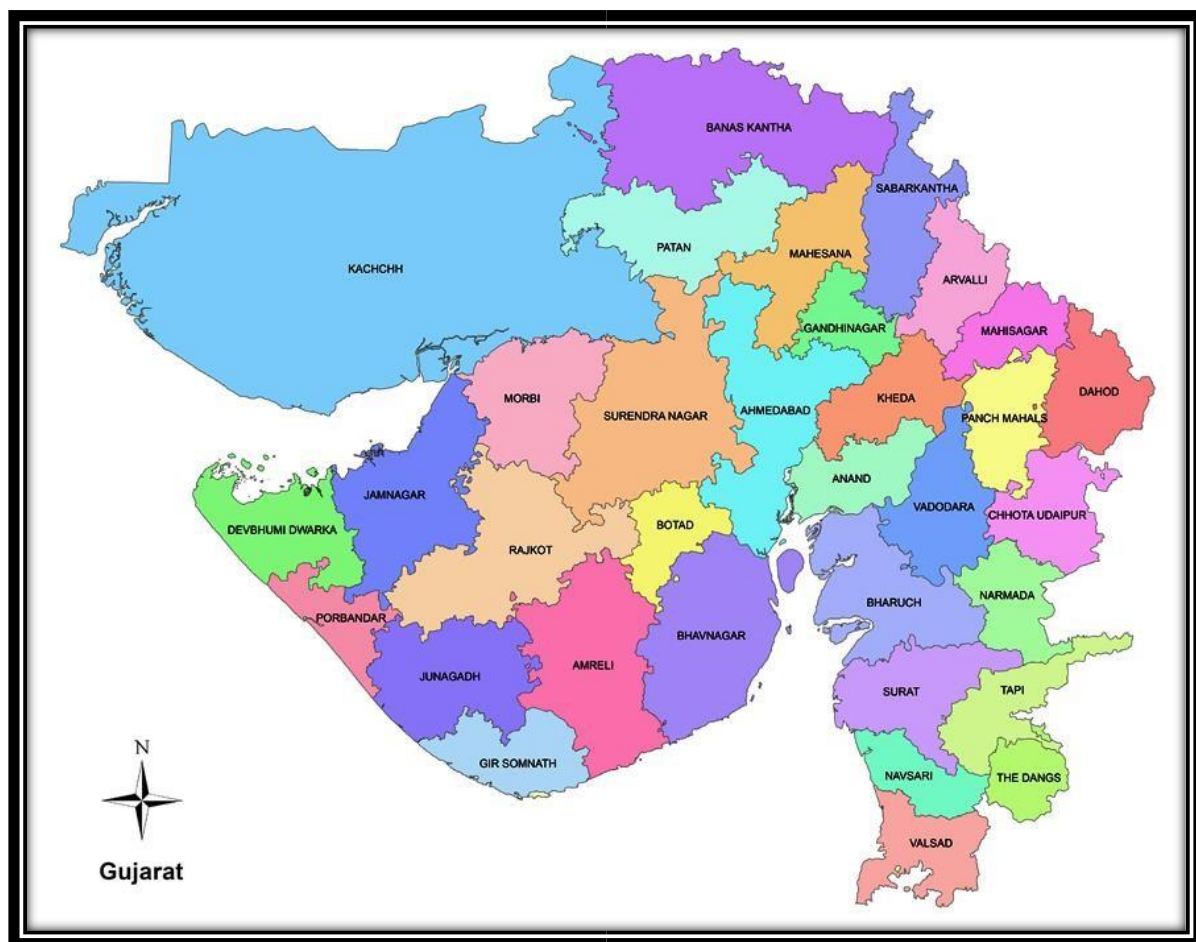
BROAD SECTOR-WISE PROJECTION 2023-24



Appendix- B
Sector-Wise & Sub-Sector-wise Credit Potential
Year 2023-24

Broad Sector	Sector	Sub-Sector	Amount (in Rs. Crore)
Credit Potential for Agriculture	Farm Credit	Crop Loan	72,227.05
		Water Resources	5,751.78
		Farm Mechanisation	7,478.11
		Plantation & Horticulture	2,627.32
		Forestry & Wasteland Development	167.96
		Animal Husbandry - Dairy	5,323.57
		Animal Husbandry - Poultry	313.73
		Animal Husbandry - Sheep/Goat/Piggery	101.44
		Fisheries	632.55
		Others	3,025.56
	Total Farm Credit other than Crop loan		25,422.02
	Total Farm Credit		97,649.07
	Agriculture Infrastructure	Storage	9,773.07
		Land Development	2,982.92
		Others- Tissue Culture etc.	1,063.17
	Total Agri Infrastructure		13,819.17
	Ancillary Activities	Food and Agro Processing	9,256.61
		Others	1,588.36
	Total Ancillary Activities		10,844.97
	Total WC - AH&F		5,429.50
	Total Agriculture		1,27,742.71
MSME	Investment Credit		1,01,580.23
	Working Capital		39,901.94
	Total MSME		1,41,482.17
Export			3,029.25
Education			2,331.69
Housing			20,005.87
Renewable Energy			474.99
Others (SHGs/JLGs etc.)			2,401.61
Social Infrastructure			629.22
Grand Total			2,98,097.52

Map of Gujarat



Executive Summary

One of the main exercises carried out by National Bank for Agriculture and Rural Development (NABARD) is the preparation of the Potential Linked Credit Plans (PLPs) for the districts on an annual basis, which forms the basis for preparation of the District Credit Plans (DCPs) by the respective Lead Banks, resulting in the Annual Credit Plan (ACP) for the State. The PLPs essentially identify the exploitable credit potential in the district under various sectors/ subsectors, the infrastructure gaps to be filled-in and interventions required in order to help realize the assessed credit potential.

The PLPs for 2023-24 have been prepared for all the districts of the State, which seek to bring in convergence of development efforts from all quarters. An aggregate potential of ₹2.98 lakh crore for deployment of bank credit has been assessed for the State and the critical infrastructure gaps and interventions required to realise the potential are presented in the SFP document.

1. State Profile

The total geographical area of Gujarat is 1,96,024 sq. kms. It has 33 districts and 251 talukas.

It falls in the 13th Agro Climatic zone, which is further divided into eight sub-zones, viz., Southern Heavy Rainfall Area & Hilly Area, South Gujarat, Middle Gujarat, North Gujarat, North-West Arid Zone, North Saurashtra, South Saurashtra and Bhal & Coastal Area.

With only 4.99 per cent population share, Gujarat accounts for 7.9% share in National GDP. Gujarat is the largest producer of Cotton, Groundnut, Condiments and Spices in India, despite the fact that 58 per cent of land area is under arid and semi-arid regions. The net sown area of Gujarat is around 52% of the reported area of 188 lakh Ha. The cropping intensity is 141% and the gross cropped area is 138.15 lakh Ha.

Animal husbandry and dairy activity play a vital role in the rural economy of Gujarat. Dairy farming functions on a co-operative basis and the State has 18 District Co-operative dairies and 18565 co-operative milk societies. Gujarat is 4th largest State in milk production in India constituting 7.55 % of milk production. The Amul Model is well known all over India, and it has emerged as the largest milk producer in the world.

Gujarat was amongst the first States in India to set-up an industrial park and is a leading State in harnessing solar power and wind energy. This infrastructure has strong public policy support. The State's strategic location, ports, long coastline, uninterrupted power supply, State-wide gas grid, rich gas reserves, road and rail network, airports, proactive Government and business-savvy population make a perfect ground for businesses to flourish.

Gujarat is one of India's most prosperous States, having per capita GDP significantly above all-India average.

2. Banking and Financial Sector Profile

Gujarat has a network of 33 Commercial banks (12 public sector banks and 21 private sector banks), two Regional Rural Banks, one State Co-operative Bank, 18 District Central Cooperative Banks, one State Co-operative Agriculture and Rural Development Bank, six Small Finance Banks, one Payment Bank and a number of Urban Cooperative Banks. As on 31 March 2022, total number of branches of all banks excluding UCBs was 9834 comprising of 3530 rural, 2299 semi-urban & 4005 urban/ metro branches.

2.1 Deposits

The aggregate deposits of the banks in Gujarat increased by ₹88,741 crore from ₹8,81,338 crore as of 31 March, 2021 to ₹9,70,079 crore as on 31 March 2022 registering a growth of 10.07% as against 15.93% for the previous year. During the year 2021-22, of all banks, highest

increase (in percentage terms) was registered by Small Finance Banks at 40.69% followed by Private Sector Banks at 14.73%.

2.2 Advances

The aggregate credit increased by ₹75,854 crore from ₹6,77,510 crore as of March 2021 to ₹7,53,364 crore as of March 2022 registering a growth of 11.2% as against the growth of 8.11% registered during the previous year. The growth in advances was mainly contributed by Private Sector Banks (69.20% of the increment) and Public Sector banks (26.4% of the increment). The highest growth in advances was registered by Small Finance Banks (27.8% y-o-y) followed by Private Sector banks (16.6% y-o-y).

2.3 Performance under Priority Sector

As against the stipulated benchmark level of 40%, the performance of all the banks under priority sector during the year 2021-22 was 55.17%. For agricultural advances the overall achievement of all the banks stood at 15.31% against a stipulation of 18%. Cooperatives and RRBs fared better in Agri Advances at 73.43% and 74.09% respectively as compared to Public Sector and Private Banks where the percentage of Agri Advances was 15.29% and 7.66% respectively.

2.4 Credit Deposit Ratio

CD Ratio of the State stood at 77.66% whereas it stood at 79.82% inclusive of RIDF as a whole for year 2021-22. CD Ratio was below 40% in the districts of Anand, Dangs, Kheda, Mahisagar, Navsari, Porbandar and Tapi.

2.5 Performance under State Credit Plan

Against the target of ₹97,153 crore under Total Agriculture Loan for 2021-22, the ground level credit flow was ₹85,935 crore thus achieving about 88.45% of the target as against 99% achievement during the previous year. However GLC flow under MSME had exceeded the target with achievement at 136.41%. GLC flow under Housing has also shown a phenomenal improvement and stood at 108.03% of the target. The Education sector however still continues to be a cause for concern. Achievement under Priority Sector as a whole worked out to 109.57%.

3. NABARD's Initiatives in Gujarat

NABARD being the Apex Bank for all matters related to agriculture and rural development, has a vital role in credit disbursement and development of the State. Credit Support given by NABARD are discussed in brief as under:

Business and Development Operations

3.1 Refinance

During the year 2021-22, refinance of ₹13402 crore has been extended to financial institutions of Gujarat for crop production and agri-investment purposes.

Direct Refinance Assistance of ₹1345.70 crore was disbursed in the form of Short Term Multipurpose Credit (STMC) during 2021-22 to enable the Cooperative Banks to diversify their loan portfolio and increase their business.

To ensure unhindered flow of credit from banks to farmers to carry out their agricultural operations smoothly, NABARD provided front ended liquidity support of ₹705 crore to Cooperative Banks and NBFC-MFIs under Special Liquidity Facility (SLF) during 2021-22.

3.2 Credit Facility to Federations (CFF):

NABARD extends Credit Facility to Federations (CFF) to strengthen Marketing Federations/ Cooperatives with liquidity support for marketing and other related activities like

procurement, processing, storing etc., as a separate line of credit. Under this facility an amount of ₹292.97 crore was availed by the federations.

3.3 Credit support to Infrastructure development

(a) Rural Infrastructure Development Fund (RIDF)

NABARD extends credit support to State Governments to build rural infrastructure such as irrigation structures, roads and bridges, drinking water, rural health, education, etc. During 2021-22, NABARD disbursed an amount of ₹2186.18 crore to the State Government taking the cumulative disbursement since inception (1995-96) to ₹29,877 crore upto 31st March 2022. Irrigation Potential of around 33 lakh Ha has been created under RIDF projects. Further, more than 21,000 kms road has been laid and drinking water facility provided to 14,775 villages through the projects executed under RIDF. Along with this, construction of 14,360 schools and 7,039 health centres is funded under RIDF till date. Projects of Dry warehouse Storage facility for Grass have been sanctioned in 14 districts which are expected to create 1.10 lakh MT of storage capacity on completion. Also Dry Warehouse Storage for Seed and Agri Inputs have been sanctioned in 10 districts which would create 1.85 lakh MT storage capacity on completion. Till date 93 Solar feeders have been commissioned benefitting 4445 farmers and generating 101.70 MW of electricity under the SKY project. In addition to these, 9134 Anganwadi centres and 7203 PHCs have also been created in the State under aegis RIDF.

(b) Long Term Irrigation Fund

Govt. of India in the budget 2016-17, announced the creation of the Long Term Irrigation Fund (LTIF) in NABARD with an initial corpus of ₹.20,000 crore for funding and fast tracking the implementation of incomplete major and medium irrigation projects. In the Union Budget 2017-18, an additional corpus of ₹20,000 crore was allotted. Under the scheme, 106 projects across the country were identified for funding through LTIF instituted in NABARD under Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

In Gujarat, an amount of ₹3611.03 crore has been sanctioned under the Long Term Irrigation Fund for the Sardar Sarovar. The works include AIBP works (i.e. works from main canal up to the minor level of the Sardar Sarovar Project). The State Government has already availed the entire amount of the State share of ₹3611.03 crore under LTIF. The completed projects under LTIF will provide 17.92 lakh ha annual irrigation, drinking water facility to 2.75 lakh population in 3112 villages and generate 1450 MW of Hydro-electricity.

(c) NABARD infrastructure Development Assistance (NIDA):

NABARD Infrastructure Development Assistance (NIDA) aims to fund State-owned institutions/ corporations for both on-budget as well as off-budget projects with a specific goal of accelerating and supporting infrastructure development in rural areas.

Till 31 March 2022 an assistance of ₹1313.01 Crore was sanctioned by NABARD under NIDA, to various agencies. During the current FY, NABARD has sanctioned an amount of ₹2100 crore to the State Government for implementation of the Bhadbhut Barrage project under NIDA.

(d) Food Processing Fund (FPF)

A special fund, dedicated for providing affordable credit to Food Processing units in designated food parks, with a corpus of ₹2,000 crore is incorporated in NABARD. During 2021-22, NABARD has sanctioned an amount of ₹35.55 crore towards 03 project and has released ₹15.28 crore to various entities under the fund.

(e) Warehouse Infrastructure Fund (WIF)

During 2013-14, NABARD launched a dedicated fund viz. Warehouse Infrastructure Fund for providing direct loans to Public and Private Sector, for meeting the growing demand for

storage capacity for agricultural commodities in the entire country and also in the wake of enactment of National Food Security Act 2013.

A cumulative loan of ₹470 crore under WIF has been sanctioned to Government of Gujarat in respect of 10 projects for construction of warehouses with total capacity of 8.3 lakh MT. Out of the 10 projects, 9 projects are already completed and remaining one project is ongoing under WIF. As on date, an additional storage capacity of 6.51 lakh MT has been created in the state with WIF assistance.

(f) Agri Infrastructure Fund (AIF)

Under Agri Infrastructure Fund, NABARD has embarked on promotion of 'PACS as Multi Service Centres' business model. In Gujarat 151 potential PACS have been identified for the said business model. A total number of 131 projects of 98 PACS have been sanctioned under PACS as MSC out of which 121 projects of 94 PACS are eligible under AIF. Cumulative refinance sanctioned so far is ₹29.97 crore and disbursement made by DCCBs is ₹16.48 crore.

(g) Dairy Infrastructure Development Fund (DIDF)

NABARD has sanctioned a total of ₹1050.39 crore under Dairy Processing and Infrastructure Development Fund (DIDF) to four milk unions viz. Banaskantha, Sabarkantha, Gandhinagar and Kheda for setting up of new plants, extension and modernization of existing plants. Out of this, an amount of ₹31.07 crore was disbursed during 2021-22 to milk unions.

(h) Fisheries & Aquaculture Infrastructure Development Fund (FIDF)

CAMC had approved a project for development of 5 fishing harbours with a total financial outlay of approximate ₹1350 crore, for financing under FIDF. Subsequently, a cumulative loan of ₹600 crore has been sanctioned by NABARD to develop 4 Fishing Harbours (@ ₹150 crore each) at Navabandar, Veraval, Sutrapada and Madhwad in Gujarat.

3.4 Support for Financial Inclusion and Banking Technology

NABARD provides financial grant assistance to Cooperatives, RRBs and Commercial Banks for various programmes under Financial Inclusion Fund (FIF) ranging from capacity building to technology adoption.

An amount of ₹41.48 crore has been provided to Commercial Banks, Co-operative Banks & RRBs in last five years for various programmes of Financial Inclusion and adoption of Banking Technology. The broad activities for which support was extended include ATMs under Pilot projects for PACS as DMA, EMV chip RuPay Kisan Cards, Financial Literacy Centres, Financial Inclusion awareness camps for Coop. and RRBs, CBS Support for Rural Cooperatives, Micro ATMs for Coop. and RRBs etc.

3.5 Efforts of NABARD for Microfinance Sector

(a) NABARD's Self Help Group – Bank Linkage Programme (SHG-BLP) has empowered the poor especially rural women through providing savings and credit windows from the banks. Over 10009 SHGs were savings-linked during 2021-22.

Joint Liability Groups – In order to bring the rural poor, land less farmers, small vendors under the fold of institutional credit, NABARD has been promoting financing of Joint Liability Groups. During the year 2021-22, 3,49,150 JLGs were financed out of which 2,20,195 were from farm sector & 1,28,955 were from non-farm sector. As on 31 March 2022, loan outstanding under Farm-Sector was ₹1,54,601.64 lakh and under Non-Farm Sector was ₹2,02,058.22 lakh.

A target of financing 1,85,000 JLGs has been set for Gujarat state for the year 2022-23. NABARD, Gujarat RO has executed MOUs with Baroda Gujarat Gramin Bank & Saurashtra Gramin Bank in FY 2021-22 for formation, nurturing and credit linkage of 2000 JLGs & 1000 JLGs respectively, for formation, financing and successful repayment of loan by JLGs, phased over 3 years from Financial Year 2021-22.

(b) Livelihood and Enterprise Development Programme (LEDP) - LEDP encompasses the customized package ranging from skill building to credit linkage to marketing arrangements of SHG and JLG members, based on a cluster based approach. As on 31 October 2022, 44 LEDP programmes covering 4740 beneficiaries, were implemented with grant assistance of NABARD since 2015. Beneficiaries of LEDP are potential entrepreneurs for MSME bank finance.

(c) Micro Entrepreneurship Development Programme (MEDP): MEDP enhances the capacities of SHGs and JLGs through appropriate skill upgradation in farm as well as non-farm sector activities, enterprise management etc. As on 31 October 2022, 668 MEDPs covering 19300 beneficiaries were conducted in the State with NABARD assistance since 2006. Beneficiaries of MEDP are also potential entrepreneurs for MSME bank finance.

3.6 Support to Rural Off-Farm activities

In line with the National agenda of renewed thrust to important segments like Skill Building, Rural Housing, Rural Sanitation, Rural Tourism, creation of employment opportunities in the manufacturing sector, transport etc., NABARD is supporting schemes /projects which have potential to create employment opportunities and generate additional income in the rural areas under its Off-Farm Sector policy.

A total of 15,993 beneficiaries were trained in 592 programmes conducted by RSETIs during 2021-22 in the State. Since the inception of RSETI training programmes, 70.34% beneficiaries have been settled through either bank finance or own sources.

During the year 2021-22, 43 Skill development training programs to train 1,111 candidates across the State has been sanctioned. Support has been extended for GI tagging of agriculture and horticulture products.

3.7 Farm Sector Initiatives

(a) Farmers' Producers Organisations

➤ Present status of FPOs in Gujarat

NABARD, in Gujarat, has promoted 304 FPOs, of which, 257 FPOs are registered and 47 FPOs are in process of registration. Out of the 255 registered FPOs, 177 are registered as Companies & 78 as Cooperative Societies. 86 FPOs have been on-boarded on e-NAM platform during 2021-22. On a broad classification, spices are the major product of these FPOs, followed by groundnut, cotton, fruit & vegetable etc. NABSanrakshan is managing the Credit Guarantee Schemes for FPOs under which a total of 10 FPOs from Gujarat have availed the credit guarantee against the finance amount of ₹3.23 crore for a total coverage of ₹2.75 crore.

(b) Convergence of FPOs with GoI / State Govt. schemes

Assistance for seed production, distribution and purchase is available under the Govt. of India's National Mission for Food Security (NMFS) and National Mission on Oilseeds & Oil Palm (NMOOP) & National Mission on Agriculture Extension & Technology (NMAET). The assistance is available to farmers and as per the revised Priority Sector Lending guidelines, FPOs have also, by extension, been considered under the definition of farmers.

(c) Climate Change

NABARD under the role of National Implementation Entity (NIE) for National Adaptation Fund for Climate Change (NAFCC) has implemented a project titled "*Climate Change Adaptation for Natural Resource Dependent Communities in Kachchh district*" in Gujarat, with Gujarat Ecological Education and Research (GEER) Foundation as the Executing Entity. In Kachchh, coastal fishing communities are facing decline in fish catch over the years, pastoral communities are witnessing loss of grazing lands and agriculture community is witnessing the impacts of erratic monsoon and temperatures that is affecting the agricultural cycle. Thus the project aims to enhance the adaptive capacity of natural resource dependent

and vulnerable communities (Agriculture, Coastal Fishing and Pastoral communities) of Kutch district which will be benefitting 2600 rural households.

(d) Other Farm Sector Initiatives

NABARD promotes various farm sector innovation by way of support through grant assistance. During the 2021-22, NABARD supported 4 innovative projects under Farm Sector Promotion Fund (FSPF) viz. (i) Promotion of new horticulture crop viz. Date Palm cultivation in Rajula block of Amreli district (ii) Agriculture Produce Preservation Lifecycle Enhancement System (APPLE) in Navsari District (iii) Introduction of UV Tunnel based technology for residue free vegetables production and to prolong shelf life of harvested fruits in Chhota-udepur district (iv) Non-woven UV Low Tunnel: Best Alternative to cope up with climate change & sustainable livelihood opportunity for vegetable growers in Kutch district.

4 NABARD's Perception on the Development of the State

Gujarat is among the fastest growing States of the country and has adopted a novel pattern of progress with the strategic development of the key sectors like energy, industry and agriculture for which it has achieved ambitious double digit growth rate since the 10th Five Year Plan period.

- Gujarat is a front-runner in the overall economic development of the country, contributing 8.36 % of the national GDP at current price (2020-21) and has demonstrated leadership in many areas of manufacturing and infrastructure sectors.
- The State's annual GDP growth from 2015-16 to 2021-22 at current prices averaged above 14%.
- Gujarat enjoys the status of industrially developed state of India contributing to 18.14% of country's industrial output, it accounts for 20.56% of country's fixed capital and 15.85% of country's gross value added.
- Gujarat has been a leading state on the front of harnessing renewable energy sources with its 12.09% share in country's total Grid Interactive Renewable power installed capacity, as on 31 March 2021.
- Gujarat is a leader in exports with more than 25 percent share to India's aggregate merchandise exports.
- Gujarat has the lowest unemployment rate (3.8%) among the major State economies. About 70.5% of total workers in the State are rural-based.

Agriculture continues to be the primary occupation for the majority of rural population in the State. More than 68 per cent farmers in the small and marginal holding categories in the state and about 35.50% of total workers are cultivators and agricultural labourers. Thus, agriculture in the State has been a major source of labour absorption & indirect employment to large portion of population in agro-based occupations. Thus, prosperity and well-being of the people in Gujarat is closely linked with agriculture and allied activities.

Going by the above mentioned developments and status of the broad sectors pertaining to Gujarat, we get an assertive verdict that Gujarat has its front foot forward in ensuring “accelerated, balanced, inclusive and sustainable growth” and “prosperity of rural areas”. It envisions to facilitate investment in agro processing, high-tech agriculture & agricultural infrastructure projects for value addition to farm produce so as to ensure higher income to the farmers, provide greater employment opportunity in rural areas.

Taking into account the Perspective Development Plan for the State, NABARD has projected a target of ₹ 2.98 lakh crore for 2023-24 for financing by banks under agriculture, SMEs and other priority sector in the State.

5 Credit Planning

Credit has always been considered as a critical input for development of agriculture and allied sectors and NABARD has been making concerted efforts to enhance credit flow to the Priority Sector in general and Agriculture Sector in particular. NABARD's role in credit planning under Priority Sector is enumerated hereunder.

Role of NABARD in Credit Planning

- Preparation of Potential Linked Credit Plans (PLPs) for each district and State Focus Paper for the State as a whole.
- Liaising with stakeholders on policy matters, resolution of operational problems to facilitate smooth flow of agricultural credit and initiatives required to step up agricultural credit.
- Monitoring and collation of data on ground level credit disbursed by various financial institutions, particularly Rural Financial Institutions (RFIs).
- Coordinating the functioning of various agencies at district level.

Credit Planning Process

(a) District Level Planning

In order to support agriculture and rural development and to meaningfully link development and credit planning, NABARD prepares Potential Linked Credit Plans (PLPs) for each district every year. The PLPs provide estimate of credit which can be potentially absorbed at the district level for agriculture and allied sectors, off-farm sector and other Priority Sectors, besides presenting a holistic view of the infrastructure facilities presently available in the district and those infrastructure facilities that need to be created, to fully harness the credit potential available in the district.

During 2022-23, NABARD has prepared PLPs for all 33 districts of the State, to guide Priority Sector related credit planning by the banks for 2023-24. PLPs are used as reference documents for the preparation of District Credit Plans by the Lead District Manager.

(b) State Level Planning

Based on the data emerging from the PLPs, NABARD prepares the State Focus Paper each year. The State Focus Paper captures a comprehensive picture of the credit potential in various sectors of the rural economy, critical infrastructure gaps to be bridged and the linkage support that the Govt. departments need to provide.

Every year, NABARD organizes the State Credit Seminar to present the credit potential assessed for the ensuing year and infrastructure gaps required to be filled up to facilitate future credit flow and highlight various issues concerning the agriculture and rural economy to the officials of related State Government departments, Banks and other stakeholders.

6 Credit Potential Assessment for the year 2023-24

The total credit potential for priority sector requirement is assessed at ₹2.98 lakh crore. The Broad sector-wise potential assessed is detailed below.

6.1 Agriculture

6.1.1 Crop Production and Marketing

NABARD has been undertaking the exercise of assessing potential for absorption of credit in respect of all the agriculture and allied sectors in each district. Accordingly, credit potential for 2023-24 has been assessed at **₹72,227.05 crore** for the State recording a growth of 4.44% over the previous year 2022-23 (assessed at **₹69,156 crore**).

Issues and Suggestions

- a. Despite having largely fertile land, the productivity in Gujarat is less than the all India food grain productivity. Hence, there is need for concerted efforts to produce more from less land by utilizing advanced technologies.
- b. Skewed application of fertilisers/pesticides, low Seed Replacement Rate (SRR), inadequacy of quality seeds are some of the major constraints as far as application of inputs are concerned.
- c. The increasing number of tenant/landless farmers or oral lessees and inadequate availability of institutional credit to them hampers the productivity levels. Banks need to explore Joint Liability Group (JLG) mode of financing to tenant farmers. The State needs to frame a policy so that the tenant farmers / oral lessees are eligible for institutional finance and other benefits.
- d. Promoting location and crop specific integrated nutrient management practices for improving soil health, enhancing crop productivity and maintaining quality & productivity of land are all important. Accordingly, more thrust may be given under “Paramparagat Krishi Vikas Yojana” to promote organic farming in the state.
- e. All eligible farmers should be covered under KCC, and existing live KCC should be converted into RuPay KCC with adequate Scale of Finance (SoF) in consultation with concerned stakeholders.

6.1.2 Water Resources

Management of water resources assume a more significant role for a State like Gujarat in context of its main rural livelihood activity being agriculture, challenge to food security and spatial variation of water resources. As there is a strong correlation between farm productivity and availability of assured irrigation, a focus is required on harnessing of untapped irrigation potential, improving management of water resources and increasing water use efficiency of existing infrastructure/devices.

Large rivers like Narmada, Mahi, Tapi, and Sabarmati flow through the state and form their own basins. Other minor rivers have been grouped together to form river basins. Government of Gujarat has taken various initiative for water resources augmentation and its management under various projects and programmes. The Government has also passed "Gujarat Water Users Participatory Irrigation Management Act-2007". The Government has decided to cover maximum possible command area under Participatory Irrigation Management. Mega projects like Sardar Sarovar Project, Kalpasar project, Bahadbhut project etc. are aimed at providing irrigation benefits to farmers in water scarce areas.

Investments in the sector include credit for Dug wells, Dug-cum-borewell, borewell with pump sets, shallow and deep tube wells deepening/renovation of old wells, lift irrigation (LIS), drip irrigation, sprinkler irrigation, pipeline, pump house and storage tank, etc.

The aggregated credit potential for the year 2023-24 for the sector is estimated at **₹5,751.78** crore.

Issues and Suggestions

- a. MIS systems need to be encouraged especially in over-exploited and critical areas. While financing for drip and sprinkler irrigation system based on ground water in over exploited areas, the balance useful life of existing ground water-based MI structure may be assessed. The same would be helpful to assess the bankability of the project.
- b. Issue of salinity ingress needs to be addressed with careful ground water management strategies, conjunctive planning along with surface water. State Government may consider expeditious completion of all salinity ingress prevention projects envisaged in the Master Plan.
- c. Further, State Government may help identify saline aquifers and suggest the zones requiring cement ceiling at a micro level.
- d. Regulation of ground water exploitation in coastal areas and encouraging efficient irrigation systems like drip and sprinkler are critical.

- e. Bankers may consider an integrated implementation of Drip Irrigation System while extending credit for MI loans. This will on the one hand enhance the MI investment and at the same time would act as water saving device for the farmers.
- f. Conjunctive use of surface and ground water also needs to be encouraged.

6.1.3 Farm Mechanisation

Farm Mechanisation refers to a wide range of mechanised farming activities which are helpful in increasing productivity. Agriculture Mechanization is crucial for modernization and commercialization of agriculture as it improves productivity and timeliness of agriculture operations, aids in value addition, brings down the cost of cultivation and enables climate change adaptation. The following activities are presently considered for financing: (1) Tractors - New as well as second hand, (2) Power Tillers and (3) Other agriculture Implements like sprayers, threshers, levellers, seed planter, harvester etc.

NABARD provides refinance assistance and guidance to banks for financing farm mechanisation activities. Refinance can be made available in respect of tractors/ power tillers finance which comply with Minimum Performance Standards (MPS).

There is a need to increase the availability of farm power from 2.02 kW per ha (2016-17) to 4.0 kW per ha by the end of 2030 to cope up with increasing demand of food grains. Average per hectare farm power availability of the State is 2.56 kW/ha, which is above the national average

Credit potential of ₹7,478.10 crore has been estimated for the year 2023-24 for the sector in the State.

Issues and Suggestions

- a. The costly equipment's such as Tractors, Rotavator, Laser leveller, Harvester etc. may be made available through Government departments, NGOs, big farm houses/farmers, PPP mode etc. in a big way to reduce the cost of cultivation and increase the production & productivity of the farm which will result in increase of farmers' income and pave the way for doubling the farmers' income.
- b. As Primary Agriculture Cooperative Credit Societies (PACS) are actively working in the state, PACS may purchase the farm machinery under PACS as Multi Service Center (MSC) scheme of NABARD and make it available to the small and marginal shareholder farmers on rental basis with minimal profit margin. It will meet their requirements and help to complete the farming operations in time.
- c. State Govt. departments and banks may promote start-ups to encourage development of precise and more advanced farm machineries and equipment.
- d. RBIC established in SDAU may build capacity of agri start-ups for growth in agri business.
- e. Promote drone technology for spraying of pesticides and foliar application of nutrients.

6.1.4 Plantation & Horticulture

Plantation & Horticulture includes production, post-harvest management, processing, marketing and export of wide range of crops such as fruits, vegetables, flowers, spices, plantation crops, medicinal and aromatic plants which contribute significantly to the economy. Growing plantation & horticulture crops is an ideal option to improve livelihood security, enhance employment generation, attain food & nutritional security and increase income through value addition.

Agro climatic conditions of Gujarat are conducive for development of various horticulture crops. Horticulture crops are cultivated in approximately 19% of the total cultivated area of the State. The predominant horticulture crops of the State are, fruit crops like Mango, Sapota, Banana, Aonla and Dates, vegetables like Okra, Beans, Cucurbits, Onion, Potato, spices like

Cumin, Fennel, Chilly, Coriander, Garlic and flower crops like Rose, Lily, Marigold, Jasmine and Tuberose. Horticultural crops of the State have good export potential. Major commodities being exported from the State are Banana, Mango, Cumin, Fennel, Isabgol and Onion.

Grape, Cashew nut, Aloe Vera and Palmarosa are emerging as potential new crops in suitable areas of the state. The area under new fruit crops viz. Tissue Culture Date Palm, Dragon Fruit (Kamalam Fruit) and Strawberry has witnessed an increasing trend in the State.

The aggregated PLP projections for Bank Loan for Plantation & Horticulture sector for the year 2023-24 have been assessed at **₹2,627.32** crore.

Issues and Suggestions

- a. The existing extension set up/network needs to be further improved for effective transfer of technology.
- b. Even though there is considerable area expansion due to programmes like NHM, there are no concerted efforts to increase the productivity of existing orchards. Further, these area expansion programmes do not give adequate attention to backward & forward linkages.
- c. Integrated Pest Management (IPM) with special emphasis on biological system of control has not gained significance for P & H crops despite its distinct advantages.
- d. Even though, private sector investment in post-harvest management & processing is picking up due to the support under various subsidy programmes, it is not to the desired extent.
- e. There is no price discovery mechanism and market intelligence on supply and price of major horticultural crops.
- f. Credit flow, especially long term credit, is not commensurate with the potentials.

6.1.5 Forestry and Wasteland Development

Forestry includes farm forestry, social forestry, agroforestry and bamboo plantation. Gujarat has wide variations in Geophysical and Eco-climatic conditions ranging from hot saline deserts to humid hilly tracts to coastal tracts to high hills, which has resulted in to formation of various types of forest. The total Forest cover of Gujarat is assessed at 14.93 lakh ha and Tree cover at 5.49 lakh ha (10.40% of the Geographical area)

Afforestation of wastelands by planting trees would lead to achievement of desired forest and tree cover. The main source of timber in the state is Teak, Babul, Ardusa, Gorasamli, Eucalyptus, Shisham, Sadad, Kalam, Neem and Khair. The major trees which have changed the Gujarat landscape are Ganda baval, Nilgiri, Sharu, Israel Baval, and Bengali Baval.

The credit potential assessed for the year 2023-24 under Forestry and Waste land Development is estimated for **₹167.96** crore.

Issues and Suggestions

- a. Credit linked subsidy needs to be provided as incentive to involve farmers/ Corporates/NGOs and other interested entities who would be encouraged to go in for cultivation of forestry species.
- b. Group approach has to be adopted and popularized for providing training to small and marginal farmers to take up planting of forestry species through suitable systems like agroforestry, farm forestry, silvipasture, silvihorticulture, etc.
- c. Energy plantations need to be promoted since there is a demand for fuelwood which is the raw material for biomass based power plants. Linkage of energy plantations to small megawatt power plants in rural areas needs to be explored to establish viable business models. Buyback arrangements with farmers raising energy plantations would provide assured income to farmers.

6.1.6 Animal Husbandry - Dairy, Poultry, Sheep, Goat, Piggery, etc.

The Animal Husbandry and Dairy sector in Gujarat contributes significantly to socio-economic development of the rural economy of the State and it provides sustainable livelihood. Gujarat is one of the largest processors of milk in India and Amul dairy is Asia's biggest dairy. Total livestock population of the State stands at 26.9 million. Poultry population has registered good growth from 150.05 lakh to 217.73 lakh between last two censuses. Gujarat is having good breed of sheep such as Patanvadi, Marvadi, as well as non-descript breeds, which are sheared at an interval of four or six months as per native practices.

The credit potential assessed for the year 2023-24 under the three sectors of Animal Husbandry viz. Dairy Development, Poultry Development and Sheep, Goat & Piggery Development is estimated at **₹5,323.57 crore**, **₹313.73 crore** and **₹101.44 crore** respectively.

Issues and Suggestions

- a. Strengthening of breeding infrastructure & veterinary institutional infrastructure across the State is required, alongwith genetic improvement of breeds for production and development of climate resilient breeds
- b. With emergence of newer strain of existing endemic diseases, for example recent outbreak of spread of Lumpy Skin Diseases and newer Zoonotic diseases, there is need to develop critical infrastructure for disease diagnosis and control the spread of diseases.
- c. Egg production needs focused attention from state government and poultry sector stakeholders to improve the sector.
- d. **Backyard poultry:** In Gujarat 22% poultry eggs come from desi eggs. Hence, Department of Animal husbandry/ Banks may promote establishment of backyard poultry farms with low input technology birds in the light of incentives available under GoI scheme.
- e. **Livestock Insurance:** To safeguard assured protection to the animals of the farmer against eventual losses, cattle insurance scheme needs to be popularized among farmers along with reasonable cost of the same. Similarly, in poultry sector, the issue of high premium should also be looked into for development of this sector.
- f. **Modern livestock markets:** Establishment of specialized cattle markets by APMCs may be considered by availing subsidy under Agriculture Marketing Infrastructure Scheme. Cattle Fair had played an important role in providing a platform for livestock farmers to sell and purchase their animals. Hence, State Government must promote and make arrangement for organizing cattle fair at various location across the State.

6.1.7 Fisheries

Fisheries in Gujarat is featured by both Marine and Inland fishery resources. Gujarat leads among the 14 maritime states of the country with a coastal length of 1,600 km. which is broken by several bays, inlets, estuaries and marshy lands. Gujarat has a continental shelf of 1.84 lakh sq. km., 121 fish landing centers and more than 65,300 families' together in marine fisheries. Govt. of Gujarat supports most of the activities associated with fisheries sector and also implements Group Accidental Insurance Scheme for the fishermen.

The credit potential assessed for the year 2023-24 under Fisheries sector is **₹632.55 crore**.

Issues and Suggestions

- a. Specific training programme need to be developed for upgradation of skills of SF/MF, SHGs/ JLGs on Cage Culture in Reservoirs/ Lakes, Brackish water Aquaculture, Mariculture (Sea weed, Oyster and Mussel culture), Inland Fish Feed Mills, Ornamental Fish Rearing & Breeding Units etc
- b. Though this sector has huge potential for exports as well as generating livelihood opportunities, bank financing to the sector is insignificant. Department may consider

drawing up Area Based Schemes in identified districts in association with NABARD and other stakeholder for increasing bank financing during 2023-24

- c. Joint Liability Groups (JLGs)/Self Help Groups (SHGs) of fishermen may be promoted and organized into Producers Organisations and financed by the banks. Department may consider drawing up an action plan in this regard.

6.1.8 Working Capital through KCC for Animal Husbandry and Fishery

In the Budget 2018-19, the Union Government had announced their decision to extend the facilities of Kisan Credit Card (KCC) to Animal Husbandry farmers and Fisheries (AH & F) farmers to help them meet their working capital (WC) requirements.

The credit potential assessed for the year 2023-24 for disbursement of Working capital through KCC for Animal Husbandry (Dairy, Poultry, and Sheep, Goat and Piggery) and Fisheries is **₹5,429.50** crore.

6.1.9 Others – Bullocks, Bullock Carts, etc

There is a huge concentration of Small and Marginal farmers in the State. These small/marginal farmers would still be depending on animal power for their farm operations and transportation as they lack the means to mechanize their farm. This form of transportation is used for various purposes viz. carrying the seedlings from the nursery to the farm, carrying the harvest to the home or to the local markets/mandis, cold storage/godowns etc.

The credit potential assessed for the year 2023-24 under Others – Bullocks, Bullock Carts is **₹3025.56** crore for the State.

6.2 Agriculture Infrastructure

6.2.1 Construction of Storage Facilities - Warehouses, Market Yards Including Cold Storage units, Storage Godowns and Market Yards (SGMY)

Warehousing is an integral part of economic development, more particularly with regard to agriculture sector in our country, as it is the infrastructure that brings about additional value and helps prevent losses of perishable items. NABARD, therefore, lays great emphasis on development of modern warehousing, modern Silos and Cold Storages in order to store and preserve farm produce and help the farmers realize better prices. In the Union Budget 2020-21, the government had announced Geo-Tagging of Warehouses through NABARD to optimize the use of warehousing capacity of the country.

The Warehouse Infrastructure Fund approved by Union Finance Ministry, envisaged direct loans by NABARD to Public and Private sector. NABARD has conducted a Computer-assisted personal interviewing (CAPI) based Survey with Geotagging of the storage infrastructure across the State, based on which the dry storage capacity and wet storage capacity available in State is 4.91 million tonnes and 2.13 million tonnes, respectively.

The credit potential assessed for the year 2023-24 under agricultural storage sector is **₹9773.07 lakh** for the State.

Issues and Suggestions

- a. Accreditation and registration of godowns/cold storages may be encouraged to facilitate Small and Marginal Farmers to keep their produce against Negotiable Warehouse Receipts.
- b. Banks to encourage pledge loans to avoid distress sale of agricultural produce. Awareness on warehouse receipts issued by accrediting agency will facilitate access to pledge loans.

- c. Farmers may form Producer Groups to aggregate their produce and deal with organised buyers for selling and sellers for availing benefits of bulk purchases. Regulated markets may be established to facilitate competitive prices.
- d. There is a need to start modern post-harvest infrastructure with a high-tech Value Addition Centre and a cold storage engaged in grading, packing and export of fresh vegetables like banana, potato, tomato, chilli, etc. to sell the produce at National as well as International market.
- e. PACS as MSCs (Multi-Service Centres) is the way forward where PACS will serve as one-stop shop for meeting the farm mechanisation (including transportation) needs of farmers, providing them logistical support to market their produce.
- f. The one-nation-one-agri-market initiative of e-NAM should be promoted across all major mandis in the state. APMCs across the state should be well equipped to certify produce, so that the benefits of e-NAM could be leveraged across the state.

6.2.2 Land Development

Land Development activity aims at making land suitable for sustainable agriculture, preventing the soil erosion, leading to improvement in soil productivity and fertility through various measures. The State has 192 soil testing laboratories, majority of which are owned and operated by Department of Agriculture and Farmers Welfare, Govt. of Gujarat. The facilities are also available with SAUs, KVKs and APMCs.

Gujarat State Watershed Management Agency (GSWMA), the State Level Nodal Agency in partnership with technical institutions like Agricultural Universities, Krishi Vigyan Kendra etc and social enterprises such as NGO, Academic institutions like IRMA facilitates implementation of Integrated Watershed Management Programme (IWMP) in Gujarat by undertaking capacity building of all stakeholders and preparing an appropriate strategy to execute the plans in a time bound manner.

The activities that can be financed by the Banks are: Soil Conservation, Land Levelling, Contour Trench, Land shaping, Loose Boulder Structure, Land Terracing, Water Harvesting, Contour Bunding, Farm Ponds, Gully Control Measures, Nala Plugging, Watershed Development, Gabion Structure, Fencing/Bunding, Water Harvesting, Farm Ponds, Water harvesting Structure, vermi compost and barbed fencing.

The credit potential assessed for the year 2023-24 under land development is **₹2,982.92 crore**.

Issues and Suggestions

- a. State Government may disseminate information on assistance/subsidy available for various land development activities through its web portal *i.khedut*
- b. Salinity ingress in coastal areas especially Saurashtra, South Gujarat & Kutch should be addressed on priority basis. Reclamation of saline soils with water harvesting structures like trenches and farm ponds may be promoted.
- c. Application of tank silt to Sandy and Saline lands has been found effective for improving the fertility and texture of soil. The activity has become popular in Amreli, Jamnagar and other districts of Saurashtra

6.2.3 Agriculture Infrastructure – Others (Tissue culture, Agri-Biotechnology, Seed Production, Bio-Pesticides/ Fertilizers, Vermi-Composting)

Biotechnology related interventions are expected to contribute largely in bringing second green revolution in the country and the State. The State has constituted “Gujarat State Bio-technology Mission” under which financial assistance is being provided to 33 research projects with total outlay of ₹40.28 crore to cover activities like tissue culture, Genetically Modified (GM) fruits and vegetables, Bio-fertilizers, Vermicomposting etc.

The credit potential assessed for the year 2023-24 under Agri-Infrastructure (Others) is **₹1063.17 crore**.

Issues and Suggestions

- a. Farmers Producers Organizations can be involved in production of bio-fertilizers at the localized level. There is a growing demand for crop specific bio fertilizers from farmers. This can be a beginning towards organic farming.
- b. Bankers should increase focus towards financing innovations in agri-biotechnology. They should fund duly identified start-ups, early stage and existing companies in the areas of Bio-Pharma, Agri Biotech, Contract Research and other potential areas of biotechnology.
- c. Steps may be taken towards embedding certain existing schemes with **special clauses on promotion of agri-biotechnology**. Existing schemes such as those on development of watershed/wadis, promotion of organic farming, catalyzing of some innovative farm projects on niche technologies (FSPF) etc. can be chosen and focus can be given on agri-biotech promotion.
- d. Similarly, new schemes can also be designed to promote agri-biotechnology through involvement of grass-root level institutions and efforts of universities.
- e. Encouraging the interface of Industry with grass-roots level institutions is also crucial, and this can help in fostering of the agri-innovation centres.

6.3 Agriculture Ancillary Activities

6.3.1 Food and Agro Processing

Gujarat had prioritised Agro and Food Processing industries as one of the thrust industries in the industrial policy for 2016-2021. The State has now identified 'Development of agro & food processing clusters and establishment of integrated food processing parks to cater value chain' as a strategic intervention under the implementation roadmap of 'Strategy for Government of Gujarat to enable India to become a USD 5 trillion economy'.

The state already has 5 Agro-Processing Clusters (APCs) and 2 Mega Food Parks notified by MoFPI, GoI along with vast network of GIDC industrial estates to boost Agro processing.

The credit potential assessed for the year 2023-24 under Food and Agro Processing is **₹9256.61** crore.

Issues and Suggestions

- a. There is strong need to increase the processing level of food crops and develop excellent Post-Harvest Management system to avoid wastage and achieve the goal of food security and stable prices of food.
- b. There is a strong need to improve the training to fill the skill gap of the industry. Government and industry should come forward to jointly fulfill the gap.

6.3.2 Agriculture Ancillary-Others

As per the revised RBI Guidelines on Priority Sectors, Loans to Primary Agriculture Credit Societies (PACS) by banks, loans to Micro Finance Institutions (MFIs) for on lending in agriculture sector, loans up to ₹5 crore to co-operative societies of farmers for disposing of the produce of members, loans under Agri Clinic and Agri Business Center (ACABC) scheme are included in other ancillary activities of agriculture. As per new Priority Sector Guidelines 2020 of RBI, Loans up to ₹50 crore to Start-ups, as per definition of Ministry of Commerce and Industry, Govt. of India that are engaged in agriculture and allied services are also eligible under priority sector lending.

Loans to MFIs for on lending to agriculture

There are many MFIs engaged in lending mainly to SHGs as well as individuals in rural areas. Apart from equity and market borrowings, such MFIs depend on Bank finance for their fund requirements. As per new Priority Sector Guidelines, loans given by banks to such agencies are also categorized as priority sector finance under other ancillary activities.

The credit potential assessed for the year 2023-24 under the sector is **₹1,588.36** crore.

6.4 Micro Small and Medium Enterprises

Definition: Ministry of Micro, Small and Medium Enterprises, Government of India, defines MSMEs as under:-

Micro	The investment in plant and machinery or equipment does not exceed ₹1 Crore and annual turnover does not exceed ₹5 crores.
Small	The investment in plant and machinery or equipment does not exceed ₹10 crore and annual turnover does not exceed ₹50 crore.
Medium	The investment in plant and machinery or equipment does not exceed ₹50 crore and annual turnover does not exceed ₹250 crore.

The geographical, infrastructural and entrepreneurial competencies of the state puts it among top ten states in the country in terms of size of MSME sector. The sector, with focus of government but limited access to formal credit, provides a big opportunity to the banks. More so in Gujarat, Banks have been tapping into this large market and generating business. With disbursement of ₹94,815 crore of loan to MSME sector, the target of ₹94,365 crore for FY 22 in the state was crossed in the quarter ending December 2021 itself.

The credit potential assessed for the year 2023-24 under MSMEs in the state is **₹1,41,48,2.17** crore of which **₹1,01,580.23** crore is assessed towards investment credit.

Issues and Suggestions

- Consultation with Stakeholders: An institutional mechanism may be developed which would conduct regular meeting with stakeholders to assess needs and fine tune policies related the sector.
- Better access to information and knowledge: Management information systems, dashboard for schemes, capacity building of MSME associations, regular training programmes for officers involved in related programmes, intra country and foreign interaction/exposure visits with aim to achieve peer group learning and market familiarisation etc can improve access to critical information necessary for increasing quality and efficiency of businesses.
- Geographical spread: The policies need to consider the strength of different areas of country/ state and add region specific attributes to the schemes/ programmes to take advantage of local competencies.
- Development of open source software for asset management, supply chain management, book keeping etc would be beneficial for MSME sector. Similarly innovations like ONDC and UPI that are specialised for and specific to MSME entrepreneurs can be created.

6.5 Export Credit

Gujarat is one of the leading industrialised states in India. At current prices, Gujarat's Gross State Domestic Product (GSDP) was ~₹16.59 trillion (US\$ 267.40 billion) constituting 10% of India's GDP during 2020-2021. While, riding on the back of strong industrial ecosystem, Gujarat has been at the forefront of exports constituting close to 20% of total merchandise exports from India indicating powerhouse of India's export regime.

Gujarat is considered the petroleum capital of India due to presence of large refining capacity set up by private and public sector companies. The state is the world's largest producer of processed diamonds, accounting for 72% of the world's processed diamond share and 80% of India's diamond exports.

With a contribution of 65 to 70% to India's denim production, Gujarat is the largest manufacturer of denim in the country and the third largest in the world. There are 42 ports, 18 domestic airports and one international airport.

There are 106 product clusters and 60 notified SEZs. Despite performing consistently well over the years in terms of export performance & retaining close to 20% share of exports in India's total exports, the state has performed rather poorly in providing access to credit for exporters in Gujarat.

The credit potential assessed for the year 2023-24 under Exports is **₹3029.25** crore.

Issues and Suggestions

Some of the following measures can be taken to tap the potential of GIFT city in enhancing export credit:

- a. IBUs should be permitted to provide rupee denominated ECBs to Indian exporters. Currently, foreign banks are allowed to provide such facility.
- b. Government should promote Indian exporters and importers to use IFSC exchanges for their fund-raising programme through issuance and listing of foreign currency bonds or any other offshore instrument.
- c. In addition, export financing provided by IFSC banking units should be eligible under Priority Sector Lending (PSL).
- d. Currently, Indian exporters are permitted to avail post-shipment financing from offshore as well as onshore lenders. However, pre-shipment financing can be availed only from onshore lenders. Also, it has been recommended to allow SEZ units to avail International financial services through IFSC banking units, which can provide competitive pricing and products for Indian exporters.

6.6 Credit for Education

Education is the essence of Human Resource Development. Reserve Bank of India (RBI) has included education under Priority Sector Lending i.e. loans and advances to individuals for educational purposes, including vocational courses up to ₹10 lakh irrespective of the sanctioned amount for studying in India and upto ₹20 lakhs for studying abroad. Apart from this, there is ample scope for supporting education through institutional finance in the state.

The credit potential assessed for the year 2023-24 under Education is **₹2,331.69** crore.

Issues and Suggestions

- a. There is an intense need for creation of awareness of the education loan products amongst the aspiring students and their parents. Banks may display their schemes at the schools and colleges for a wider publicity
- b. The education department may play a pro-active role in sensitizing the students about benefits of higher education and loan facilities available from various banks

6.7 Credit for Housing

House is one of the basic necessities for human beings. As per Census 2011, 57.4 percent population of Gujarat reside in rural areas. To support the weaker sections of rural society who are homeless or reside in kachcha houses, State Government is implementing various schemes of rural housing. Gujarat Real Estate Regulatory Authority's one-third real estate projects fall under the category of affordable homes. With 502 residential affordable housing projects – both in residential and mixed-use – Ahmedabad ranks the highest by holding the most number of projects followed by Vadodara, Rajkot, Surat and Gandhinagar.

Efforts have to be made by Banks and other stakeholders as how to identify and finance to the most needy ones who are homeless and have no roof on their heads thus realising the dream of Housing for All by 2022. Banks can formulate their own schemes to finance EWS and LIG sector blended with subsidy and credit guarantee schemes of centre and state government to make the scheme more attractive. Further, the access to housing finance is also a key ingredient for reaching goal of housing for all.

The credit potential assessed for the year 2023-24 under Housing sector is **₹20005.87 crore.**

Issues and Suggestions

Institutional reforms in land acquisition, approval processes and taxation are much needed to expedite development of affordable housing, which act as a catalyst for creating a multiplier effect on job creation as well as growth in key ancillary sectors.

6.8 Renewable Energy

Government of Gujarat recognizes green energy as one of its focus sectors and has thus emerged as a leader of India's future renewable energy programme. Gujarat as a State has laid constant emphasis on mitigation initiatives, exploiting the clean and green energy potential, through the promotion of wind energy, solar energy and bio energy. Gujarat ranks first in setting up of a separate Climate Change Department – the 4th province in Asia, which emphasizes the Government's commitment to GO Clean & Green.

The State Government has adopted a two-pronged strategy to ensure energy security to generate renewable power and moot energy efficiency in all the sectors of the economy. Some of the major steps taken by the State Government in this direction are:

- (i) The GoG has taken a bold initiative to announce the Solar Power Policy 2009 and Solar Power Policy 2015.
- (ii) Solar Roof Top Scheme for Households
- (iii) Popularising Wind Energy
- (iv) Innovative approach to utilise Canal for solar power
- (v) Establishing 500 MW Solar Park - first in Asia
- (vi) PV - Off Grid projects
- (vii) Solar Water Heating Systems
- (viii) Gujarat-Bio Energy programmes
- (ix) Energy Conservation and Energy Efficiency Initiatives :

The credit potential assessed for the year 2023-24 under Renewable Energy is **₹474.99 crore.**

Issues and Suggestions

- a. To promote use of Solar Water Heaters in all sectors having hot water requirement and consider its mandatory use in new buildings/residences.
- b. To explore feasibility of using Solar Powered Pumps for Canal based irrigation.
- c. To harness the biomass power potential, necessary policy interventions are required.
- d. To exploit the potential of Geothermal, Tidal & Wave Energy.
- e. To launch major Energy Conservation schemes in Industries and Building sectors.
- f. To launch a Mega Campaign to promote Renewable Energy and Energy Conservation.
- g. To promote Waste to Energy Projects for Urban local bodies
- h. To promote Small Hydro Power projects

6.9 Others-SHG/JLG etc.

Credit under this head includes Loans to Individuals and their SHGs/ JLGs/distressed persons/ PMJDY / State sponsored organisations for SC / ST.

The credit potential assessed for the year 2023-24 under this sector is **₹2,401.61 crore.**

Issues and Suggestions

State Govt. to focus on bringing more and more SHGs / JLGs under e-book platform in order to create transparency in their accounting and facilitate their financing by Banks.

6.10 Social Infrastructure Involving Bank Credit

Given the importance of social infrastructure for development and its impact on ultimate credit absorption in rural and urban areas, RBI has, in its Priority Sector Lending guidelines

issued on 04 September 2020, classified that bank loans up to a limit of ₹5 crore per borrower for building social infrastructure for activities namely schools, drinking water facilities and sanitation facilities and loans upto a limit of ₹10 crore per borrower for building health care facilities including those under 'Ayushman Bharat' in Tier II to Tier VI centres, as Priority Sector.

The credit potential assessed for the year 2023-24 under Social Infrastructure sector is **₹629 crore**.

Issues and Suggestions

On account of the Swachh Bharat Abhiyan, there is an increase in the level of awareness about rural sanitation and hygiene. Therefore, banks and other stakeholders may vigorously support for sanitation facilities and play an active role in giving a fillip to the national movement.

7. Government Initiatives

7.1 Govt. of India Programmes & Union Budget Announcements

The major highlights of Union Budget 2022-23 are as under:

- **Agriculture and Food Processing**

Creation of a fund with blended capital, raised under the co-investment model, facilitated through NABARD to finance startups for agriculture & rural enterprise, relevant for farm produce value chain. The activities for these startups will include, inter alia, support for FPOs, machinery for farmers on rental basis at farm level, and technology including IT-based support.

- **MSME**

Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) scheme will be revamped with required infusion of funds. This will facilitate additional credit of ₹2 lakh crore for Micro and Small Enterprises and expand employment opportunities.

- **Skill Development**

Digital Ecosystem for Skilling and Livelihood (DESH-Stack) e-portal will be launched to empower citizens to skill, reskill or upskill through on-line training.

Startups will be promoted to facilitate 'Drone Shakti' through varied applications and for Drone-As-A-Service (DrAAS). In select ITIs, in all states, the required courses for skilling, will be started.

- **Financing Public Investment**

- Issue of sovereign Green Bonds for mobilizing resources for green infrastructure
- Promotion of thematic funds for blended finance for encouraging important sunrise sectors such as Climate Action, Deep-Tech, Digital Economy, Pharma and Agri-Tech, enhancing financial viability of projects including PPP, with technical and knowledge assistance from multi-lateral agencies.

- **Strengthening of Cooperative Sector**

Govt. of India has set up a separate Ministry for Cooperation on 06 July 2021, which will provide a separate administrative legal and policy framework for strengthening the cooperative movement in the country, to help deepen the presence of cooperatives, to streamline processes for 'Ease of doing business' for co-operatives and enable development of Multi-State Co-operatives (MSCs).

Establishments at State and National level and other stakeholders, initiated work on five major fronts:

- a. Cooperative Credit Guarantee Fund:** This is a new scheme being created for providing credit guarantee on loans of Primary Agriculture Cooperative Societies and other primary cooperative societies.
 - b. Co-operative Education:** This scheme aims at introduction of cooperative education as a course curriculum and also as independent degree / diploma courses in Schools and Universities. This will also take care of research in the field of cooperation.
 - c. Cooperative Training:** This scheme aims at revamping strengthening existing cooperative training structure in the country and modernize the training methods through a revamped scheme.
 - d. Computerization of Primary Agriculture Cooperative Societies:** This scheme aims at computerization of 63,000 functional PACS leading to increase in efficiency, profitability, transparency and accountability in the working of PACS
 - e. Sahkar se Samriddhi:** This scheme is an umbrella scheme with a number of sub-components as mentioned below with the aim of all round development of cooperatives in the country by providing them necessary support in terms of finance, technology and infrastructure and transform them into successful economic entities: (a) Recapitalization of PACS; (b) Seed money for new PACS; (c) Revival of defunct PACS; (d) Transformation of PACS into multi-role cooperatives on the lines of FPOs; (e) Assistance to cooperative societies in branding, marketing and trade & (f) Capital subsidy for creation of basic infrastructure.
- **Enhancing Credit Flow: Credit Guarantee Schemes**

For the promotion of Agriculture and Allied Sector, GoI has announced two Credit Guarantee Schemes which are being managed by NABSanrakshan Trustee Private Limited, a wholly owned subsidiary of NABARD.

- a. Credit Guarantee Scheme for FPOs
- b. Credit Guarantee Scheme for Animal Husbandry and Dairying

7.2. Government of Gujarat initiatives for farmers

State Government has presented a budget of ₹2,18,408 crores for the year 2022-23. The overall surplus as per budget estimates for the year 2022-23 is ₹1,006 crores. The government has declared that there may be no increase in the existing tax rates and it would not impose any new taxes. The budget allotted to the education sector at ₹34,884 crores is highest amongst all sectors

Total provision of ₹7737 crores has been earmarked for various activities of Agriculture, farmers' welfare and Cooperation Department. Apart from this, a provision of ₹757 crores has also been made to intensify Agricultural Research and Education Programmes under Agricultural Universities.

Provision of ₹369 crore for various schemes of Directorate of Horticulture & ₹880 crore for various activities of Fisheries division.

To clear out the pending applications for agricultural power connection, a subsidy of ₹8300 crores is provided in the budget. This will expedite the access of subsidized power connection to farmers.

Provision of ₹9048 crores for Panchayat, Rural Housing & Rural Development. The Mukhyamantri Gram Asmita Yojana is being implemented for improving the living standard of the village people by developing infrastructural facilities in Gram Panchayats.

1. Progress under the Centrally Sponsored Scheme of PACS Computerization: It has been agreed to shortlist PACS based on a several agreed-upon criteria including completion of audit of PACS as on 31 March 2022, a good audit score (A or B) etc. State PMU for PACS Computerization has already been formed in Gujarat and State Government is constituting SLIMC and DLIMC committees.

2. Kisan Kalpvriksha Yojna: The scheme is aimed at development of basic infrastructure like auction shed, parking sheds, RCC roads, Weigh over bridge, cold storage, ripening chambers in the 'A' and 'B' category APMCs with 50% capital subsidy. The scheme was formulated in the year 2018-19 with a total outlay of ₹32.6 crore. A provision of ₹25 crore has been made during the budget 2022-23.
3. Capital subsidy to PACSs, APMCs, and Cooperative institutions for the construction of new godown and interest subsidy on loan for construction of new godown – A provision of ₹5.01 crore has been made under the scheme for this year and is expect to benefit 150 PACS and 500 farmers.

Chapter 1

State Profile

State Profile – Gujarat

1. PHYSICAL & ADMINISTRATIVE FEATURES

Total Geographical Area (Sq.km)	196024
No. of Districts	33
No. of Blocks	251
No. of Villages	18584
No. of Panchayats	14264

3. LAND UTILISATION [oo' Ha]

Total Area Reported	188102
Forest Land	21188
Area Not Available for Cultivation	34964
Permanent Pasture and Grazing Land	8066
Land under Miscellaneous Tree Crops	42
Cultivable Wasteland	19007
Current Fallow	6628
Other Fallow	338
Net Sown Area	97868
Total or Gross Cropped Area	138156
Area Cultivated More than Once	40288
Cropping Intensity [GCA/NSA]%	141%

6. WORKERS PROFILE [in '000]

Cultivators	5448
Of the above, Small/Marginal Farmers	3635
Agricultural Labourers	6839
Workers engaged in Household Industries	344
Workers engaged in Allied Agro-activities	NA
Other workers	12137

8. HOUSEHOLDS [in '000]

Total Households	12182
Rural Households	6765
BPL Households	187

10. VILLAGE-LEVEL INFRASTRUCTURE [Nos]

Villages Electrified	16742
Villages having Agriculture Power Supply	15115
Villages having Post Offices	8120
Villages having Banking Facilities	9176
Villages having Primary Schools	15501
Villages having Primary Health Centres	1475
Villages connected with Paver Approach Roads	17478

13. IRRIGATION COVERAGE [oo' Ha]

Ultimate Irrigation Potential*	71040
Irrigation Potential Created*	69110
Net Irrigated Area (Total area irrigated atleast once)	52382
Area irrigated by canals/channels	11642
Area irrigated by wells	33998
Area irrigated by tanks	2321
Area irrigated by other sources	4422
Irrigation Potential Utilized*	60970

15. AGRO-PROCESSING UNITS

Type of Processing Activity	No of units	Cap.[MT]
Food (Rice/Flour/Dal/Oil/Tea/Coffee)	7726	NA
Sugarcane (Gur/Khandsari/Sugar)	79	NA
Fruit (Pulp/Juice/Fruit drink)	36	NA
Spices (Masala Powders/Pastes)	249	NA
Dry-fruit (Cashew/Almond/Raisins)	4	NA
Cotton (Ginning/Spinning/Weaving)	3723	NA
Milk (Chilling/Cooling/Processing)	61	5.307 mln ltr
Meat (Chicken/Mutton/Pork/Dryfish)	NA	NA
Animal feed (Cattle/Poultry/Fishmeal)	8	NA

17. ANIMAL POPULATION AS PER CENSUS 2019 [in '000]

Category of animal	Total	Male	Female
Cattle - Cross bred	3407	137	3270
Cattle - Indigenous	6227	1850	4377
Buffaloes	10543	534	10009
Sheep - Cross bred	5	NA	NA
Sheep - Indigenous	1782	NA	NA
Goat	4868	719	4149
Pig - Cross bred	1	NA	NA
Pig - Indigenous	1	NA	NA
Horse/Donkey/Camel	61	NA	NA
Poultry	21773	NA	NA

2. SOIL & CLIMATE

Agro-climatic Zone	13 Agro Climatic zone, which is further divided into eight sub-zones, viz., South Gujarat (Heavy rainfall), South Gujarat, Middle Gujarat, North Gujarat, North-West, North Saurashtra, South Saurashtra and Bhal & Central.
Climate	Dry, Sub Humid, Arid, Semi Arid
Soil Type	Black Soil, Alluvium trap origin, deep alluvial, marine alluvial origin and sandy

4. Rainfall

	Normal	Actual	2019	2020	2021
Rainfall [in mm]	831		1176	1137	812
	Variation from Normal		345	306	-19
Availability of Ground Water [BCM]	Net annual recharge		Net annual draft		Balance
	15.81		11.49		4.32

5. DISTRIBUTION OF LAND HOLDING [in '000]

Classification of Holding	Holding		Area	
	Nos.	% to Total	Ha.	% to Total
<= 1 Ha	2019	37.94	1073	10.75
>1 to <=2 Ha	1616	30.37	2338	23.43
>2 to <= 4 ha	1150	21.61	3172	31.79
>4 to <= 10 ha	496	9.32	2804	28.10
>10 ha	40	0.75	590	5.91
Total	5321	100	9978	100

7. DEMOGRAPHIC PROFILE [in '000]

Category	Total	Male	Female	Rural	Urban
Population	60440	31491	28949	34695	25745
Scheduled Caste	4074	2110	1964	2282	1792
Scheduled Tribe	8917	4501	4416	8022	895
Literate	41093	23475	17618	21421	19672
BPL families	3967	NA	NA	3050	917

9. HOUSEHOLD AMENITIES [Nos. in '000 Households]

Having brick/stone/concrete houses	6300	Having electricity supply	11013
Having source of drinking water	12182	Having independent toilets	6986
Having access to banking services	7049	Having radio/tv sets	8911

11. INFRASTRUCTURE RELATING TO HEALTH & SANITATION [Nos]

Anganwadis	53029	Dispensaries	121
Primary Health Centres	1477	Allopathic Hospitals	2262
Ayurvedic and Homeopathic Hospitals	860	Hospital Beds	25259

12. INFRASTRUCTURE & SUPPORT SERVICES FOR AGRICULTURE

Fertiliser/Seed/Pesticide Outlets [Nos]	NA	Agriculture Pumpsets[Nos]	817705
Total N/P/K Consumption [MT]	1791670	Pumpsets Energised [Nos]	370095
Certified Seeds Supplied [MT]	NA	Agro Service Centres [Nos]	2083
Pesticides Consumed [MT]	NA	Soil Testing Centres [Nos]	35
Agriculture Tractors [Nos]	873437	Plantation nurseries [Nos]	290
Power Tillers [Nos]	278921	Farmers' Clubs [Nos]	4960
Threshers/Cutters [Nos]	143857	Krishi Vigyan Kendras[Nos]	30

14. INFRASTRUCTURE FOR STORAGE, TRANSPORT & MARKETING

Rural/Urban Mandi/Haats [Nos]	605	Wholesale Market [Nos]	404
Length of Pucca Road [Km]	81305	Warehouse Units [Nos]	651
Length of Railway Line [Km]	5327	Warehouse Capacity[MT]	1529549
Public Transport Vehicle [Nos]	12924909	Cold Storage [Nos]	969
Goods Transport Vehicle [Nos]	875103	Cold Store Capacity[MT]	3822112

16. AREA, PRODUCTION & YIELD OF MAJOR CROPS

Crop	2020-21		2021-22		Avg. Yield [Kg/Ha]
	Area(000Ha)	Prod. (MT)	Area(000Ha)	Prod. (MT)	
Rice	907	2148	892	2115	2371
Wheat	1367	4378	1253	4019	3205
Jowar	41	57	42	58	1346
Bajra	457	1042	447	1056	2368
Cotton*	2271	7270	2245	7363	557
Groundnut	2163	4128	1987	4496	2262
Total Oil seeds	3421	6209	3413	7076	2073

*Production of Cotton are in '000 Bales (170 kg each) **Fourth Advance Estimate

18. INFRASTRUCTURE FOR DEVELOPMENT OF ALLIED ACTIVITIES

Veterinary Hospitals/Dispensaries [Nos]	747	Animal Markets [Nos]	NA
Disease Diagnostic Centres [Nos]	18	Milk Collection Centres [Nos]	8420
Artificial Insemination Centres [Nos]	9053	Fishermen Societies [Nos]	620
Animal Breeding Farms [Nos]	23	Fish Seed farms [Nos]	NA
Animal Husbandry Tng Centres [Nos]	4	Fish Markets [Nos]	NA
Dairy Cooperative Societies [Nos]	18565	Poultry hatcheries [Nos]	26
Improved Fodder Farms [Nos]	30	Registered Slaughter houses [Nos]	8

19. MILK, FISH, EGG PRODUCTION & THEIR PER CAPITA AVAILABILITY

Fish	Production [Lakh T]	7.44	Per cap avail. [gm/day]	35
Egg	Production [Lakh Nos]	19274	Per cap avail. [nos/p.a.]	28
Milk	Production ['000 tonnes]	15292	Per cap avail. [gm/day]	617
Meat	Production ['000 tonnes]	33	Per cap avail. [gm/year]	491

Sources (if not mentioned against the respective item):

Item no. 1 - Panchayat, Rural housing and Rural Development DEpartment, GoG; Item Nos. 2 - SCR 2021-22-DAG, Item Nos. 6, 7, 9 & 10 - Census 2011, Annual Report 2021-22 of Department of Posts, Saubhagya portal; Item 5- Agricultural Census 2015-16; Item Nos. 2, 3, 12 & 14 - Dept. of Agr./Dir. of Eco. & Stat.;14*-Food processing ministry, GoI.; Item No. 4 - Dept. of Agr./Water Resources; Item No. 8 - BPL Survey 2002; Item No. 15 - District Ind Centre/Dir. of Eco. & Stat.; Item No. 16 - DACNET; Item No. 17 - AH Census 2019; Item Nos. 18 & 19 - Dir. of Animal Hus./Dir. of Eco. & Stat/Guj SER 2021-22.; Item Nos. 3, 11 & 13 SCR 2021-22 - DAG, GoG, Irrigation sources - Gujarat Socio economic survey 2021-22, National Health Profile by Central Bureau of Health Intelligence, Ministry of Health & Family

Chapter - I

State Profile

Gujarat is the fifth largest State covering an area of 1,96,024 sq km which accounts for 7.3 percent of total geographical area of the country. The State is located in westernmost part of India bordering Rajasthan to the north and north east, Madhya Pradesh to the east, Maharashtra to the south. The Union Territories of Diu, Daman, Dadra and Nagar Haveli to the south also share a border with Gujarat. Geographically, Gujarat lies between 20° 6' N to 24° 42' N (North latitude) and 68° 10'E to 74° 28'E (East longitude).

Administratively, the State comprises 33 districts and 251 blocks with 17843 inhabited villages. Under Panchayati Raj system, there are 14017 Gram Panchayats and 247 taluka panchayats in the State.

The State falls in the 13th Agro Climatic Zone, which is further divided, into eight sub-zones based on soil characterization, rainfall and temperature viz., South Gujarat (Heavy Rainfall) Zone, South Gujarat, Middle Gujarat, North Gujarat, North-West Gujarat, North Saurashtra, South Saurashtra and Bhal & Coastal.

The State is classified into three regions, based on geography:

- a. The Saurashtra Peninsula, which is a rocky region interspersed with low-lying mountains.
- b. Kutch, located in the north west of Gujarat, is a barren region with rough, rocky terrain. Rann (desert) covers major part of this region.
- c. Mainland, a fertile plain composed of alluvial soil lying between the Rann of Kutch and the Damanganga river.

1.1 The climate

The plains of Gujarat are very hot, dry in summer, cold, and dry in winter. Summer is milder in the hilly regions and the coast. The average daytime temperature during winter is around 29 °C (84 °F) and in nights is around 12 °C (54 °F) with 100 percent sunny days and clear nights. During summers, the daytime temperature is around 49 °C (120 °F) and at night no lower than 30 °C (86 °F).

The monsoon season lasts from June to September. The state has received total 98.4% of the average rainfall during the Monsoon-2021. Valsad district of south Gujarat has registered highest rainfall of 2350 mm while Banaskantha district has registered lowest rainfall of 446 mm.

1.2 The Demography

Gujarat ranks 10th among states having a population of 6.04 crore (census 2011) Gujarat accounts for 5.97% of the area and 4.99% of the population of India. Approximately, 42.58% of the total population of Gujarat state resides in urban areas. The population density of the State is 308 persons per sq. km against the all India population density of 382 per sq. km. The literacy rate in the State is 78% while the sex ratio is 919 (no. of Females per 1000 males). The projected population of the Gujarat State for the year 2022 is 7.06 crore as per National Commission on Population, MoHFW, New Delhi

It has a workforce of 247.68 lakh comprising 203.65 lakh main workers and 44.03 lakh marginal workers as per census 2011.

1.3 Land use pattern

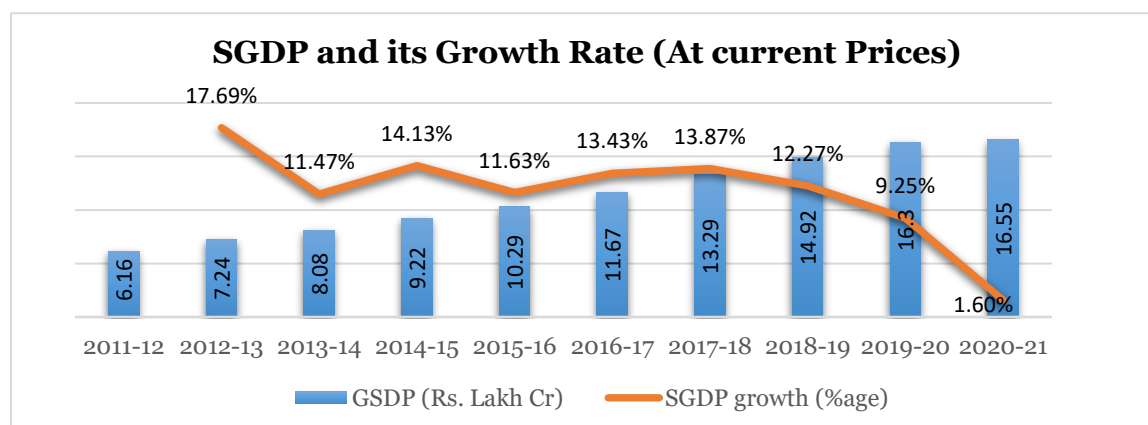
As per the SCR 2019-20 published by Directorate of Agriculture, Gujarat has only 11.26% of its geographical area as forest, which is much below the national average. The net sown area of Gujarat is around 52% of the reported area of 188.11 lakh Ha. The cropping intensity is 141% and the gross cropped area is 138.16 lakh Ha.

Table 1.1 – Land use pattern of Gujarat

Particulars	Area (lakh Ha)	% Share
Total Area Reported	188.11	-
Forest Land	21.19	11.26%
Area not available for cultivation	34.96	18.58%
Permanent Pastures and grazing Land	8.07	4.29%
Land under Miscellaneous Tree Crops	0.04	0.02%
Cultivable waste land	19.01	10.11%
Current Fallow	6.63	3.52%
Other Fallow	3.38	1.80%
Net sown area (NSA)	97.87	52.03%
Total or Gross Gross Cropped Area (GCA)	138.16	
Area Cultivated more than Once	40.29	
Cropping Intensity (GCA/NSA)	141%	

(Source: SCR 2019-20: Directorate of Agriculture)

The SGDP of Gujarat has increased from ₹6.16 lakh crore in 2011-12 to ₹16.55 lakh crore in 2020-21 at current prices. The growth rate in SGDP (at current prices) has witnessed a decreasing trend from 14.1% in 2014-15 to 1.6% in 2020-21. As per the Quick Estimates, the Gross State Domestic Product (GSDP) at Market constant (2011-12) prices in 2020-21 (QE) has been estimated at ₹12,44,258 crore as against ₹12,68,957 crore in 2019-20, registering a growth of (-)1.9 percent during the year.

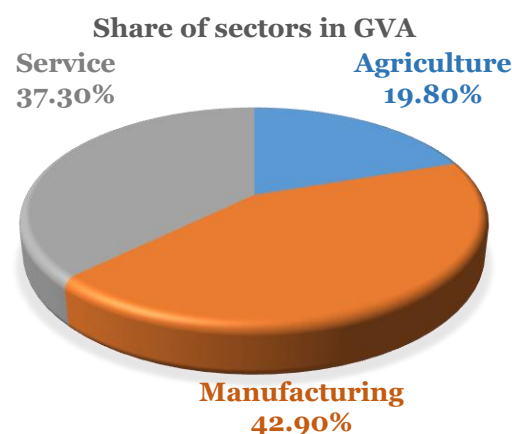


The Per Capita Income (i.e. Per Capita NSDP) at current prices has increased from 0.87 lakh in 2011-12 to ₹2.14 lakh in 2020-21 (QE).

Share of various Sectors to State GVA

The share of primary, secondary and tertiary sectors has been reported at 19.8 percent, 42.9 percent and 37.3 percent respectively to the total GSVA in 2020-21 at current prices. The share of primary, secondary and tertiary sectors in the base year 2011-12 was reported at 22.8 percent, 40.5 percent and 36.7 percent respectively.

(Source: Socio-Economic review 2021-22 Gujarat State)



1.4 Farm Sector

A. Agriculture

- i As per the 4th advance estimates, production of food grains during 2021-22 was estimated at 10.79 million tonnes compared to 10.29 million tonnes production of the previous year. During the year 2021-22, the production of cotton bales of 170 kg each was 73.63 lakh bales as compared to 72.17 lakh bales during the year 2020-21. The production of oil seeds was estimated at 70.76 lakh tonnes during the year 2021-22 against the production of 62.30 lakh tonnes during the year 2020-21.
- ii Gujarat is the largest producer of Cotton, Groundnut and Condiments & Spices in India despite the fact that 58% of land area is under arid zone and semi-arid regions. Gujarat is also the largest producer of Castor, Cumin, Fennel seeds and Psyllium Husk in the world.
- iii Organic farming is being popularised in the state of Gujarat. Around 4.5 lakh farmers across 13,000 Gram panchayats have been trained under natural farming and Dang district has been declared as 100% natural farming district.

Region-wise suitability of organic farming:

Agro climatic zone	Type of soil	Rain fall (mm)	Suitable crops for organic farming
South Gujarat (Heavy Rain Area).	Deep black with few patches of coastal alluvial, laterite and medium black	1500 and more	Sorghum, Nagli, Ragi, Cashewnut, custard apple, vegetables, turmeric, ginger
South Gujarat	Deep black clayey	1000-1500	Sorghum, Mango, Custard apple, Banana vegetables, Pulses
Middle Gujarat	Deep black, medium black to loamy sand	800-1000	Sorghum, Papaya, Custard apple, vegetables, Pulses, Soyabean, cotton
North Gujarat	Sandy loam to sandy	625-875	Pearl millet, cotton, groundnut, vegetables, chilles, coriander, cumin, papaya, pomegranate
Bhal & Coastal Area	Medium black, poorly drained and saline	625-1000	Cotton, cumin, Pulses, Durum Wheat
South Saurashtra	Shallow medium black calcareous	625-750	Pearl millet, cotton, groundnut, pulses, Mango, Custard apple, chilles, coriander, cumin
North Saurashtra	Shallow medium black	400-700	Pearl millet, cotton, groundnut, Pomegranate, papaya, chilles, garlic, coriander, cumin
North West Zone	Sandy and saline	250-500	Pearl millet, Pomegranate, Cumin

B. Animal Husbandry

Gujarat is the 4th largest milk producer in India. 7.55% of the milk production of the country was from Gujarat in the year 2020-21. The State is one of the largest processors of milk in India. Dairy industry has been well established in Gujarat State and it is a model for other states in the country. Gujarat Co-operative Milk Marketing Federation (GCMMF) includes 18 milk unions under which 18565 village societies operate in the state. The number of milk producers are 36.4 lakh. Amul has emerged as Asia's biggest dairy and has been ranked 8th largest milk processor in the world by International Farm Comparison Network (IFCN), a global dairy research network.

C. Horticulture

- i In the State, horticulture production comprises Vegetables (61.5%) followed by Fruits (33 %), Spices (5%) and Flowers (0.5%). During the year 2019-20, the state share at

the national level in the production of fruit crop was 9%, vegetable crop was 7 %, and 1.18% for plantation crops.

- ii The major fruit crops grown in Gujarat are Banana, Mango, Citrus, Papaya, Pomegranate, Gauva and Sapota (Chikoo) while vegetable crops grown are Onion, Potato, Brinjal, Tomato, Okra, Tuber and Cucurbits. The State produces variety of spices viz. Cumin, Fennel, Coriander, Chilly and Garlic. The State enjoys monopoly in seed spices. Isabgul is a prominent medicinal crop grown in the State. Area under new fruit crops viz. Tissue Culture date palm, dragon fruit (Kamalam Fruit) and strawberry is on increasing trend. The State has also introduced horticulture crops like cashew nut, pamarosa, sweet orange and medicinal crops. Onion dehydration industry of the State is the biggest in the country. In floriculture, flowers like carnation, gerbera and rose are cultivated using Hi-Tech Green Houses.

D. Fisheries

Gujarat has the longest coastline of 1600 kms. in the country, which is broken by several bays, inlets, estuaries and marshy lands. It contributes about 20% of the country's total marine production. The area available for fishing activities extends from Lakhpat in Kachchh district in the north to Umargaon in Valsad district in the south. Important commercial varieties of fish namely Pomfret, Jew fish, Bombay Duck, Shrimp, Lobster, Squid, Cuttle fish, Silver bar, Hilsa, Shark, Catfish, Mullet, etc. are caught in large quantities in these areas. In addition, the Gulf of Kachchh has congenial conditions for growth and sustenance of different types of Oysters, Shellfish and Sea Weeds. During the year 2020-21, total fish production in the Gujarat State was estimated at 7.44 lakh tonnes (6.20 lakh tonnes Marine fish production and 1.24 lakh tonnes Inland fish production) worth Rs.8773.31 crore. The Marine fish production contributes about 83.25 percent of total fish production of the State. During the year 2020-21, Gujarat exported 2.28 lakh tonnes of fish and fish products which added to the foreign exchange earnings of Rs.4254.21 crore.

E. Forestry

As per the SCR 2019-20, the forest area of Gujarat is approximately 21.19 lakh Ha, which is about 11.26% of total geographical area of the State. As assessed in India State of Forest Report 2021, the total Forest cover of Gujarat is 14.93 lakh ha and Tree cover is 5.49 lakh ha, about 10.40% of the total geographical area. The State has 4 National Parks, 23 Wildlife Sanctuaries and 1 Conservation Reserve covering about 8.83% of the total geographical area of the State.

F. Industries Sector

- i The share of industry sector in the GDP of Gujarat is nearly 42.9%, compared to the service sector, which contributes 37.3%. This trend is much different from the national level, where industry and service sectors contribute 28% and 54% respectively Gujarat is a leader in industrial sectors such as Chemicals, Petrochemicals, Dairy, Drugs and Pharmaceuticals, Cement and Ceramics, Gems and Jewellery, Textiles and Engineering.
- ii Information Technology (IT) is an emerging sector in the State. The new IT/ITeS Policy (2022-2027) will create employment opportunities for over 1 lakh youth in the state. It is aimed at promoting new small and medium units, along with big projects to grow the current exports of roughly Rs 3,100 crore to Rs 25,000 crore in the next five years.
- iii With an aim to provide an impetus to the development of farmers, Gujarat Government came up with a comprehensive "Agro Business Policy 2016-21". Its aim is to attract investment in agriculture, enhance agricultural productivity and increase income of farmers. Food processing units as well as agricultural infrastructural projects would be provided with various kinds of assistance under the new policy to ensure that the farmers of the State get the maximum benefit of high demand of quality

agricultural products all across the world. The Gujarat Garment and Apparel Policy 2017 aims at creating one lakh jobs especially for women and to create investment opportunities in the value chain.

- iv In order to reinforce industrial development in the State, the government has unveiled Gujarat Industrial Policy 2020 on 07th August 2020 with a vision to make Gujarat a Global Business Destination for next-generation sustainable manufacturing & service industry driven by state-of-the art infrastructure, employment generation, inclusive & balanced regional development and thereby contribute significantly to “Aatmanirbhar Bharat”. The policy sharpens its focus on key thrust sectors, strengthening integrated value chains, innovation and research. Besides this, the Gujarat Industrial Policy has provisions to promote industries focusing to adopt sustainable & cleaner manufacturing and innovative Industry 4.0 practices. It also lays objective to encourage entrepreneurship, strengthen MSMEs, and facilitate cluster development.
- v To give impetus to Micro, Small and Medium Enterprises (MSMEs), the Gujarat state has approved a draft ordinance to amend the MSME Act. The most important clause in the proposed ordinance allows entrepreneurs to start production without waiting for approvals from government agencies and to secure clearances once their business stabilizes.

1.5 Water Resources

- i As per the Socio-Economic Review 2021-22, the ultimate irrigation potential through surface water is assessed at 48.45 lakh hectares which includes 17.93 lakh hectares through Sardar Sarovar (Narmada) Project.
- ii In respect of ground water resources, it is estimated that about 22.59 lakh hectares can be irrigated. Thus, total ultimate irrigation potential through surface & ground water is estimated to be 71.04 lakh hectares.
- iii The total irrigation potential of surface water created up to June-2020 works out to 97.29 percent of ultimate irrigation potential whereas maximum utilization works out to 88.22 percent of the irrigation potential created.
- iv The Government has passed “Gujarat Water Users Participatory Irrigation Management Act 2007” to cover maximum possible command area under Participatory Irrigation Management. Upto June, 2021, under participatory irrigation management scheme, 841859 hectare area has been covered through 2799 Water Users Associations.

1.6 Status of Cooperatives in Gujarat

Cooperative sector in Gujarat is reasonably well developed and sound, as evidenced in the well-developed Dairy sector and a strong system of Rural Cooperative Banks.

1. The operational efficiency and turnover of the Cooperative Dairy sector in Gujarat is well above the national average, anchored by systematic procurement system, efficient payment cycle, robust infrastructure and trained manpower with a cooperative spirit. As regards the Rural Cooperative Banks of Gujarat, it is a 3-tier structure, consisting of Gujarat State Cooperative Bank, 18 DCCBs and over 7700 PACS. All 18 DCCBs are in profit and on CBS (Core Banking Solution) Platform. 13 DCCBs are offering Mobile Banking facility and all 18 DCCBs are offering RTGS/NEFT facility to their customers. However, there is considerable variation among the DCCBs as regards to their financial resources and business performance. Likewise, out of over 7700 PACS, there are some PACS, which are not profit-making/viable and lack adequate infrastructure or trained man-power to undertake business activities adequately and to play effective role in rural economy.
2. At macro-level, a strong Rural Cooperative Sector will reflect in a rise in percentage share of GLC Flow of DCCBs (relative to other banks) and an increase in Agri-Term loan disbursements in various districts. This has however, become a challenge, particularly with the influx of Small Financial Banks & NBFCs that are foraying into the domain of Rural Cooperative Banks (RCBs). For RCBs to reclaim their prominence in rural credit landscape,

it is crucial that PACS play a more decisive role in rural economy through business diversification, thus generating greater demand for credit.

Table 1.2 Sector-wise/ Activity-wise distribution Co-operatives-

Sr. No	Type	Number of Societies
A	Details of Non Credit Cooperative Societies*	
1	AH Sector (Milk/Fishery/ Poultry etc.)	17461
2	Consumer Stores	2026
3	Housing Societies	17642
4	Weavers	-
5	Marketing	-
6	Labour Societies	3764
7	Industrial Societies	-
8	Agro Processing and Sugar	2213
9	All others	28363
	Total	71469
B	Details of Credit Cooperative Societies#	
10	Primary Agriculture Credit Societies	7700
C	Details of Multi State Cooperative Societies (MSCs)\$	
11	No. of MSCs	47

[*Source – RCS, GoG (data as on 31.03.2020); #Source – Institutional Development Department, NABARD, Gujarat; \$ Source- Ministry of Cooperation, GoI]

1.7 Important Infrastructure

Gujarat registered a splendid performance in Health, Education, Power, Transport and e-Governance segments.

A. Power

Gujarat is a power surplus state, providing round the clock three-phase uninterrupted quality power & more than 33.5 GW installed power generation capacity providing 24x7 uninterrupted supply.

The State has an installed capacity of 13.2 GW from non-conventional sources which includes 4.4 GW from solar power alone. Gujarat is known for innovative models to tap solar power such as Canal Top Solar Panels & Suryashakti Kisan Yojana (SKY). Under SKY, the farmers can install solar panels on their farms and offload surplus energy on the grid, thereby boosting their income. Incidentally, NABARD has sanctioned ₹369.69 crore under RIDF for solarization of 137 feeders as part of Suryashakti Kisan Yojana.

B. Transport

The state has a robust network of roads which includes 5146 Km National Highways, 16557 Km State Highway and 31088 km District Roads. It also has 49 large ports including 1 major port and 48 non-major ports handling 534.4 mn tonne cargo. There are 17 operational airports and airstrips with 1 International airports in the state making it one of best-connected state for trade and commerce.

C. Health

Gujarat state is in the forefront of establishing and maintaining good health infrastructure at various levels. As on October 2021, 345 Community Health Centers, 1477 Primary Health Centers and 9231 Sub-centers were functional in the State. The Infant Mortality Rate (IMR) has reduced sharply by half from 60 in 2002 to 25 in 2019 and the Maternity Mortality Rate (MMR) has declined steadily from 202 in 1999-01 to 75 in 2016-18.

D. Education

As per Socio-Economic Review 2021-22, the educational institutions imparting primary education in the State were 45023 in 2020-21. The number of pupils enrolled in these schools were 84.65 lakh in 2020-21. The dropout rate for primary education (Std I-V) has substantially

declined from 20.50 in 2001-02 to 1.37 in 2019-20. The number of institutions imparting secondary and higher secondary education has increased from 12,445 in 2019-20 to 12,709 in 2020-21. The number of students enrolled were 28.43 lakh during 2020-21. The number of institutions imparting higher education has increased to 2613 in the year 2020-21. Amongst all the districts, Surat district ranks 1st in literacy at 85.5%. The Dahod district is at the bottom of the ladder with a literacy rate of 58.8%.

1.8 Other important Infrastructures

In addition to this, the government has an ambition plan for the Industrial development of the State based on the following mega industrial infrastructure projects:

- Delhi-Mumbai Industrial Corridor
- Dholera Special Investment Region & Mandal Becharaji Special Investment Region
- Mumbai Ahmedabad High Speed Rail
- Gujarat International Financial Tech (GIFT) City
- Diamond Research and Mercantile (DREAM) city

Further, under Gati Shakti Gujarat, different departments will be brought together on an online platform to provide integrated planning and coordination for implementing infrastructure projects across departments. It will improve multimodal connectivity to reduce logistics costs and strengthen last-mile connectivity to Gujarat's hinterland.

Chapter 2

Banking / Financial Sector Profile

Chapter II

Banking and Financial Sector Profile

2.1 Banking Network in Gujarat

Gujarat has a network of 33 Commercial banks (12 public sector banks and 21 private sector banks), two Regional Rural Banks, one State Co-operative Bank, 18 District Central Co-operative Banks, one State Co-operative Agriculture and Rural Development Bank and six Small Finance Banks and 218 Urban Cooperative Banks. As on 31 March 2022, total number of branches of all banks excluding UCBs was 9834 comprising of 3530 rural, 2299 semi-urban and 4005 urban & metro branches. There are 218 Urban Co-operative Banks in the State, of which 7 are Scheduled Urban Co-operative Banks. Gujarat also has a good number of MFIs and NBFCs that cater to the microfinance needs of marginalized sections. As on 31 March 2022, the State had 11940 ATMs with 4635 ATMs located in rural and semi urban areas. Bank of Baroda is the convener of the State Level Bankers' Committee and 02 PSBs viz. BoB & SBI are Lead Banks for various districts in the State.

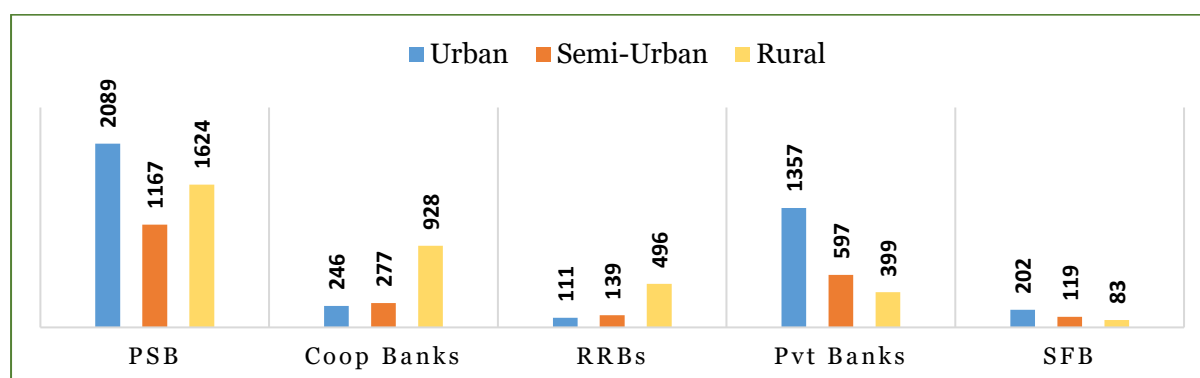


Table 2.1 : Banking at a Glance in Gujarat State - March 2022 (₹Crore)

Sr. No.	Agency	No.	No. of branches	Deposits	Advances	CD Ratio
1	Public Sector Banks	12	4,880	5,97,686	3,38,703	56.67
2	Private Sector Banks	21	2,353	3,04,365	3,68,782	121.16
	Total CBs	33	7,233	9,02,051	7,07,485	78.43
3	RRBs	2	746	18,507	11,452	61.88
4	StCBs/DCCBs	1+18	1,451	43,315	24,621	56.84
5	Small Finance Banks	6	404	6,206	9,806	158.01
	Total	60	9,834	9,70,079	7,53,364	77.66

(Source: SLBC Gujarat)

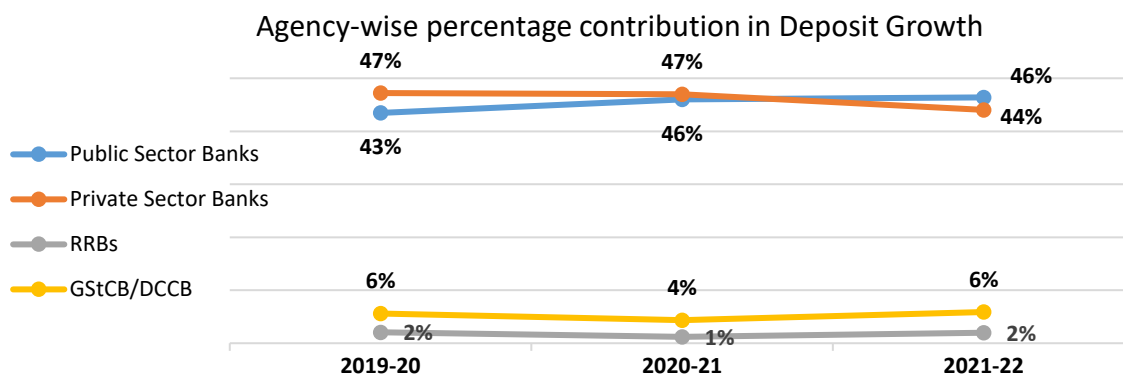
2.2 Deposits, Advance and CD Ration

The year wise deposits of the banks in the State for the last four years are furnished in Table 2.2:

Table 2.2 Deposits at a glance (₹Crore)

Agency	2019	2020	2021	2022
Public Sector Banks	4,73,392	5,00,764	5,56,520	5,97,686
Private Sector Banks	1,78,664	2,08,399	2,65,290	3,04,365
RRBs	14,012	15,314	16,775	18,506
GSCB/DCCB	29,296	32,820	38,094	4,3315
GSCARDB	270	270	248	NA
SFB	1,616	2,666	4411	6206
Total	6,97,250	7,60,233	8,81,338	9,70,078

The aggregate deposits of banks in Gujarat increased by ₹88,741 crore from ₹8,81,338 crore as on 31st March, 2021 to ₹9,70,079 crore as on 31st March 2022 registering a growth of 10.07% as against 15.93% for the previous year. During the year 2021-22, out of all banks, highest increase in deposit (in percentage terms) was registered by Small Finance Banks at 40.69% followed by Private Sector Banks at 14.73%. However, the PSBs accounts for majority share in the deposit growth. The share of different agencies in the deposit growth is given as under.



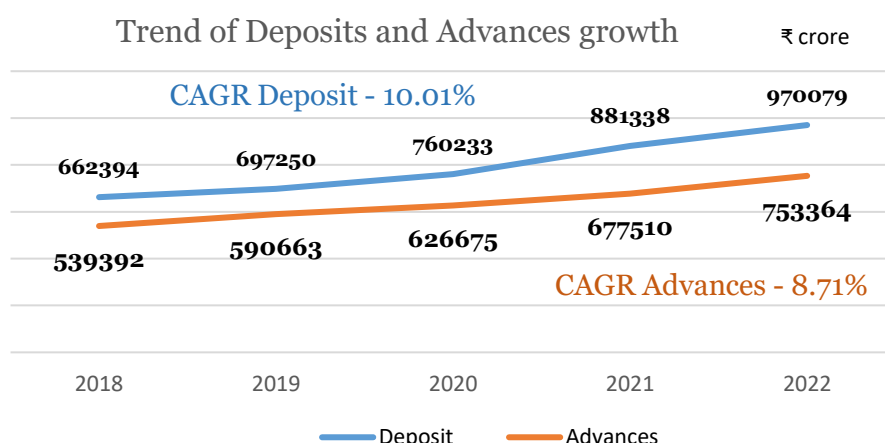
There are a total of 669.49 lakh operative CASA accounts in the State. Aadhar Seeding, Aadhar authentication and Mobile Number Seeding in operative CASA accounts stood at 82.35%, 47.12% and 92.3% respectively.

Advances: The year wise advances of banks in the State for the last four years are furnished in the table 2.3

Table: 2.3 Advances at a glance (₹Crore)

Agency	2019	2020	2021	2022
Public Sector Banks	3,14,250	3,07,290	3,18,673	3,38,703
Private Sector Banks	2,41,233	2,81,524	3,16,274	3,68,782
RRBs	8613	9,390	10,468	11,452
GSCB/DCCB	20,905	21,737	23,880	24,621
GSCARDB	579	579	543	NA
SFB	5,083	6,155	7,672	9,806
Total	5,90,663	6,26,675	6,77,510	7,53,364

(Source: SLBC Gujarat)

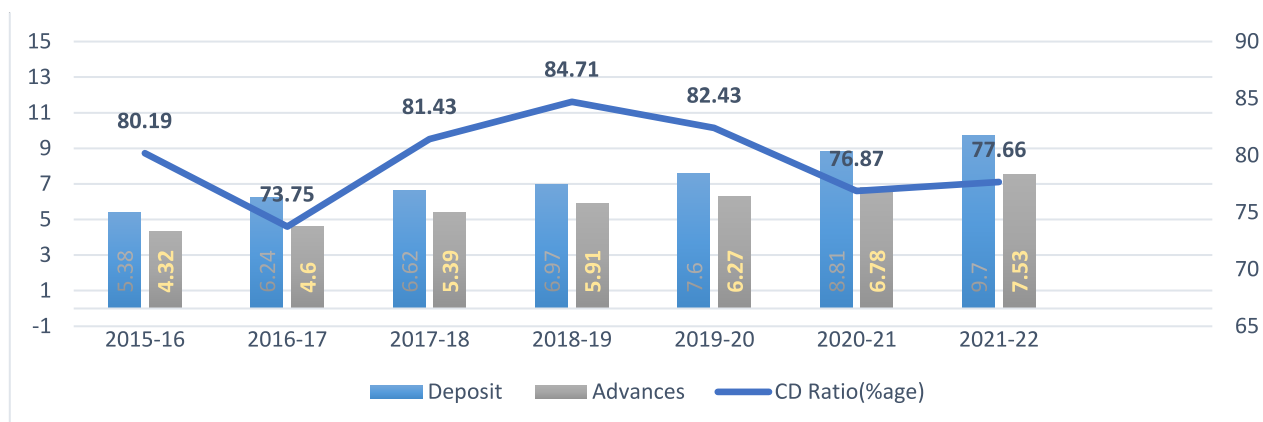


The aggregate credit increased by ₹75,854 crore from ₹6,77,510 crore as of March 2021 to ₹7,53,364 crore as of March 2022 registering a growth of 11.2% as against the growth of 8.11% registered during the previous year. The growth in advances was mainly contributed by Private Sector Bank (69.2% of the increment) and

Public Sector Banks (26.4% of the increment). The highest growth in advances was registered by Small finance Banks (27.8% y-o-y) followed by Private Sector Banks (16.6% y-o-y)

State has witnessed CAGR of 10.01% and 8.71% over last 5 years for deposits and advances respectively.

Credit Deposit Ratio: The trend of CD ratio of banks in the state during the last seven years is furnished in the diagram:



(Source: SLBC Gujarat)

CD Ratio, inclusive of RIDF i.e. ₹20988 crore, for the State as a whole for year 2021-22 was 79.82%. CD Ratio was below 40% in the districts of Anand, Dang, Kheda, Mahisagar, Navsari, Porbandar and Tapi. The Banks are required to put in special efforts to reverse this situation.

2.3 Performance under Priority Sector

The performance of banks under priority sector advances is furnished in table No. 2.4. It may be observed therefrom that as against the stipulated benchmark level of 40%, the performance of all the banks under priority sector during the year 2021-22 was 55.17%. For agricultural advances the overall achievement of all the banks stood at 15.31% against a stipulation of 18%. Cooperatives and RRBs fared better in Agri Advances at 75.10 % and 74.09% respectively as compared to Public Sector and Private Banks where the % of Agri Advances was 16.25% and 7.66% respectively.

Table 2.4 Priority Sector Advances by Banks as on March 2022

(₹Crore)

Agency	Outstandi ng March'21	Outstandi ng March'22	Priority Sector Advance s	% to total Advance s	Agri advance s	% to total advance s as on Mar'21
Public Sector Banks	3,18,673	3,38,703	1,65,955	52.07	51,790	16.25
Pvt. Sector Banks	3,16,274	3,68,782	1,67,752	53.04	24,215	7.66
RRBs	10,468	11,452	10,463	99.95	7,756	74.09
GSCB/DCCB	23,880	24,621	21,564	90.30	17,934	75.10
GSCARDB	543	NA	NA	-	-	-
SFB	7,672	9,806	8,081	105.33	2,016	26.28
Total	6,77,510	7,53,364	3,73,815	55.17	1,03,711	15.31

(% of achievement based on total advances of previous year, as per RBI guidelines)

(Source: SLBC Gujarat)

2.4 Performance under State Credit Plan

As on 31 March 2022, against the target of ₹97,153 crore under Total Agriculture Loan, the achievement was ₹85,935 crore that is 88.45%. Targets under MSME & Housing was exceeded with achievement at 136.41% and 108.03 % respectively.

Achievement under ACP (88.45%) and Education (29%) is a matter of concern. Achievement under Priority Sector as a whole was 109.57% during FY 2022-23

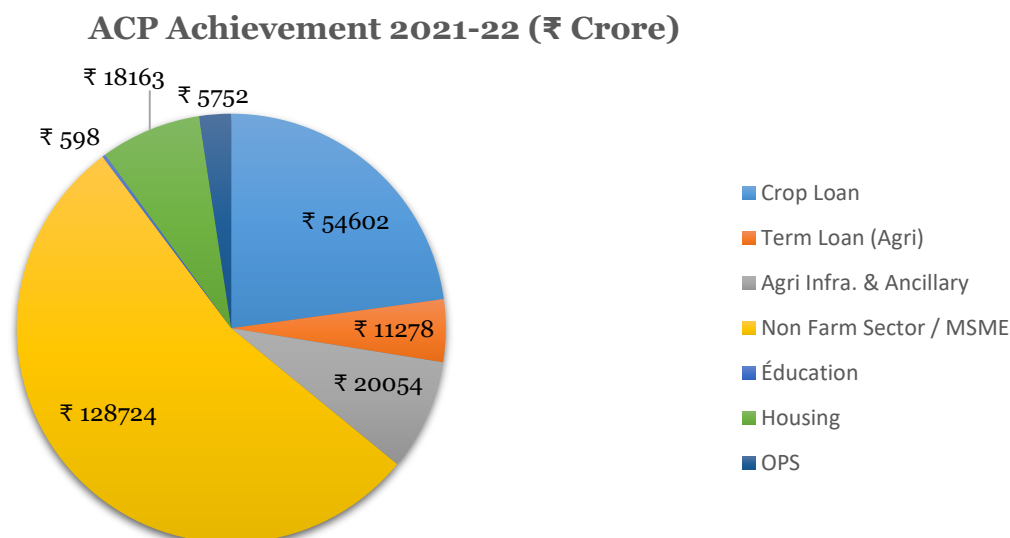


Table 2.6 shows the targets and achievement under Priority Sector for the year 2020-21 and 2021-22

Table 2.6: Performance under State Credit Plan

Broad Sector	2020-21 (₹Crore)			2021-22 (₹Crore)		
	Target	Achievement	% Achievement	Target	Achievement	% Achievement
Crop Loan	56,891	54,964	96.61	64,920	54,602	84.11
Term Loan (Agri)	17,363	12,685	103.03	18,562	11,278	60.76
Total Agri Credit	85,838	84,788	98.78	97,153	85,934	88.45
Non-Farm Sector / MSME	79,201	96,326	121.62	94,366	1,28,724	136.41
Education	1,982	824	41.57	2,020	598	29.58
Housing	17,290	12,731	73.63	16,812	18,163	108.03
OPS	5,794	5,279	91.11	793	5,752	72.54
Total Priority Sector	1,91,773	2,00,984	104.80	2,18,280	2,39,170	109.57

(Source: SLBC Gujarat)

2.5 Non-Performing Assets (NPA)

All the banks taken together, the NPA in loans and advances stood at 5.52% in the State. The NPA was lowest in the private commercial banks at 1.50% and highest in PSBs i.e. 9.96%. NPAs in RRBs and Cooperative Banks were 2.89% and 5.22% respectively. Among the sectors, highest NPA (8.56%) was observed in agri. term loan and followed by MSME sector (5.11%). Lowest NPA was found in housing sector (1.32%) in the State.

2.6 Others

- A. **Pradhan Mantri Jan Dhan Yojana:** As on 9th Nov 2022, 1.73 crore accounts including 1.06 crore rural accounts have been opened under the scheme. Out of these accounts, 6.53% are Zero Balance accounts. Aadhar seeding in these accounts stood at 84.45% and

RuPay Cards have been issued to 74.83% accounts.

- B. **Social Security Schemes:** As of 15th Nov 2022 total enrollment under Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) was 53.91 lakh, Pradhan Mantri Suraksha Bima Yojana (PMSBY) was 124.89 lakh and Atal Pension Yojna (APY) was 18.09 lakh. As on 01 Nov 2022, claim settlement percentage under PMJJBY and PMSBY was 95.93% and 84.68% respectively. During 2021-22, enrollment under Atal Pension Yojana (APY) in the State was 3,68,730.
- C. **Aspirational Districts Performance:** As on 31st March 2022, 13.75 lakh PMJDY accounts have been opened in aspirational districts of Dahod and Narmada. CD Ratio of Dahod & Narmada was 54.81% and 46.32% respectively as on 31st March 2022. Agriculture advances as on 31st March 2022 for Dahod and Narmada stood at ₹1,016.47 crore and ₹653.86 crore respectively.
- D. **Financial Literacy Camps:** The State has 49 Financial Literacy Centres (FLCs) set up by respective Lead Banks and RRBs sponsored by them. Total 7590 Financial Literacy Camps have been conducted by Scheduled Commercial Banks comprising Public Sector Banks, RRBs and Private Sector Banks (Source: SLBC) whereas the Cooperatives have conducted 3429 Financial and Digital Literacy Awareness Programmes during 2021-22.
- E. **RSETI Training Programmes:** A total of 15,993 beneficiaries were trained in 592 programmes conducted by RSETIs during 2021-22 in the State. Since the inception of RSETI training programmes, 70.34% beneficiaries have been settled through either bank finance or own sources.
- F. **SHG/JLG Financing:** There are 2.92 lakh SHG SB accounts in the State. During the FY, 20,695 accounts were credit linked. The 'per account' loan outstanding, as on 31.03.2022 was ₹0.48 lakh with total outstanding at ₹217.97 crore. Loans of ₹18,828 lakh have been disbursed by banks for SHGs during 2021-22. During the year 2021-22, a total of 3,49,150 JLGs were financed out of which 2,20,195 were from farm sector & 1,28,955 were from non-farm sector. As on 31 March 2022, loan outstanding under Farm-Sector was ₹1,54,601.64 lakh and under Non-Farm Sector was ₹2,02,058.22 lakh.
- G. **PM Kisan Samman Yojana:** The Centre had implemented PM-Kisan, an income support scheme for farmers, to enable them to take care of expenses related to agriculture and allied activities as well as domestic needs, with effect from December 1, 2018. The scheme provides ₹6,000 a year, in three instalments of ₹2,000 each to eligible beneficiaries. There are 67.18 lakh beneficiaries in the State under the scheme

(Source: SLBC Gujarat)

Chapter 3

NABARD's Perception on the Development Perspective of the State

NABARD's Perception on the Development Perspective of the State

3.1 Introduction

NABARD, as an apex level bank for agriculture and rural development, is mandated to promote integrated rural development and secure prosperity of rural areas. The vision of the Government of Gujarat is “to make Gujarat a globally preferred place to live in and do business through accelerated, balanced, inclusive and sustainable growth driven by robust social, industrial and physical infrastructure”. The perception of NABARD on development of the State revolves around the mandated role of NABARD and takes into consideration the efforts made by the State to realize its declared vision.

Gujarat is among the fastest growing States of the country and has adopted a novel pattern of progress with the strategic development of the key sectors like energy, industry and agriculture for which it has achieved ambitious double digit growth rate since the 10th Five Year Plan period.

- Gujarat is also a front-runner in the overall economic development of the country, contributing 8.36 % of the national GDP at current price (2020-21) and has demonstrated leadership in many areas of manufacturing and infrastructure sectors.
- The State's annual GDP growth from 2015-16 to 2021-22 at current prices averaged above 14%.
- Gujarat was amongst the first states in India to set-up an industrial park and is a leading State in harnessing solar power and wind energy.
- Gujarat enjoys the status of industrially developed state of India contributing about 18.14% of country's industrial output, accounting for 20.56% of country's fixed capital and 15.85% of country's gross value added.
- Generation of electricity in Gujarat has steadily been increasing from 71,256 Million Units [MUs] in 2010-11 to 1,16,610 MUs in 2020-21.
- Gujarat has been a leading state on the front of harnessing renewable energy sources with its 12.09% share in country's total Grid Interactive Renewable power installed capacity, as on 31 March 2021.
- Gujarat is a leader in exports with more than 25 percent share in India's aggregate merchandise exports, with 34.71% of all cargo and more than 67% cargo handled by non-major ports of the country from Gujarat.

3.2 Status of Employment

Gujarat has the lowest unemployment rate (3.8%) among the major State economies. The State has been consistently at higher rank in providing employment through employment exchanges of India with its percentage of live register to total live register in India being 1.1% and its percentage of placement to submission being at 20.52% (*Employment Exchange statistics 2020*) The total placement from Registration during the year 2020 through Employment Exchange in Gujarat State is 79.91%. About 70.5% of total workers in the State are rural-based. Agriculture continues to be the primary occupation for the majority of rural people in the State. About 35.50% of total workers are cultivators and agricultural labourers. Thus, agriculture in the State has been a major source of labour absorption. Moreover, agriculture provides indirect employment to a large portion of population in agro-based occupations. Thus, prosperity and well-being of the people in Gujarat is closely linked with agriculture and allied activities.

3.3 Capital formation in Agriculture

As evident from the State finance budget for last few years, about 25.5% of the budget is earmarked for capital formation. Capital formation leads to creation/addition of capital assets which become the important means of production. Large capital stock enables the economy to

acquire the capacity to change, innovate and adjust to new ideas and technological advances leading to increased production and productivity and thus enhancing income.

In the State, the prospect of increased level of capital formation in agriculture and allied sector of the state is hampered by limited public investment. Further, the private investment for long term capital assets has not been up to the desired level due to much importance attached to the manufacturing and service sector in the State. Approximately 13.1% of SGVA at current prices (quick estimates of 2019-20) is being contributed by agriculture sector with dependence of 49.6% workforce. For increasing the income of farmers, generating employment and achieving inclusive growth, it is imperative to arrest the declining trend and increase investment in agriculture sector especially keeping in view the GoI's aim of doubling farmers' income.

Long Term Credit as a contributor to Capital Formation

Long-term credit, leading to the capital formation in agriculture has increased from ₹5,182 crore (2009-10) to ₹20,955 crore in 2021-22. However, its share as percent of total agriculture credit has seen ups and downs and ranged between 20.79% and 37.73% in various years. Banks have to step up their efforts to finance identified investment projects and areas & value chain based investment activities viz. dairy, poultry, goat farming, banana tissue culture, etc. as outlined in PLPs for 2023-24.

The disbursement of Agriculture Credit in Gujarat since over the years is given in the table 3.1

Table 3.1 Disbursement of Agriculture Credit (Long & Short Term)

(₹Crore)

Year	ST Credit	LT Credit	Share of LT Credit %	Total Agriculture Credit
2009-10	9,499	5,182	35.30	14,681
2010-11	11,264	6,460	36.45	17,724
2011-12	14,920	5,548	27.11	20,468
2012-13	21,576	7,474	25.73	29,050
2013-14	24,186	6,904	22.21	31,090
2014-15	29,363	7,707	20.79	37,070
2015-16	33,690	11,340	25.18	45,030
2016-17	35,188	12,997	26.97	48,185
2017-18	41,206	20,261	32.96	61,467
2018-19	38,978	23,621	37.73	62,599
2019-20	44,580	24,745	35.69	69,325
2020-21	54,964	29,823	35.17	84,787
2021-22	54,602	31,332	36.04	85,934

(Source: SLBC Gujarat)

3.4 Productivity of crops - a major concern

Though the productivity of most of the major food crops in the state has increased during last decade, it is lower than that in other agriculturally progressive states. Productivity of wheat and rice is less as compared to Punjab. Productivity of the main crops viz. groundnut and cotton is also less as compared to Tamil Nadu and Rajasthan respectively. Agricultural Universities may share the scientific knowledge and innovative technologies through their extension centres in rural pockets for increasing yield. State Government may also tie up for technical knowhow and hand holding with the States having higher crop yield. Innovative methods that are used by farmers for increasing productivity with assistance from Farm Sector Promotion Fund of NABARD, may be replicated in other areas too. The average yield of total food grains in the State has increased from 15.59 qtls/ha in 2009-10 to 21.12 qtls/ha (as per 4th advance estimate Agri statistics at glance 2020-21) in 2020-21.

The productivity of some of the major crops of Gujarat vis-à-vis all India position is given in table 3.2

Table 3.2 Productivity of the major crops of Gujarat

(Kg/ha)

	Gujarat	Gujarat	All India	Other State
Crop	2021-22(*)	2020-21(@)	2020-21(#)	(2020-21)(#)
Rice	2371	2367	2713	4366 (Punjab)
Wheat	3206	3205	3464	4862 (Punjab)
Jowar	1346	1398	1128	3070 (AP)
Bajra	2368	2281	1436	2372 (Haryana)
Maize	2090	1716	3195	6820 (TN)
Tur	1160	1186	892	1138 (Jhar)
Gram	1908	1762	1217	1568(Guj)
Total Pulses	1526	1408	892	1275(Guj)
Total Food Grains	2245.1	2247	2386	4606(Punjab)
Groundnut	2262	1911	1676	2310(TN)
Cotton **	557	540	462	675(Raj)

Source: 4th Advance estimate of Area, Production & Yield for Gujarat (*); Socio-economic Review 2021-22, Gujarat State (@) & Agri Stat at a Glance 2021, GoI (#)

** Production of cotton in '000 bales each of 170 kgs in unit

All the stakeholders have to contribute their best to enhance the crop productivity so that the State reaches a comparable position with other States.

3.4.1 Cost of Production of major agricultural Crops:

Based on the data assessed by CACP, the MSP was maintained at atleast 1.5 times of A2+FL for kharif crops and 2 times for rabi crops. But the cost of production for the major crops in Gujarat when compared to all India average as also some leading states indicates that the actual realisation to the farmers in the state might be lower due to higher costs of production.

Table 3.3 Comparison of cost of production of various crops in Gujarat, All India and other states.

(Rs/ctl)

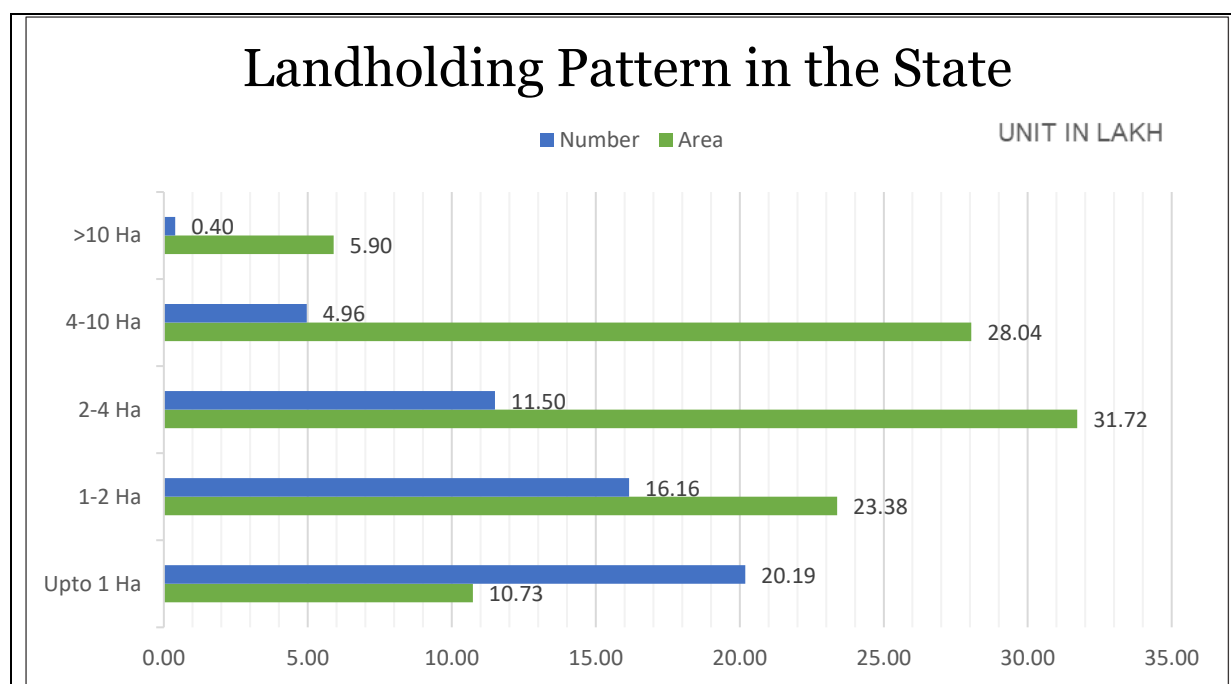
Crop	Gujarat	All India	Other State
Rice	1182	1293	759 (Punjab)
Wheat	1251	1008	748 (Punjab)
Bajra	1112	1213	881 (UP)
Maize	2061	1246	989 (Jhar)
Arhar (Tur)	4018	3886	2417 (Bihar)
Moong	5147	4850	3671 (Bihar)
Gram	2545	3004	2124 (Bihar)
Groundnut	3619	3699	1824 (Raj)
Cotton	3279	3817	3238 (Raj)
Sesamum	5965	4871	3854 (WB)

This higher cost of production is a cause of concern and concentrated efforts in bringing efficiency in production and marketing operations is required to ensure better price realisation by farmers.

Further, out of the total procurement of millets (118.77 million Tonne) across the country during 2021-22, only 15,650 tonne was procured from Gujarat. The production of these nutri-cereals was 1.15 million tonne, out of which only 1.35% were procured. The production and marketing of the millets needs to be strengthened.

3.4 Financing SF/MF, Oral Lessees/Tenant Farmers/Share Croppers

As per Agriculture Census 2015-16, the number and area of Operational Holdings by Size Group in the State is as follows:

**Table 3.4 Category wise number of farmers and landholding.**

Category	Number	% share	Area (Ha)	% share
Marginal Farmer (With agricultural land holding up to 1 hectare)	20,18,827	37.94%	10,73,154	10.76%
Small Farmer (With agricultural land holding more than 1 hectare and up to 2 hectares)	16,15,788	30.37%	23,38,174	23.43%
Semi Medium Farmer (With agricultural land holding 2-4 ha)	11,50,254	21.62%	31,71,855	31.79%
Medium Farmer (With agricultural land holding 4-10 ha)	4,95,869	9.32%	28,04,446	28.11%
Large Farmer (With agricultural land holding More than 10 Ha)	39,888	0.75%	5,90,150	5.91%
Total holding	53,20,626		99,77,779	

Source: Agriculture Census 2015-16

It can be seen from the table above that SF/MF constitute 68.31% of the total farmers with around 34% of the land holdings. Reportedly 42% of the SF/MF are covered under institutional finance (source: SLBC). In the absence of adequate financing to SF/MF from institutional sources, these group of farmers move towards borrowing from non-institutional sources. This leads to instances of exploitation by money lenders. Thus, development of a suitable credit support system for financing to MF/SF becomes all the more important. The Marginal/Small Farmers are potential clients for Crop loan/term loan activities and hold good scope for bank financing in the State.

In the absence of formal agreement between the land lord and Oral Lessees/Tenant Farmers/Share Croppers, there are issues in institutional financial arrangements leading to high-cost borrowing from informal sources. At the same time due to crop failure on account of natural disaster, such farmers are deprived of benefits of crop insurance. The State Government may consider to introduce a scheme similar to Loan Eligibility Cards introduced by the Government of Andhra Pradesh/ Telangana. The introduction of JLG Scheme of NABARD by all banks will also help in meeting at least the credit requirements of such farmers.

3.5 KCC/Rupay KCC, Crop insurance, Land records – digitization and creation of charge

The Kisan Credit Card (KCC) in its present form has been introduced for hassle free and timely delivery of crop loan to the farmers. All the banks are implementing the scheme in the State. It is observed that as against 67.18 lakh* PM Kisan beneficiaries in the State only 27.85 lakh# KCCs have been issued to the farmers. There is scope to cover as many as 39.33 lakh farmers under the scheme of KCC. NABARD is promoting KCC among bankers and farmers for coverage of 100% farmers under the scheme. The banks may also be addressing the consumption needs like health, education, social festivities and other day-to-day needs of the farmers within the repaying capacity of farmers.

*source: pmkisan.gov.in

#source: SLBC data

A. KCC – Working capital for Animal Husbandry and Fisheries: The facility under KCC is also extended for activities like Animal Husbandry and Fisheries for meeting working capital requirements. The scheme is being attached high priority by the Government of India to meet the short term credit requirements of farmers involved in these activities. GoI has launched a special drive for issuance of KCC to dairy farmers, fishers and fish farmers. The objective is to cover 2.5 crore new farmers under the KCC Scheme, of which 1.5 crore were expected to be dairy farmers and the rest fishers. NABARD is promoting the product among farmers and bankers and other stakeholders in the State. KCC facility for working capital with Interest Subvention at 1.5% and Prompt Repayment Incentive (PRI) at 3% is extended to fisheries and animal husbandry farmers besides crop production.

As per 174th SLBC meeting agenda, the progress under the saturation drive as reported as on 09.08.2022 is hereunder:

Table 3.5 Working capital for AH&F – Progress under Saturation drive

S No	Particular	Accepted Applications	Sanctioned applications	% of Sanction
1	KCC Animal Husbandry applications	230008	101280	44.3%
2	KCC Fisheries applications	11415	5400	47.3%

Rupay Kisan Card (RKC) is the digital version of KCC which can be used by the farmers in the ATMs and purchase of farm inputs instead of queuing in the bank branches. NABARD has supported the Regional Rural Banks and Rural Cooperative Banks, by way of grant for issue of 13.04 lakh RuPay Kisan Card against the KCC accounts. Similarly, Commercial Banks have been issuing RKC to the farmers against the KCC accounts. As on 30 June 2022, as many as 27.85 lakh RKC have been activated by the banks. As regards Animal Husbandry and Fisheries 12359 and 325 RKCC have been issued by banks, respectively. (Source: SLBC & NABARD)

NABARD has been supporting the banks for conduct of financial literacy programmes, mobile vans for financial literacy as well as popularising digital transactions through demonstration. Such platforms are being used by the banks for popularising RKC and their activation.

B. Crop Insurance

In order to mitigate the loss incurred by the farmers due to crop failure on account of natural calamities, insurance coverage is extended to the farmers on the standing crop. Accordingly, GoI has launched Pradhan Mantri Fasal Bima Yojana (PMFBY) with effect from Kharif 2016 season. Government of India has revamped PMFBY scheme and has made it voluntary for all the farmers, including loanee farmers. The GOI has formulated the detailed guidelines regarding the operational procedure to be followed by banks for implementation of PMFBY, especially for opting out and opting in by the farmers.

Gujarat Government has launched its own crop insurance scheme 'Mukhyamantri Kisan Sahay Yojana' from Kharif 2020 and all farmers of Gujarat are covered under this scheme. It should be the endeavour of the Bankers as well as the State Government to cover 100% farmer under crop insurance scheme irrespective of their being borrowing or non-borrowing farmers.

C. Digitisation of Land Records

The online land record digitisation system also known as E-Dhara, enables the user to search land records in Gujarat through AnyROR, an official website to check the records in Gujarat online and update it as and when required, be it for obtaining crop loan or for getting electrical connection or subsidies. In fact, all 7/12, 8A, 8/12 documents of 1.5 crore land records have been digitised, which can be searched on the AnyROR platform. Landowners can also access these land records from a dedicated counter in a taluka office, by paying a nominal fee. (anyror.gujarat.gov.in)

Commercial Banks and RRBs in Gujarat have access to create charge on the land through the website. There is a need to extend the facility to Rural Co-operative Banks also.

3.6 Agriculture and allied activities – Prospects and Performance

3.6.1 Agriculture: Agriculture in Gujarat is characterized by natural disparities such as

- a. drought prone areas with lowest annual rainfall amounting to only about 345 mm at the North West end of the State and assured and highest annual rainfall amounting to about 2500 mm at the South-East end;
- b. well drained deep fertile soils of Central Gujarat and shallow and undulating soils with poor fertility in hilly rocky areas in the east;
- c. moisture starved degraded areas and low lying waterlogged and saline areas;
- d. areas prone to frequent scarcity and areas prone to frequent cyclones / floods / locusts.

Major agricultural crops of the state include cotton, groundnut, castor, mustard, wheat, jowar, bajra, maize, pigeon pea and gram. The state has notable achievement in production and productivity in cotton, castor and groundnut. The state has the highest area, production and productivity of castor in India. Output of agricultural sector in Gujarat has been largely dependent on south-west monsoon. As per the Agricultural Statistics at a glance 2021, the share of Gujarat in the total food grain production of the country was 4.8% during the year 2020-21 and that of oilseeds, was 11.65%.

The major challenges and tasks for the agriculture sector in Gujarat are:

- to increase the share of agriculture and allied sectors in total SGVA
- to increase public investment in agriculture
- increasing irrigation acreage in rainfed areas through development of micro-level water resources such as check dams, village tanks, farm ponds and recharging of wells under various water conservation programmes
- further increase in irrigation efficiency through more use of micro irrigation systems such as drip and sprinkler
- further development in dairy sector
- marketing reforms with contract farming alternatives
- revitalizing the agricultural extension system
- facilitate growth in exports of value added agri-products.

The challenges of climate change and global warming, deteriorating soil health, imbalanced use of fertilizers, micronutrient deficiency, lack of organic matter content, low productivity, unfavorable prices, very little value addition, distress sales, rising cost of cultivation, non-adherence to sanitation and phyto-sanitation (SPS) standards and measures for minimizing export rejections are some of the other challenging areas to be addressed for overall development of agriculture sector in Gujarat.

3.6.1.1 Potential for Cultivation of Millets:

Millets are food grains having high nutritional features and health benefits and are cultivated with minimal water & inputs. Millets are rich sources of Protein, Fiber, Minerals, Iron, Calcium and have low glycaemic index. India is a major producer of Millets, accounting for 80% of Asia's production and 20% of global production.

- In Gujarat, Millet crops such as Jowar, Bajra, Ragi and other small millets are cultivated.
- Major Bajra growing districts in Gujarat are Banaskantha, Anand, Arvali and Junagadh.
- Major finger millet growing districts in Gujarat are the Dangs, Valsad, Navsari and Panchmahal.
- Major Jowar growing districts are Surat, Tapi, Mahisagar and Porbandar.
- Gujarat has 3.94% area under millets cultivation and the yield is about 1762.05 kg/ha which is higher than India's average yield of 1239 kg/Ha and Global average yield of 1229 kg/Ha.
- Pearl millet in Gujarat is cultivated during three different season viz. kharif, semi-rabi (late kharif) and summer. The Jamnagar center is the Main Millet Research Station in Gujarat state.
- Government has approved the increase in MSP for mandated Rabi Crops of Fair Average Quality for Rabi Marketing Season 2022-23. The decision fulfils the commitment to farmers to provide at least 50 per cent return over cost of production.

3.6.2 Horticulture: Gujarat has achieved considerable growth in horticulture during last few years because of concerted efforts made by the State Govt. The State, in its Agri Business Policy 2016 has accorded priority to horticulture as the sector is having vast potential for production, processing, export, apart from improving the socio-economic condition of farmers. Gir Kesar Mango and Kachhi Date palm have their unique identity.

- During the year 2020-21, the estimated horticulture production is 250.52 Lakh MT from a crop area of 19.77 Lakh Hectare.
- Gujarat ranks first in area & production of Fennel, Sapota (chiku), Okra, Beans and second in area and production of Pomegranate.
- The State is ranked first in area and production of Papaya & first in production of Cumin.
- The State is leading in productivity of onion, tomato, banana, potato and pomegranate at the national level.
- The State is known for Cumin and Isabgol production and productivity. State enjoys monopoly in processing of Isabgol.
- Onion dehydration industry of the State is biggest in the country.
- In floriculture, flowers like Carnation, Gerbera and Rose are cultivated using Hi-Tech Green House.

During the year 2020-21, the production of fruits, vegetables, spices, flowers and plantations is estimated to be 88.68 lakh tonnes, 145.05 lakh tonnes, 11.13 lakh tonnes, 1.89 lakh tonnes and 1.54 lakh tonnes respectively. Area under new fruit crops viz. Date Palm, Dragon Fruit and Strawberry is increasing.

3.6.3 Animal Husbandry : Gujarat is known to have various indigenous breeds of animals including Gir and Kankrej breeds of cow; Mehsani, Surti, Jaffrabadi and Banni breeds of buffalo; Marwari and Patanwadi breeds of sheep; Sirohi, Suri, Mehsani, Kuchhi, Gohilwadi breed of goat. Gujarat accounts for 13% of the total 151 such recognized breeds.

Milk contributes 22% of agricultural GDP of Gujarat and is one of the biggest sectors for supporting livelihood in State. The state ranks 4th in the country so far as milk production is concerned. Milk production in Gujarat was 152.92 lakh tonnes in 2019-20 and 158.53 lakh tonnes in 2020-21 (P). The Apex organisation of the Dairy Cooperatives of Gujarat, popularly known as 'AMUL', aims to provide remunerative returns to the farmers and also serve the interest of consumers by providing quality products. NABARD has sanctioned a total of ₹1050.39 crore under Dairy Processing and Infrastructure Development Fund (DIDF) to four milk unions viz. Banaskantha, Sabarkantha, Gandhinagar and Kheda for setting up of new plants and also extension and modernization of existing plants. Out of this, an amount of ₹31.07 crores was disbursed during 2021-22 and Rs 14.00 crore during 2022-23.

3.6.4 Fisheries: The State shares about 20% of the country's coast line and contributes about 17% of the marine production in the country. Fishing area which extends from Lakhpat of Kachhh district to Umargaon in Valsad district produce important commercial varieties of fish namely Pomfret, Jewfish, Bombay Duck, Shrimp, Lobster, Squid, Cuttlefish, Silver bar Hilsa, Shark, Catfish, Mulletts etc. The Gulf of Kutch has favourable atmosphere for the growth of different types of oysters, shellfish and seaweeds.

For development of reservoir fisheries, particularly for tribal areas, all the reservoirs in tribal areas have been reserved by Government of Gujarat for tribal fisheries cooperatives and tribal individuals.

A Tripartite Memorandum of Agreement has been signed between NABARD, GoG and GoI for operationalization of the Fisheries and Aquaculture Infrastructure Development Fund (FIDF). A project for development of 05 fishing harbours (TFO ₹1350 crore approx.) in Gujarat has been approved by CAMC for financing under FIDF. 04 projects amounting to ₹150 Crore each have been sanctioned to GoG for development of fishing harbours at Navbandar, Sutrapada, Veraval and Madhwad.

3.7 Food Processing Sector of Gujarat:

In Gujarat, more than 30,000 food processing units are operating, providing employment to over 1 million people.

Ministry of Food Processing Industries (MoFPI) had approved two Mega Food Parks in Gujarat, namely M/s Gujarat Agro Mega Food Park Pvt. Ltd at Surat & M/s Fanidhar Mega Food Park Pvt Ltd at Mehsana. The Mega Food Park project in Surat district (for which NABARD has extended financial assistance) is operational and that in Mehsana is presently under implementation.

Under MoFPI's Scheme for creation of infrastructure for Agro Processing Clusters (APCs), a total of 05 projects have been approved at Kutch, Banaskantha, Navsari, Bhavnagar and Valsad respectively. Another project has been approved under this scheme in UT of Dadra and Nagar Haveli and Daman and Diu.

Under MoFPI's Pradhan Mantri Kisan Sampada Yojana, 25 units have been approved for grant assistance available within Scheme of Creation/Expansion of Food Processing & Preservation Capacities (CEFPPC) for setting up of food processing units in Designated Food Parks. A total of 27 cold chain projects have been approved by the MoFPI. Out of these, 17 have already been completed and 10 are ongoing.

The Agri-business Policy 2016 is being implemented by GAIC with an aim to increase investment in agricultural industries, boost agricultural production and productivity, farmers' income, to create more employment opportunities in rural areas through agribusiness, provide the best training for skill development in the field of agribusiness, to increase processing and reduce wastage, increase exports by maintaining high standards of agricultural produce, give highest priority to food security and nutritional security, and to promote agricultural practices that preserve the environment.

Gujarat has a strong raw material base due to its diverse agro climatic conditions and it can tap the potential for processing and value addition in perishables like fruits and vegetables by making investment in Food Processing Infrastructure. Under Food Processing Fund, NABARD provides affordable credit for infrastructure works in food parks and food processing units in designated food parks. State Government, State Govt. entities and corporations are eligible for availing loan under Food Processing Fund at the rate of interest prevailing under RIDF for setting up of such food processing projects. State Government may therefore, like to collaborate with NABARD in financing projects in food processing sector, fisheries development and other infrastructure. Support has been extended by NABARD to M/s Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd. in Surat which has set up Primary Processing Centres in Vadodara, Navsari and Valsad districts and 38 Food Processing Units

within the Mega Food Park at Mangrol in Surat district. Apart from Mega Food Park itself, NABARD has also supported establishment of 03 food-processing units inside the Park.

NABARD has conceived a Special Refinance Scheme to encourage banks to lend for micro-food processing activities and create sustainable livelihood and employment opportunities for rural youth as well as reverse migrants due to COVID-19 pandemic in the rural areas. The scheme also envisages modernization and enhancing the competitiveness of the existing individual micro enterprises to ensure their transition to formal sector in rural areas. The refinance scheme will give fillip to the “PM Scheme for Formalisation of Micro food processing Enterprises (PM FME)” under Aatmanirbhar Bharat Abhiyan by MoFPI, GoI under which about ₹25,000 crore investment is expected in the sector. The concessional refinance at 4% is available to eligible financial institutions viz., Commercial banks, SFBs, StCBs, RRBs and NABARD subsidiaries.

Challenges of the Food Processing Sector in Gujarat: Volatile prices of raw material and inadequate post-harvest management facilities are major issues in Gujarat. This leads to distress sale in harvesting season. Major fruit crops of Gujarat include Banana, Papaya, Mango, Date Palms and Sapota. These fruit crops are highly perishable and seasonal in nature. There is a strong need to increase the processing level of food crops and develop excellent Post-Harvest Management System to achieve the goal of food security and stable prices of food.

Nabard Infrastructure Development Assistance (NIDA)

NABARD has been funding the creation of rural infrastructure through Rural Infrastructure Development Fund (RIDF) since 1995-96. A new window of support, NABARD Infrastructure Development Assistance (NIDA) was designed to fund directly the State Governments/State owned institutions/ Corporations on both on-budget and off-budget for creation of rural infrastructure outside the ambit of RIDF borrowing. Further, the product can be customized in terms of tenure, moratorium, security, repayments etc., requirement of the borrowing entity, provided it falls within the framework of NIDA policy guidelines. The funding under NIDA was broadened by covering PPP and non PPP projects by registered entities like companies, co-operatives etc. and funding for NBFC Infrastructure Finance Companies (IFCs) and Public Financial Institutions approved by the RBI.

Kalpasar Department, Government of Gujarat has envisaged construction of a barrage across Narmada River near Bhadbhut village. The barrage will be constructed at a site located about 5.15 km downstream of village Bhadbhut and 25 km upstream of river mouth which segregates Narmada river fresh water from tidal water of estuary. The site for barrage construction is the narrowest river gorge of about 1600 m width at about 21 km downstream of Bharuch city. The main objectives of constructing the barrage are:

- Controlling salinity ingress and deterioration of ground water quality in upper reaches of Narmada.
- Storage of fresh river water of approximately 200 MCM for meeting industrial and 60 MCM domestic water supply;
- Road connectivity through alternative shorter route from Surat-Hazira-Olpad-Hansot-Bhadbhut-Dahej by 37 km.
- The project shall improve the river water and groundwater quality, provide flood protection to low lying area, upgrade road infrastructure and thereby enhance economic activities and improve standard of living of the people.
- A loan amount of ₹2100.00 crore has been sanctioned to Government of Gujarat under NIDA for implementation of the said project.

3.8 Water Resource Management of Gujarat:

Availability of quantum of water resources in the State varies widely from region to region. Gujarat has four distinct regions namely (1) South and Central Gujarat i.e. South of the Sabarmati River, (2) North Gujarat (3) Saurashtra and (4) Kachchh. About 95% of the total

annual rainfall occurs during the monsoon period (June to September) due to seasonal winds from the South -West direction. The total available water resources (surface and ground water) of Gujarat are estimated to be about 55,600 MCM (38,100 MCM surface water and 17,500 MCM ground water). About 88% water is supplied for irrigation, 10% for domestic uses and 2% for industries (Source: State Water Policy, 2015)

Gujarat has significantly addressed its water problems by using the strategies of rain water harvesting, check dams and inter-basin transfers. Twenty rivers have been interlinked and the challenge of uneven water distribution met through inter-basin transfers. These projects have substantially raised the water table across the State and consequent availability of water for irrigation. This is expected to bring about stable growth of the agriculture sector across the State. The Sardar Sarovar project and the Sujalam Sufalam projects, being implemented by the Government of Gujarat, are amongst India's largest irrigation and water supply projects, which will further improve Gujarat's water security.

The Government has decided to cover maximum possible command area under Participatory Irrigation Management. The Government has also passed "Gujarat Water Users Participatory Irrigation Management Act, 2007", authorizing the farmers to constitute Water Users Associations (WUA) for management of canals after rehabilitation by the Government. A water conservation scheme called "Sardar Patel Participatory Water Conservation Scheme" (SPPWCS) is being implemented by the State Government. The pattern of sharing for check dams is 80:20 for the entire State (80 percent Government share and 20 percent beneficiaries share).

Micro Irrigation Scheme in Gujarat is being implemented by the Gujarat Green Revolution Company (GGRC) since 2005. As on November 2021, 20.48 lakh Ha area have been covered under the scheme, benefitting 12.86 lakh farmers.

NABARD under RIDF (upto 31.03.2022) has given assistance for creation of 32.04 lakh ha irrigation potential, which is 46.92% of irrigation potential created in the state. SAUNI is one of the main irrigation projects sanctioned by NABARD under RIDF in various tranches. To solve the water problem of Saurashtra permanently, some of the major projects under implementation are SAUNI (Saurashtra Narmada Avatara Irrigation Yojna) Link I, Link II, Link III and Link IV (sanctioned under RIDF XXI, XXII, XXIII, XXIV, XXV, XXVII & XXVIII), under which water of Narmada dam is planned to be conveyed through Narmada main canal and Saurashtra branch canal through the above 4 links of total 1371 km length to various dams and 115 reservoirs of 11 districts of Saurashtra area. Works of 1st phase of 4 Link Pipelines of SAUNI Yojna are completed & benefit of this scheme gets started. Under 2nd phase of SAUNI Yojna, the work of 12 packages of 4 link pipeline are almost completed. SAUNI projects sanctioned under RIDF are expected to benefit over 2.95 lakh ha in the water scarce regions of Saurashtra. Till date, 53 reservoirs, 131 ponds and 863 check-dams are filled with 40600 Million Cubic Feet of Narmada water under SAUNI Yojna

The Sardar Sarovar Project is a multipurpose project, which envisages construction of concrete gravity dam across the river Narmada in Narmada District, two power houses viz. River Bed Power House (RBPH) and Canal Head Power House (CHPH) with a combined installed capacity of 1450 MW and 458 km, long main canal with a discharge capacity of 40,000 cusecs at starting point and 2500 cusecs at Gujarat-Rajasthan border with a network of 71,748 kms. for water distribution system for irrigation. The project is expected to provide irrigation benefits in about 18.00 lakh ha in 77 talukas of 17 districts in the State. It is also envisaged to provide water in more than 9490 villages and 173 townships for domestic purpose as well as for industrial uses.

NABARD has extended assistance of ₹5,367.67 crore under its RIDF for important Sub-projects of Sardar Sarovar (Narmada) Irrigation Project that include Saurashtra Branch Canal, Kutch Branch Canal and Construction of Sub Minors in five phases. Some more works of the Sardar Sarovar Project have also been supported under NABARD's Long Term Irrigation Fund (LTIF) with an assistance of ₹3611 crore.

3.9 Climate Change – Adaptation and Mitigation

The Government commenced preparation of the State Action Plan on Climate Change (SAPCC) in 2009, with the aim to create a more sustainable and climate resilient future for people in the State. Gujarat got approval for its SAPCC from the Ministry of Environment, Forests & Climate Change (MoEFCC), GoI in 2015. The vision of Gujarat's SAPCC is to build a sustainable and climate resilient future for the people of Gujarat and enabling a low carbon pathway for Gujarat's economic growth that would meet people's aspirations with equity and inclusiveness.

In the action plan, the state government proposed to invest more than ₹21,000 crore to create environment-friendly water resource management, public health projects, forest and environment improvement projects, agriculture improvement projects and a number of studies during 2015 to 2020. The plan suggested radical changes in the government functioning in nine sectors – agriculture, water resource management, healthcare, forest and biodiversity, renewable energy, coastal infrastructure, urban development, vulnerable community, green jobs.

The plan has raised serious concerns about the likely socio-economic and environmental impact of climate change in Gujarat and predicted adverse impacts on agriculture, health of people and environment. The report predicts serious sea level rise, increase in diseases like malaria and other epidemics, gastric problems, fluorosis, kidney and skin diseases. It has suggested huge investments in building new infrastructure to mitigate the impact of climate change and also stressed upon radical policy changes in governance, industries and other sectors.

Modhera – India's first 24×7 solar-powered village

Modhera village in the Mehsana district of Gujarat has been declared as India's first solar-powered village. Modhera, famous for its Sun temple, a protected ancient UNESCO heritage site, is situated on the river Pushpavati. The project is implemented in two phases, with state allocating 12 hectares of land for its implementation. The central and state government together have invested around Rs.77 crore for this project.

The solar power village would be self-sufficient in solar energy generation, as it will utilise more than 1000 solar panels that have been installed on the village houses, generating electricity round the clock for the villagers. It is developed through Ground Mounted Solar power plant and more than 1300 Rooftop solar systems on residential and Government buildings, all integrated with Battery Energy Storage Systems (BESS), the country's first grid-connected megawatt hour scale battery energy storage system.

The project will demonstrate how India's renewable energy prowess can empower people at the grassroots. The people in the village will not be required to spend big amounts on electricity, rather they could start selling it and earn from energy produced by the solar panel by selling it to the government grid. It will generate employment at the village level, and ultimately improve the standard of living. It will enhance the sustainable implementation of various welfare projects in the area. Residents of the area will be able to save significant amount of their electricity bills. It will reduce the drudgery among rural women and girls engaged in collection of fuel wood and cooking in smoky kitchens.

3.9.1 NAFCC project of NABARD in Gujarat

As the National Implementing Entity (NIE) for National Adaptation Fund for Climate Change (NAFCC), NABARD is implementing a project for Climate Change Adaptation for Natural Resource Dependent Communities of Kachchh District. The project aims to enhance the resilience of ~2600 households belonging to vulnerable communities (farmers, pagadiya fishermen, and pastoralists) through water and livelihood security and ecosystem restoration in 03 talukas covering 32 villages at a total cost of ₹21.35 crore over 05 years (2017 to 2022).

3.9.2 Solar Energy

The State Government has notified Solar Power Policy in August 2015 with special emphasis on solar roof top project. Gujarat has emerged as the state with the maximum installed roof top solar capacity in India with 269.7 MW.

3.10 Farmers' Producers Organization

Farmers' Producer Organisations (FPOs) have been widely recognised as an effective tool for transmitting the benefit of institutional credit and developmental initiatives to the small and marginal farmers, landless labourers and share croppers as also other small producers in the field of horticulture, fishery, animal husbandry etc.

However, there are multiple entities promoting these FPOs in the state under various legal provisions. As a result, there is no consolidated record of the FPOs functioning in the State, neither any uniform law governing them making it difficult to implement any beneficial schemes or making available the benefits of budgetary interventions of the State or Union Government uniformly and effectively for these producers' aggregates. In the above background, it is proposed that the State Government may come out with a FPO Policy.

NABARD instituted the Producers Organization Development Fund (PODF) with initial corpus of ₹50 crore out of its operating surplus during 2011-12, for supporting the existing POs including PACS to create innovative financing models for mainstream banking. To give boost to formation & nurturing of FPOs, NABARD instituted the PODF-ID fund in 2018-19. The Central Sector Scheme for formation and promotion of 10,000 FPO is being implemented since 2020-21 by NABARD, SFAC and NCDC. These agencies are engaged in empanelment of Cluster Based Business Organisation at the State/Cluster level to form and promote FPOs. The scheme will be implementable till 2023-24 with a budgetary support of ₹4496 crore.

NABARD, in Gujarat, has promoted 304 FPOs, of which, 257 FPOs are registered and 47 FPOs are in process of registration. On a broad classification, spices are the major product of these FPOs, followed by groundnut, cotton, fruits & vegetables etc.

3.10.1 Credit Guarantee Fund

Central Sector Scheme of 10,000 FPOs also facilitates Credit Guarantee for the loans given to eligible FPOs. A Credit Guarantee Fund Trust for FPOs has been setup with GoI as the Settlor to operationalize this Credit Guarantee facility. The corpus of the Trust is ₹1000 crore (Rupees one thousand crore) equally contributed by GoI and NABARD. NABSanrakshan Trustee Private Limited, a wholly owned subsidiary of NABARD has been established on 13 November 2020 as a Credit Guarantee Company dedicated for this purpose. Currently, NABSanrakshan is managing two Credit Guarantee Schemes (CGS) i.e. CGS for FPOs and CGS for Animal Husbandry and Dairying (AHD). The broad features of CGS for FPOs and AHD are:

Table 3.6 Details of Credit Guarantee Scheme

Item	Credit Guarantee Scheme for FPOs Financing	Credit Guarantee Scheme for Animal Husbandry and Dairying
Credit Limit	Max. ₹2 crore (Working Capital/ Term Loan)	Within the MSME defined ceilings (Term Loan)

Item	Credit Guarantee Scheme for FPOs Financing	Credit Guarantee Scheme for Animal Husbandry and Dairying
Guarantee Cover	85% of the sanctioned amount, upto ₹1 crore 75% of the sanctioned amount above ₹1 cr (with max ceiling of ₹1.5 crore)	25% of the credit facility
Annual Guarantee Fee	0.75% upto ₹1 crore 0.85% upto ₹1.5 crore (AGF ceiling 1.70 lakh)	1% of the sanctioned amount
Eligible Lending Institutions	Scheduled Commercial Banks, Co-operative Banks, NEDFi, RRB etc.	Scheduled Banks
Eligible Borrower	FPOs (Agri based)	FPO, Pvt Company, Sec. 8 Company, Individual Entrepreneur, MSME

In Gujarat, a total of 10 FPOs have availed the credit guarantee against the finance amount of ₹3.23 crore for a total coverage of ₹2.75 crore

3.10.2 Convergence of FPOs with GoI / State Govt. schemes

Assistance for seed production, distribution and purchase is available under the Govt. of India's National Mission for Food Security (NMFS) and National Mission on Oilseeds & Oil Palm (NMOOP) & National Mission on Agriculture Extension & Technology (NMAET). The assistance is available to farmers and as per the revised Priority Sector Lending guidelines, FPOs have also, by extension, been considered under the definition of farmers.

NABARD in its endeavour to support extension of technological innovations as well as any other activities for qualitative as well as quantitative agriculture production has sanctioned various pilots involving an amount of ₹2.50 crores under Farm Sector Promotion Fund (FSPF). The types of activities, which have been sanctioned so far are such as IoT based irrigation system, 'UV radiation Tunnel Technology for shelf life improvement in horticultural crops', 'Hydroponics for green fodder production in tribal areas', 'Environment friendly and ecologically sustainable indigenous beekeeping promotional activity', 'Structured Water device', etc., in various districts viz. Amreli, Bhavnagar, Banaskantha, Chhota-Udepur, Navsari, Patan, Surat, Valsad, Gir Somnath and Bharuch of Gujarat.

3.11 Micro, Small and Medium Enterprises (MSME)

The number of MSMEs in Gujarat grew by 60% from 2014-2015 and currently, Gujarat is home to over 3.5 million MSMEs which are a major source of employment and also form an important part in the larger industrial ecosystem.

- The state has been recognized as Best Performing State in State Start-up Ranking 2018 and 2020 by DPIIT, Govt of India.
- The State ranked No. 1 in the Logistics Performance Index and LEADS Index by Ministry of Commerce, Government of India in year 2019, 2020 & 2021.

The subsidy amount under various schemes has increased almost 3 times in the last five years showing an exponential growth. Considering similar growth patterns, it is expected that the average annual outlay for the New Gujarat Industrial Policy 2020 will be upto INR 8,000 crore. Gujarat Industrial Policy 2020 has been formed with key focus towards inclusive & balanced regional development and employment generation through 'Next generation Industry 4.0' led manufacturing so as to contribute significantly to the vision of "Aatmanirbhar Bharat". Some of the important features of the policy are 15 Thrust Sectors have been conceptualized with a view on global investment trends, the need for strengthening

28 Dec 2021 launch date of CG for FPOs																													
415 FPOs covered (as on 15-10-2022)	3 lakh members with 85% small & marginal																												
₹20.40 lakh average loan size/FPO	₹17.15 lakh average guarantee cover																												
₹84.69 crore loans covered	₹71.19 crore total guarantee cover																												
80% of project cost covered through loans	₹64.32 lakh cumulative nominal fee																												
FPO classified as per																													
(1) Business Activity:	(2) Activities pursued:																												
<p>FPO Classification (Business Activity Wise)</p> <table border="1"> <thead> <tr> <th>Business Activity</th> <th>% of FPOs Undertaking an Activity</th> </tr> </thead> <tbody> <tr> <td>Input Services</td> <td>59.28</td> </tr> <tr> <td>Processing and Value Addition</td> <td>42.65</td> </tr> <tr> <td>Marketing</td> <td>37.35</td> </tr> <tr> <td>Logistics</td> <td>10.84</td> </tr> <tr> <td>Farm Machinery</td> <td>6.75</td> </tr> </tbody> </table>	Business Activity	% of FPOs Undertaking an Activity	Input Services	59.28	Processing and Value Addition	42.65	Marketing	37.35	Logistics	10.84	Farm Machinery	6.75	<p>FPO Classification (by Number of Activities taken up)</p> <table border="1"> <thead> <tr> <th>Number of Activities</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>50%</td> </tr> <tr> <td>2</td> <td>33%</td> </tr> <tr> <td>3</td> <td>11%</td> </tr> <tr> <td>4</td> <td>4%</td> </tr> <tr> <td>5</td> <td>2%</td> </tr> </tbody> </table>	Number of Activities	Percentage	1	50%	2	33%	3	11%	4	4%	5	2%				
Business Activity	% of FPOs Undertaking an Activity																												
Input Services	59.28																												
Processing and Value Addition	42.65																												
Marketing	37.35																												
Logistics	10.84																												
Farm Machinery	6.75																												
Number of Activities	Percentage																												
1	50%																												
2	33%																												
3	11%																												
4	4%																												
5	2%																												
<p>Purpose of Availing Credit by FPOs</p> <table border="1"> <thead> <tr> <th>Purpose</th> <th>Percentage</th> </tr> </thead> <tbody> <tr> <td>Farm Machinery</td> <td>59%</td> </tr> <tr> <td>Input services</td> <td>24%</td> </tr> <tr> <td>Logistics</td> <td>14%</td> </tr> <tr> <td>Marketing</td> <td>1%</td> </tr> <tr> <td>Processing and value addition</td> <td>2%</td> </tr> </tbody> </table>	Purpose	Percentage	Farm Machinery	59%	Input services	24%	Logistics	14%	Marketing	1%	Processing and value addition	2%	<p>Loan Size Per Member</p> <table border="1"> <thead> <tr> <th>Average Loan Size Per FPO</th> <th>No. of FPOs (in %)</th> </tr> </thead> <tbody> <tr> <td><2000</td> <td>42.41</td> </tr> <tr> <td>2000-3000</td> <td>22.17</td> </tr> <tr> <td>3000-4000</td> <td>16.39</td> </tr> <tr> <td>4000-5000</td> <td>8.43</td> </tr> <tr> <td>5000-6000</td> <td>2.65</td> </tr> <tr> <td>6000-7000</td> <td>1.45</td> </tr> <tr> <td>>7000</td> <td>6.51</td> </tr> </tbody> </table>	Average Loan Size Per FPO	No. of FPOs (in %)	<2000	42.41	2000-3000	22.17	3000-4000	16.39	4000-5000	8.43	5000-6000	2.65	6000-7000	1.45	>7000	6.51
Purpose	Percentage																												
Farm Machinery	59%																												
Input services	24%																												
Logistics	14%																												
Marketing	1%																												
Processing and value addition	2%																												
Average Loan Size Per FPO	No. of FPOs (in %)																												
<2000	42.41																												
2000-3000	22.17																												
3000-4000	16.39																												
4000-5000	8.43																												
5000-6000	2.65																												
6000-7000	1.45																												
>7000	6.51																												
<ul style="list-style-type: none"> FPOs are spread across 193 districts in 19 States but are primarily concentrated in the Southern and Central Regions of India. 403 FPOs were located in plains and 12 FPOs in hilly areas. 92% of the FPOs are registered under the Companies Act and the remaining 8% registering themselves under the Co-operative Societies Act. <p>Source: Data maintained by NABSanrakshan</p>	<p>Regional Spread of CG covered FPOs</p>																												

the integrated value chains, exports, policies by government of India, NITI Aayog etc. The thrust sectors have been categorized in two major groups i.e. Core sectors & Sunrise Sectors.

Core sectors include areas where Gujarat already has a strong manufacturing base and has potential to accelerate further on a global scale. Sunrise Sectors are sectors which have a significant potential for technological advancement and can contribute to sustainable economic development. Thrust sectors will be given incremental incentives as part of the policy. Recognising the significant contribution of MSMEs to the economy and employment generation, the Industrial Policy 2020 incorporates specific interventions for development of MSMEs. Under this policy the “Scheme for Assistance to Micro, Small and Medium Enterprises (MSME)” has been introduced which will be operative from 7.8.2020 to 6.8.2025, covering a total of 13 schemes.

Government of Gujarat had also introduced Gujarat Micro, Small and Medium Enterprises (Facilitation and Establishment and Operation) Act 2019. The aim of this Act is to facilitate ease of doing business for the MSME sector in the State of Gujarat. Government will support MSMEs in upgradation of technologies, adopting globally accepted certifications and in marketing their products internationally, via following incentives

Capital Subsidy: MSMEs will be eligible for Capital Subsidy upto 25% of eligible loan amount upto INR 35 lakhs. Additionally, if the eligible fixed capital investment is above INR 10 crore, the unit will be eligible for an additional capital subsidy upto INR 10 lakh.

Interest Subsidy: MSMEs will be eligible for interest subsidy upto 7% of interest levied on term loan upto INR 35 lakh per annum for a period upto 7 years. 1% additional interest subsidy to SC/ST entrepreneur/ physically challenged entrepreneur/ women entrepreneur/ start Up in manufacturing sector. Besides this, 1% additional interest subsidy to young entrepreneur below age of 35 years on the date of sanction of loan

Service Sector MSMEs: Service sector is a major contributor to the national GDP. Many services are key inputs for facilitating other primary and secondary industries. The New Gujarat Industrial Policy 2020 will offer interest subsidy upto 7% to these service sector MSMEs in the state including those engaged in Financial Services, Healthcare Services, Audio Visual services, Construction related engineering services, Environmental services etc.

Acquisition of foreign technologies by MSMEs: The government for the first time, will provide support upto 65% of the cost of acquiring foreign patented technologies. (Maximum support upto INR 50 lakh). This will help raise the manufacturing process of our MSMEs making them globally competitive.

Market development assistance to MSMEs: In order to encourage MSMEs to market their products at a national & international level, the new Industrial Policy will provide fiscal assistance to MSMEs @75% of stall rent upto INR 2 lakh for exhibitions in India and @60% of stall rent upto INR 5 lakh for exhibitions outside India.

Encouraging MSMEs to use solar power: With an aim to further ease the process of utilizing rooftop Solar Power in MSMEs, the power cycle for calculation of consumption of units has been increased from 15 minutes to 11 hours i.e. 7 AM - 6 PM. Also, for purchase of surplus solar power from MSMEs, the price has been increased from INR 1.75/unit to INR 2.25/unit. Additionally, interest subsidy will be provided on term loan to existing industries who switch to Solar Power.

Besides these, incentives will be given to MSMEs for implementation of Enterprise Resource Planning (ERP), Information & Communication Technology, obtaining quality certifications including ZED certification, patent filing, service line and power connection charges, rent assistance etc.

3.13 Micro Credit

Self Help Group (SHG) Movement:

The micro finance sector covers loans to SHGs, JLGs, Overdraft facility on PMJDY accounts etc. The importance of the sector is amply substantiated by the 1st Socio-Economic Caste Census 2011 which indicates that 55.34% of the total rural households in the State are landless, with casual labour as their source of livelihood. It also suggests that 68.67% of rural households have monthly income of less than ₹5000 of highest earning household member. In such a scenario, several microfinance initiatives are creating tremendous socio-economic impact on empowerment of the marginalized. Group-mode of financing through SHGs and JLGs has been established as a cost-effective and viable means to link this financially excluded segment to formal credit system and provide them capital for livelihood planning. Further, the launching of Deendayal Antyodaya Yojana-National Rural Livelihood Mission (DAY-NRLM) has put women at the epicentre of the development chain. Setting up of Small Finance Banks and Payment Banks is opening up new possibilities and giving a fillip to the micro-finance sector.

The Government of Gujarat, encouraged and guided by NABARD, ventured into women empowerment in a big way in 2007 with the launch of Sakhi Mandal Programme, Gujarat's own version of SHG-BLP. The objective of the Sakhi Mandal Programme (later re-christened as 'Mission Mangalam' and subsequently taken over by the SPV - Gujarat Livelihood Promotion Company [GLPC]) is the economic upliftment of rural women or empowerment of rural women by providing them employment opportunities. The programme is being implemented with this aim by formation and nurturing of Self-Help Groups (SHGs), providing them training, infrastructure facility and credit support. The Self Help Groups formed under this programme are popularly known as "Sakhi Mandals" in rural areas. In all 3.09 lakh Sakhi Mandals have been formed till June 2022. The mammoth task is to provide livelihood opportunity to the members of these shakhi mandals. NABARD has taken initiative to provide training on various livelihood activities through Livelihood and Enterprise Development Programmes (LEDP) & Micro enterprise Development Programme (MEDP). Since the inception of the schemes, as many as 24,040 SHG members have been imparted training and beneficiaries have adopted the activities as means of livelihood to supplement the family income.

Mukhyamantri Mahila Utkarsh Yojana (MMUY) has been launched by the Government of Gujarat to provide interest free loan of ₹1 Lakh per Joint Liability Earning and Savings Group (JLEG) of women since 2020. The scheme is being implemented by the banks in Gujarat. State Government has allocated a budget of ₹175 crore for the scheme.

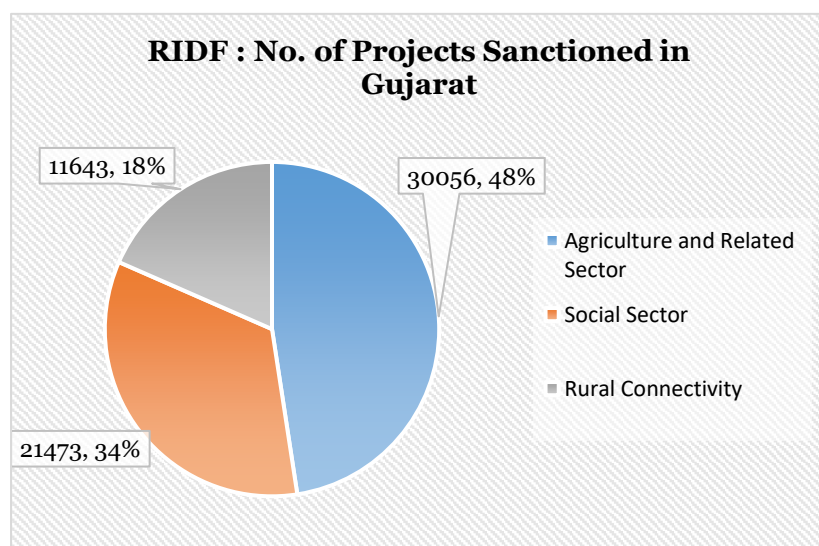
Joint Liability Groups: In order to bring the rural poor, landless farmers, small vendors under the fold on institutional credit, NABARD has been promoting financing of Joint Liability Groups (JLGs) by banks through an incentive scheme. In Gujarat, NABARD has entered into MoU with State Bank of India, Bank of Baroda, Baroda Gujarat Gramin Bank, Saurashtra Gramin Bank, Bhavnagar DCCB, Panchmahal DCCB, Sabarkantha DCCB, INSPRA and NLRDF for formation and credit linkage of 11350 JLGs. It is expected that credit linkage of JLGs would help the members to further the livelihood activities taken up by them. During 2021-22, a total of 3,49,150 JLGs were financed in Gujarat.

3.14 Rural Infrastructure and linkage support

A. Rural Infrastructure Development Fund

The contribution of Gujarat State in the 27 years of RIDF journey has been quite significant with cumulative sanction of ₹35225 crore and disbursement of ₹29877 crore till 31 March 2022. The percentage share recorded at all India level is 8.82% and 7.74% respectively for sanctions and disbursements. State Government gives utmost thrust for Agriculture projects (71%), followed by Rural Roads (7%) and Social Sector (22%) in availing RIDF assistance.

The projects sanctioned under RIDF, especially irrigation projects geographically cover almost



the entire State. They are located in all the 11 tribal districts of the State from North to South, water starved Saurashtra region and Kutch as also Central Gujarat. These projects offer a wide range in size and variety viz., from small check dams, canal modernization, construction of canals with distributaries, construction of minors and sub-minors to pressurized piped irrigation projects. There

are exclusive projects designed to ensure efficient use of utilization of excess flood water from the high rainfall region of the State to the water starved regions.

The State holds good potential for infrastructure development in irrigation, power and drinking water supply sectors. Lending under RIDF for development of infrastructure is limited to normative allocation for the State. State Government Departments viz. RCS for development of cooperative market federations, Panchayat and Rural Development Department for River/Watershed Development, Forest Department, Gujarat Police Housing Corporation (Home Department) etc. have expressed their intent to develop huge infrastructure projects with larger outlay, which may not be covered under RIDF. These projects are not revenue generating. State government may like to explore possible collaboration for financing its infrastructure projects in Power, Irrigation and other eligible sectors under NIDA. The fund can also be used for gap funding wherever funds from cheaper sources like RIDF, MIF, FIDF etc. are not sufficient.

B. Agri Market Infrastructure Fund (AMIF) – Upgradation of Rural Haats and APMCs: Pursuant to the Union Budget FY 2018-19 announcement, a dedicated Agri Marketing Infrastructure Fund (AMIF) with a corpus of ₹2000 crore was established with NABARD. The scheme envisages convergence of various GoI schemes for development of physical infrastructure in APMCs/ Rural Haats. The basic and supporting infrastructure in the Rural Haats will be strengthened using MGNREGA, other Government Schemes and for the marketing infrastructure requirements, State/UTs can seek assistance under AMIF. In respect of APMCs, both the basic infrastructure and marketing infrastructure can be covered under AMIF.

In this regard, State Government may initiate discussions with the departments concerned in order to estimate the specific requirements in terms of number of Rural Haats/APMCs required to be upgraded and make necessary budgetary provision for meeting the cost other than that may be covered under AMIF. Towards this purpose, an exercise to identify number of projects for upgradation, along with total financial outlay of the projects can be undertaken. Infrastructure Development – NABARD Infrastructure Development Assistance - NIDA: NABARD Infrastructure Development Assistance (NIDA) was designed to fund projects for agriculture infrastructure, rural connectivity, renewable energy, power transmission, drinking water, and sanitation and other social & commercial infrastructure by offering flexible long-term loans to State Governments & State owned corporations. This window also covers public – private partnership (PPP) & non-PPP projects to be undertaken by registered entities like corporations, companies, cooperatives, etc. for funding rural infrastructure projects. Financing under NIDA offers scope for off-budget & on-budget borrowing to State Governments & aids in easing State budget constraints.

C. Agriculture Infrastructure Fund: Financing facility of ₹1,00,000 crore will be provided for funding Agriculture Infrastructure Projects at farm-gate & aggregation points (PACS, FPO, Agripreneurs, Start-ups, etc.). The objective of the scheme is to mobilize a medium-long term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets through incentives and financial support in order to improve agriculture infrastructure in the country. The Scheme will be operational for 13 years from 2020-21 to 2032-33. Loan disbursement under the scheme will complete in six years.

During the financial year 2020-21, the projects amounting to about ₹4,000 crore have been sanctioned under the scheme. The financing facility of the balance amount of ₹96,000 crore will be distributed @ ₹16,000 crore for 2021-22 and ₹20,000 crore per year for the next four years w.e.f. 2022-23 to 2025-26. In Gujarat around 151 potential PACS have been identified for the said business model. As on date, ₹29.97 crore has been sanctioned to 94 PACS affiliated to 17 DCCBs for setting up of Agro Service Centres, Agri Consumer Stores, Godowns, Grading and Sorting facilities, Rice Mills besides renovation of existing godowns.

D. PACS as Multi Service Centres: NABARD's initiative of developing PACS into Multi service Centre (MSC) will enable PACS to support farmers in post-harvest marketing activities and provide ancillary services to its members like creation of storage and processing facilities, custom hiring centers and collective purchase of inputs. This intervention will help in structuring these services in a sustained and scalable manner, covering a much larger number of PACS. With the proposed AIF scheme under Aatmanirbhar Bharat initiative of GoI, for establishing decentralized farm-gate Post Harvest Management infrastructure wherein PACS have been included as one of the eligible institutions for interest subvention, it is envisaged that PACS can now play a major role in physical and financial supply chain of commodities by working as spokes to the Gramin Agriculture Markets (GrAMs). This will also help in increasing non-fund based income of the PACS. In Gujarat, 151 PACS have been identified for conversion as MSC. The scheme will be in force for a period of three years commencing from the year 2020-21 by providing special long term refinance facility through the StCB at 3%. In Gujarat, 98 number of PACS have been provided assistance under the scheme.

3.15 Doubling of Farmers' Income by 2022

The Hon'ble Union Finance Minister, while presenting the budget for 2020-21 announced the 'One- District One- Product' initiative 'for better marketing and export of horticulture crops' and to foster coordinated development for enhancement of income of farmers. In order to enhance mobility and access to market, special rail and flight services for transportation of farm produce will also be initiated. These initiatives are expected to contribute towards doubling of farmers' income by 2022. Adoption of situation- specific integrated farming system covering an assortment of activities like crop production, horticulture, dairy, poultry, sheep, fishery and agro forestry, will lead to reduction in cost, doubling of farmer's income and capital formation in Agriculture.

3.16 Integrated Farming System

An Integrated Farming System (IFS) is defined as "a judicious combination of two or more components using cardinal principles of minimum competition and maximum complementarity with advanced agronomic management tools aiming for sustainable and environment friendly improvement of farm income, family nutrition and ecosystem services". Assessment of farm incomes indicate that diversified farms with more than two enterprises get twice the income than those with two or less enterprises. Scientifically designed IFS with minimum competition and maximum complementarity are essential to achieve multiple goals.

NABARD has created a dedicated fund viz., Farm Sector Promotion Fund (FSPF) to extend grant support to create replicable innovative farm models, adoption of which would help the farmers to get more yield as well as income with the reduced cost of production. A few of them are related to IOT based agriculture, upscaling and development of new crop varieties, artificial insemination, organic seed value chain, beekeeping and climate smart agriculture. NABARD partners with Agriculture Universities, Research Centres, KVKs and NGOs who formulate innovative projects and implement the same for demonstration purpose.

Integrated farming systems (IFS) in Gujarat

Based on the research conducted by the ICAR-Indian Institute of Farming Systems Research, Modipuram with component schemes of All India Coordinated Research Project on Integrated Farming Systems (AICRP-IFS) and All India Network Programme on Organic Farming (AI-NPOF) on Integrated Farming Systems (ICAR, 2019), the following model has been prescribed for Gujarat State in irrigated arid ecosystem.

Crop (field crops and horticulture) + Dairy + Boundary Plantation (1 ha)

The sub-components of the above model and their respective share in area (1 ha model) and income are given in table 3.7

Table 3.7 Sub-components of IFS model and their respective share in area (1 ha model) and income

Sr. No.	Component	Crops/ Activities suggested	Area (%)	Income (%)
1	Cropping systems	Castor + green gram Groundnut – wheat – pearl millet Greengram – mustard – pearl millet Hybrid napier + cowpea – Lucerne + chicory (fodder)	75	36
2	Horti-culture	Guava, papaya, lemon	12	13
3	Livestock	2 buffaloes	10	14
4	Boundary plantation	Ardusa (101 plants), Eucalyptus (10 plants), date palm (10 plants), Custard apple (10 plants), Jamun (1 plant), Mulberry (3 plants), drumstick (15 plants), aonla (1 plant), bamboo (1 plant), Teak (35 plants), Subabul (5 plants)	3	37

Source: ICAR, 2019

In Gujarat, Integrated Farming System Project has one main center at Sardarkrushinagar Dantiwada Agricultural University, Banaskantha and two sub centers at Junagadh Agricultural University and Navsari Agricultural University to conduct on-station research.

3.17 Promotion of Organic Farming

Dangs has been declared as 100% in implementing organic farming. Dangs District as well as tribal districts such as Sabarkantha, Dahod, Panchmahal, Chhota Udepur, Narmada, Surat, Tapi and Valsad are considered to have high potential for organic farming due to the socio-economic condition of farmers and traditional cropping patterns.

About 70- 80% of the 58,000 hectares of agricultural land in the Dang district follows traditional methods of cultivation, which do not require chemical fertilizers and pesticides. Apart from Dang's district, Dharampur and Kaprada talukas of Valsad and Vansda taluka of Navsari districts in south Gujarat are also being covered by the state scheme to encourage 100 per cent organic farming practice.

A majority of farmers in Dang use traditional farming. In the remaining areas, they cultivate rice and millet (nagali), the local staple food. They use fertilisers to cultivate rice in certain pockets. The state government has announced a scheme to provide subsidy to compensate farmers for fall in production by adopting organic farming practices. The Gujarat government in 2015 had declared an organic farming policy, which stated that areas that have a very low level of fertiliser consumption could play an important role in promotion of organic farming.

Other schemes of Government of India for promotion of Organic farming are:

- 1) Government has been promoting organic/natural farming through dedicated schemes namely Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development in North East Region (MOVCDNER).
- 2) Farmers are provided financial assistance of Rs 31000/ ha / 3 years under PKVY and Rs 32,500/ ha/ 3years under MOVCDNER for organic inputs such as seeds, bio-fertilisers, bio-pesticides, organic manure, compost/ vermi-compost, botanical extracts etc.
- 3) Organic Farming has also been supported under other schemes viz. Rashtriya Krishi Vikas Yojana (RKVY) and Mission for Integrated Development of Horticulture (MIDH), Network Project on Organic Farming under ICAR.

3.18 Agro Forestry

Agro Forestry is a land use system which integrates trees and shrubs on farm lands to enhance productivity, sustainability, biodiversity and ecosystem sustainability. National Agro Forestry

policy was formulated in 2014 with major objectives like expansion of tree plantation in farm land, liberalization of regulations, popularization of Agro Forestry models, supply of quality planting material and provision of land tenure, loan and insurance. Government of Gujarat liberalized regulations pertaining to felling and transit of on-farm grown trees in 2016-17, in consonance with the National Agro Forestry Policy, 2014.

In Gujarat, forest cover is relatively low but the State ranks second as far as number of trees outside forest is concerned. Anand, Tapi, Gandhinagar, Mehsana, Valsad, Surat and Kheda have tree density over 30 trees per ha.

Wasteland in Gujarat comprises about 10% of the total geographical area. The vast area available could be utilized for growing various species like Neem, Deshibabul, Eucalyptus, Casuarina, Ardusa, Teak, Subabool, Bengali babul and Bamboo are the dominant forest plants for Agro Forestry farming systems.

3.19 Watershed initiatives in the State

Watershed development refers to the conservation, regeneration, and the judicious use of human and natural resources within a particular watershed. Watershed development attempts to bring about the best possible balance in the environment between natural resources on one side, and man and grazing animals on the other; through a participatory approach by directly involving the local watershed community. Watershed development, therefore, involves not only regeneration of the environment, but also management of the needs of the watershed community in such a way that their demands match the resources available within their watershed.

NABARD's Watershed Development Programme (WDP) is being implemented with financial support provided through the Watershed Development Fund (WDF) created by the Government of India and NABARD, in 1999-2000. NABARD's watershed development initiatives in Gujarat span an area of over 60,000 hectares, covering about 40,000 families across 16 districts. These projects involve a sanctioned grant support of over ₹72 crore.

3.20 Skill India Scheme

Government of India Initiatives: Govt. of India has announced the Skill India campaign on 15 July 2015 with an aim to train over 40 crores (400 million) people in India in different skills by 2022 for which Govt. of India has launched a bunch of skill development initiatives aimed at skilling unemployed youth to make India the skill Capital of the world. Some of the Schemes for the skill development launched by Government of India are:

- Deen Dayal Upadhyaya Grameen Kaushalya Yojana
- Pradhan Mantri Kaushal Vikas Yojana
- Financial Assistance for Skill Training of Persons with Disabilities
- National Apprenticeship Promotion Scheme
- Craftsmen Training Scheme
- Apprenticeship training
- Pradhan Mantri Kaushal Kendra

Government of Gujarat initiatives for skill development are:

- Craftsman Training Scheme
- Apprenticeship Training Scheme
- Training under Sagarkhedu Scheme
- Training under Vanbandhu Scheme
- Training under Shaheri Garib Samruddhi Yojana
- Training under Nari Gaurav yojana
- Kaushal vardhan Kendra Scheme

3.21 Summarising the Perception

The developments in Gujarat and status of the broad sectors pertaining to “integrated rural development”, as discussed above, give an assertive verdict that Gujarat has its front foot forward in ensuring “accelerated, balanced, inclusive and sustainable growth” and “prosperity of rural areas”. It envisions facilitating investment in agro processing, high-tech agriculture & agricultural infrastructure projects for value addition to farm produce so as to ensure higher income to the farmers and provide greater employment opportunity in rural areas.

1. Taking into account the Perspective Development Plan for the State, NABARD has projected a target of ₹ 2.98 lakh crore for 2023-24 for financing by banks under agriculture, SMEs and other priority sector in the State. NABARD has undertaken various initiatives including policy changes so as to enable the achievement of Government of India's target of doubling farmers' income.
2. NABARD intends to use Farmers Producers Organization (FPO)/ Farmers Clubs (FC) for credit widening by enhancing the credit absorption capacity of farmers through credit counselling, technology transfer, awareness and capacity building. It intends to promote FPOs with more active role in enhancement of ground level credit flow so that the synergy between business and developmental role of NABARD gets more and more pronounced in future.
3. With more than 68 per cent farmers in the small and marginal holding categories in the state, NABARD intends to promote, register and nurture Farmers Producer Organization (FPOs), aimed at facilitating aggregation of input supplies and output marketing, besides village level value addition. Further, initiative to form Producer Organization in the off farm sector i.e. OFPO will also be initiated for enhancing the overall income of artisans.
4. NABARD would be focusing on development of rural housing, sanitation projects, rural transportation, up-scaling of innovations, rural health care, rural tourism, skill development, artisan clusters, and Geographical Indication (GI) products, etc.
5. In the areas of watershed and tribal development, NABARD intends to develop a hub for such activities which have an objective to conserve soil and water, together with creation of sustainable livelihood support for excluded people.
6. Efforts for inclusive growth through development of rural infrastructure, institutional development, financial inclusion, promotion of SHGs and JLGs, digitization of SHG, livelihood development etc. shall continue to be the focus.
7. NABARD will continue to partner with the State Government for creation of larger number of rural infrastructure projects with the support from RIDF, creation of storage and marketing capacity to arrest the wastage of foodgrains in the State to facilitate better prices to the farmers and also with the State Government undertakings for supporting under NABARD Infrastructure Development Assistance (NIDA).
8. The inclusive development perspective of the state must envision to factor in the broader issues like doubling of income with large population (approx. 50 per cent) engaged in agriculture. NABARD will strive for a farmer centric approach for development on a sustainable basis, stimulating public and private investment to reinforce capital formation in desired sectors for enhancing their productivity. Inclusive growth will be achieved by positioning a strong and sustainable line of community based organizations like SHG, JLG and Farmers Producers Organization (FPOs), etc. Climate friendly technology accompanied by resource saving practices would go a long way towards a sustainable agricultural development of the state, in turn also facilitating employment generation at large.

Chapter 4

Potential Credit Outlays

Chapter IV

Potential Credit Outlay

NABARD initiated the process of potential assessment for the priority sector activities in the year 1989 through a consultative process with the line depts., bankers, social organisations, farmers and other stakeholders. The document has been well accepted and recognized at all fora and has been the basis for preparing Annual Credit Plan at district level and consolidated as the State Credit Plan. The sub-sector wise potential assessed and projections made for 2023-24 for each district have been aggregated at State level and discussed in this chapter followed by identification of certain constraints/bottlenecks which needs to be addressed for enabling harnessing of potential to the maximum. Further, it offers some solutions in the form of suggestion/action points and identifies critical infrastructure gaps for the use of all stakeholders in the development of the State.

Total Priority Sector

The aggregate credit potential for 2023-24 for overall priority sector has been assessed at **₹2,98,097.52** crores. The sub sector-wise credit projection assessed for the year are given in Table 4.1

Table 4.1 Sub sector-wise credit projection assessed for the year 2023-24

S. No	Sector/ Sub-sector	(₹crore)
I	Credit Potential for Agriculture	
A	Farm Credit	
i	Crop Prod., Maint. & Marketing	72,227.05
ii	Water Resources	5,751.78
iii	Farm Mechanisation	7,478.10
iv	Plantation & Horticulture	2,627.32
v	Forestry & Waste Land Development	167.96
vi	Animal Husbandry – Dairy	5,323.57
vii	Animal Husbandry – Poultry	313.73
viii	Animal Husbandry – S/G/P	101.44
ix	Fisheries	632.55
x	Others (Bullock, Bullock cart etc.)	3,025.56
	A – Total (i to x)	97,649.07
B	Agriculture Infrastructure	
i	Storage Godowns & Market Yard	9,773.07
ii	Land Dev., Soil Conservation and Watershed Development	2,982.92
iii	Others – Tissue Culture, Biofertilizers etc.	1,063.17
	B - Total (i to iii)	13,819.17
C	Ancillary Activities	
i	Food & Agro Processing	9,256.61
ii	Others Loans to Farmers' Coop. Societies etc.	1,588.36
	C–Total (i to ii)	10,844.97
D	Working Capital for AH & Fisheries	5,429.50
	Total Agriculture (A + B + C+D)	1,27,742.71
II	MSME	1,41,482.17
III	Export Credit	3,029.25
IV	Education Loan	2,331.69
V	Housing Loan	20,005.87
VI	Renewable Energy & Waste Management	474.99
VII	Others – Loans to SHG/JLG, PMJDY etc.	2,401.61
VIII	Social Infrastructure involving Bank Credit	629.22
	Total Priority Sector (I – VIII)	2,98,097.52

4.1 CREDIT POTENTIAL FOR AGRICULTURE

Farm Credit

As stipulated in the Reserve Bank of India's priority sector lending guidelines, farm credit includes loans to individual farmers [including Self Help Groups (SHGs) or Joint Liability Groups (JLGs) i.e. groups of individual farmers, provided banks maintain disaggregated data of such loans] and Proprietorship firms of farmers, directly engaged in agriculture and allied activities, viz. dairy, fishery, animal husbandry, poultry, bee-keeping and sericulture and Corporate farmers, Farmer Producer Organisations (FPOs)/(FPC) Companies of Individual Farmers, Partnership firms and Co-operatives of farmers engaged in agriculture and allied activities (with a limit of 2 crore per borrower)

The types of loans under the sector includes:

- i. Crop loans, medium and long-term loans for agriculture and allied activities (e.g. purchase of agricultural implements and machinery, loans for irrigation and other developmental activities undertaken in the farm and developmental loans for allied activities)
- ii. loans for pre-harvest and post-harvest activities, viz., spraying, weeding, harvesting, sorting, grading and transporting
- iii. loans for a period not exceeding 12 months subject to a limit up to ₹75 lakh against NWRs/eNWRs and up to ₹50 lakh against warehouse receipts other than NWRs/eNWRs;
- iv. loans to distressed farmers indebted to non-institutional lenders
- v. loans to farmers under the Kisan Credit Card Scheme
- vi. loans to small and marginal farmers for purchase of land for agricultural purposes
- vii. loans for installation of stand-alone Solar Agriculture Pumps and for solarisation of grid connected Agriculture Pumps
- viii. loans for installation of solar power plants on barren/fallow land or in stilt fashion on agriculture land owned by farmer.

4.1.1 Crop Production, Maintenance and Marketing

4.1.1.1 Introduction

Gujarat had an approximate share of 3.42% in the country's total food grain production in 2021-22. Cotton, groundnut, sesame, castor, paddy, pearl millet, maize, tur, green gram, sugarcane etc are the predominant Kharif crops, while wheat, barley, peas, gram and mustard are the major Rabi crops. In addition, spices and vegetables crops are grown extensively in the State. The State is also the largest contributor of groundnut production in the country.

The area under production, total production and productivity of some of the major crops in the State for the last two years are given in the table below-

Table 4.2 : Area under Production, Production & Productivity of Major Crops

Crop	Area (lakh ha.)		Production (lakh tonnes)		Productivity (kg/ha)
	2020-21 ^{\$}	2021-22 [@]	2020-21 ^{\$}	2021-22 [@]	2021-22 [@]
Rice	9.07	8.92	21.48	21.15	2371.15
Wheat	13.67	12.53	43.78	40.19	3205.61
Jowar	0.41	0.42	0.57	0.58	1345.95
Bajra	4.57	4.47	10.42	10.56	2368.24
Maize	3.89	3.91	6.45	8.16	2090.08
Others	0.18	0.21	0.26	0.42	
Total Cereals	31.79	30.46	82.96	81.06	2660.74
Tur	2.29	2.51	2.53	2.91	1159.52
Gram	8.16	11.01	14.24	21.01	1907.75
Others	3.38	4.09	2.31	2.96	
Pulses	13.83	17.61	19.08	26.88	1526.24
Total Food grains	45.62	48.08	102.04	107.94	2245.10
Groundnut	21.63	19.87	41.28	44.96	2262.22

Crop	Area (lakh ha.)		Production (lakh tonnes)		Productivity (kg/ha)
	2020-21 ^{\$}	2021-22 [@]	2020-21 ^{\$}	2021-22 [@]	2021-22 [@]
Others	12.58	14.25	20.81	25.80	
Total Oilseeds	34.21	34.12	62.09	70.76	2073.37
Cotton**	22.71	22.45	72.7	73.63	557.40
Tobacco	1.7	1.9	3.95	4.53	2363.67

(\$)Fourth Advance Estimate; (@) Fourth Advance Estimate: **000 bales of 170 kgs each

Presented below are the various schemes under implementation in the State supporting crop production, risk mitigation etc. :

- i **Loans against NWR:** In order to reduce the post- harvest losses and encourage farmers to store their produce in Accredited Warehouses, GoI in year 2011-12 has introduced a scheme to extend concessional post- harvest loans of upto ₹3 lakh to small and marginal farmers owning Kisan Credit Cards (KCCs), for a period of up to six months at an interest rate of 7%, against negotiable warehouse receipts (NWRs) issued by accredited warehouses.
- ii **Farmers' Producer Organisations (FPOs):** NABARD has promoted 304 FPOs in the State. Under the new central sector scheme for formation of 10,000 FPOs in the country, NABARD is one of the major implementing agencies and has sanctioned 104 FPOs during 2020-21 & 2021-22 in the State.
- iii **Price Support Scheme (PSS):** Price Support Scheme (PSS) is being implemented by Government of India in the State. Main crops of the State like Bajra, Jowar, Maize, Paddy, Cotton, Tur, Moong, Urad, Groundnut, Sesamum, Wheat, Gram, Mustard, and Sugarcane etc., are covered under PSS. The Government of Gujarat recommends support price of various Kharif and Rabi crops grown during respective season to be marketed in next season based on cost of production.
- iv **Mukhya Mantri Kisan Sahay Yojana:** The Gujarat Government's new scheme for farmers facing crop losses has replaced the Pradhan Mantri Fasal Bima Yojana (PMFBY) during 2020-21 and the scheme has also been continued during the years 2021-22 and 2022-23. The new scheme envisages a grant of compensation to farmers facing crop losses due to drought, excess rain or unseasonal rain, without collecting any premium. The compensation will be given only if the loss of crop is more than 33 percent, either due to drought or excess rain or due to unseasonal rainfall, for a maximum of four hectares of land, for crop loss between 33% and 60% @ ₹20,000/- per ha. and ₹25,000 per hectare for crop loss of more than 60%.
Apart from the compensation paid under this scheme, farmers are also eligible to get additional compensation under the State Disaster Response Fund in case of crop loss due to natural calamities. Tribal farmers registered under the Forest Rights Act are also eligible for this scheme.
- v **e-NAM:** The National Agricultural Market (e-NAM) is a pan-India electronic trading portal which networks the existing APMC mandis to create a unified national market for agricultural commodities and provides a single window service for all APMC related information and services and ensures transparency in bidding, unified licensing, quality control, single point levy of market fees etc. In Gujarat 122 APMC mandis are on e-NAM portal.
- vi **Kisan Credit Card Scheme:** The scheme was introduced in 1998 for issue of Kisan Credit Cards to farmers based their holdings for uniform adoption by the banks so that farmers may use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs. It aims at providing adequate and timely credit support from the banking system under a single window with flexible and simplified procedure to the farmers for their cultivation and other needs. As of March-2022, there were 27.85 lakh KCC accounts with a sanctioned amount of ₹59,753 crore.

- vii **Modified Interest Subvention Scheme for Short Term Loans:** GOI vide their letter No.F.No.1-4/2020-Credit-I dated 25.08.2022 decided to implement the Interest Subvention Scheme for providing short-term loans for agriculture and allied activities, availed through KCC for FY 2022-23 and 2023-24. Accordingly, Interest Subvention of 1.5% p.a. will be available to State Cooperative Banks and Regional Rural Banks, on their own funds used for short term loans (crop loans and WC loans for animal husbandry, fisheries, dairy, bee keeping etc.) upto ₹3.00 lakhs per farmer (subject to maximum of ₹2.00 lakh per farmer for WC loans for AH&F, Dairy, beekeeping etc.) . The interest subvention will be available provided the lending institutions make available short term credit to farmers @ 7% p.a.

4.1.1.2 Credit Potential Assessed for 2023-24

NABARD has been undertaking the exercise of assessing potential for absorption of credit in respect of all the agriculture and allied sectors in each district. Accordingly, credit potential for 2023-24 has been assessed at **₹72,227.05 crore** for the State recording a growth of 4.44% over the previous year 2022-23 (assessed at **₹69,156 crore**).

4.1.1.3 Issues, Concern and Suggested Action Points

- There is need for concerted efforts to produce more from less land by utilizing advanced technologies and better practices, using resources judiciously.
- Skewed application of fertilisers/pesticides, low Seed Replacement Rate (SRR), inadequacy of quality seeds are some of the major constraints as far as application of inputs are concerned.
- The increasing number of tenant/landless farmers or oral lessees and inadequate availability of institutional credit to them hampers the productivity levels. Banks need to explore Joint Liability Group (JLG) mode of financing to tenant farmers. The State needs to frame a policy so that the tenant farmers / oral lessees are eligible for institutional finance and other benefits.
- Promoting location and crop specific integrated nutrient management practices for improving soil health, enhancing crop productivity and maintaining quality & productivity of land are all important. Accordingly, more thrust may be given under “Paramparagat Krishi Vikas Yojana” to promote organic farming in the state.
- All eligible farmers should be covered under KCC, and existing live KCC should be converted into RuPay KCC with adequate Scale of Finance (SoF) in consultation with concerned stakeholders.

4.1.1.4 Critical Infrastructure Gaps

- There is gap in timely availability of quality seeds, fertilizer and other inputs which hampers timely sowing and productivity of the crop. Quality of seeds available, especially in the eastern region, is poor.
- Extension services are inadequate which need to be supplemented through popularization of initiatives like ACABC (Agri Clinic and Agri Business Center), Farmer Clubs, etc. There is also a need to establish services for emerging areas of biotechnology, organic farming, ply houses, Agro processing, packaging & export.
- Though 122 mandis have been brought under e-NAM, farmers will get full benefit only if they are able to sell their produce without actually carrying their produce to the market. Collection points may be established at village level to facilitate farmer to sell his produce without the hassle of carrying produce to the mandis.

Crop Loan - District-wise / Activity-wise PLP Projections - 2023-24																																		(Rs. Lakh)	
Sr.No.	District	Paddy		Wheat		Jowar/Bajra		Oilseeds		Cotton				Pulses/Spices		Sugarcane		Groundnut		Banana		Tobacco		Potato/Onion		Vegetables		Other Items not covered		Consumption and Maintenance		Total Crop Loan			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan				
1	Ahmedabad	83000	53950	129000	64620	53600	24120	92170	17760	87500	85750	8000	3360	0	0	0	0	0	0	0	0	0	0	0	0	450	405	32000	17280	80173	80173	485720	347418		
2	Anand	43000	52030	30300	18483	40100	11228	1000	740	5020	7731	3880	2794	0	0	1080	896	13500	35640	39200	54096	1840	4048	30900	12051	24350	8796	62560	9151	86719	407924	375783			
3	Anand	7840	3920	44760	20142	2613	653	14107	4232	21905	21905	34622	12118	0	0	30150	16583	0	0	2730	819	5380	6725	6625	3644	32320	14476	57869	203952	163085					
4	Amaskantha	0	0	44450	23025	265100	116248	160050	110988	7500	7410	4350	1501	0	0	62000	38254	0	0	4225	1044	34000	57120	36100	21371	120740	58564	133088	738515	576713					
5	Bharuch	18288	6035	4550	1502	4585	917	4800	864	38475	41533	14290	2144	33660	46787	0	0	11993	16670	0	0	0	0	0	0	7742	8981	82631	40756	49862	221014	216070			
6	Bhavnagar	0	0	5000	2750	20000	6600	0	0	176500	145613	0	0	0	0	80000	52800	0	0	0	0	50000	30250	12000	6600	0	0	73384	343500	317996	317996	216070			
8	Btad	0	0	15000	8250	25000	9270	0	0	141500	129225	0	0	0	0	19000	12604	0	0	0	0	100	60	1344	959	0	0	47120	201944	204188	204188	216070			
9	Chotaudepur	5900	3599	0	0	16600	6640	3705	1112	38900	38122	6407	2819	0	0	0	0	435	640	0	0	0	0	0	0	2535	2434	288	173	16661	74770	72200			
10	Dahod	23000	8333	21925	10371	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	113280	59738	20893	158205	90535				
11	Dang	2800	1596	0	0	0	0	0	0	0	0	1659	578	100	120	810	689	107	350	0	0	0	0	0	0	375	308	1925	806	1334	7767	5779			
12	Deebhooni Dwarka	0	0	4000	2400	0	0	0	0	36000	30960	2800	1540	0	0	45000	33215	0	0	0	0	0	0	0	0	4000	2200	32000	13120	25031	124300	108466			
13	Gandhinagar	12500	8750	31000	17050	8250	3135	25580	12711	17500	17500	3957	1433	0	0	13200	10164	0	0	4800	2640	7450	9089	29500	32450	80900	20225	40544	234637	175691	175691				
14	Gir Somnath	0	0	53108	39831	11837	5919	3536	1840	21548	23793	5000	1288	12806	14727	74372	70653	0	0	0	0	0	0	0	0	0	0	0	47388	182207	205349	205349			
15	Jamnagar	0	0	30000	18000	0	0	0	0	102000	87200	12000	6600	0	0	120000	87600	0	0	0	0	0	0	0	0	15000	10950	31800	12414	66985	310800	290269			
16	Junagadh	0	0	36670	27503	5510	2328	4465	1919	48631	53494	31065	10372	0	0	255455	242682	0	0	0	0	0	0	0	0	0	0	0	101489	38796	439787	439787			
17	Kheda	39300	47553	54300	33123	26600	7448	5700	4218	7050	10857	0	0	0	0	3000	2490	1100	2904	5400	7452	0	0	19800	7722	33960	15442	4763	196210	180972	180972				
18	Kutch	0	0	33400	22044	23950	9612	32150	13379	52700	57970	141100	71103	0	0	35550	29329	1670	2547	0	0	0	0	0	0	7600	4598	11800	64298	82464	439020	357342			
19	Mahisagar	22500	15233	16500	7970	5350	1153	1700	663	4245	1278	12630	3486	0	0	1810	706	0	0	800	458	0	0	0	0	48061	20724	63749	24341	15301	113596	67172			
20	Mehsana	2551	1339	68202	40921	7098	2662	103241	65732	37487	37487	21980	8678	0	0	12080	9362	0	0	15325	9578	7724	9462	29956	20220	63749	24341	68935	369393	298717	298717				
21	Morbi	0	0	9600	5376	0	0	7500	2625	160000	140000	4000	2280	0	0	20700	16560	0	0	0	0	245	172	3200	1440	34370	12911	34226	163315	148314	148314	224584			
22	Narmada	10896	3596	1042	344	13215	2497	0	0	0	0	350	175	13050	20192	320	272	1015	3319	0	0	0	0	0	0	2014	2336	20746	6699	11907	68643	51595			
23	Nasari	53150	30296	0	0	0	0	0	0	0	0	350	175	13050	20192	320	272	1015	3319	0	0	0	0	0	0	3660	3001	3890	4520	18532	75435	80307			
24	Panchmahal	29334	19859	10835	5233	670	123	2134	832	2750	828	12650	3491	0	0	420	164	0	0	0	0	0	0	0	0	0	39427	19466	14999	88745	64996	64996			
25	Patan	0	0	22500	13343	5600	2766	72300	61157	27950	19577	65625	31960	0	0	0	0	0	0	0	0	0	0	0	0	0	0	102250	42745	51464	296225	223013			
26	Porbandar	0	0	21000	15730	8500	2210	0	0	9800	10780	33700	19050	0	0	54500	51775	0	0	0	0	245	172	3200	1440	34370	12911	34226	163315	148314	148314	224584			
27	Rajkot	0	0	54400	30465	5010	1705	0	0	163200	163200	8980	5120	0	0	237000	169000	0	0	0	0	2860	1890	11496	4025	6399	3080	112615	489345	488000	488000	488000			
28	Sabarkantha	1935	968	37800	17010	14993	4890	49813	24907	40606	28424	10754	3549	0	0	36819	20250	0	0	302	91	13690	17113	38658	21262	1932	1932	4218	247302	182512	182512				
29	Surat	82365	55549	8268	4184	14890	5077	0	0	3670	3927	17180	8267	106759	164715	7555	5440	8610	13432	0	0	0	0	0	0	21410	15265	20113	5173	83408	290811	361437			
30	Surenandnagar	0	0	12900	7095	6600	2310	22800	16180	231000	198100	43950	25164	0	0	4000	3000	0	0	0	0	0	0	0	0	0	0	0	0	75555	403615	327404			
31	Tapi	36300	22322	4300	2193	10800	3683	0	0	3250	3478	15050	8280	21500	33110	4220	3038	1775	2769	0	0	0	0	0	0	0	0	0	0	75555	403615	327404			
32	Vadodara	15800	9638	13100	6590	0	0	28100	13197	68100	66738	18100	7964	2500	3275	0	0	0	0	2400	1152	0	0	0	0	13600	9656	4750	1474	27274	115545	118186			
33	Valsad	23500	13395	0	0	0	0	0	0	0	0	2850	1397	2850	5045	0	0	230	752	0	0	0	0	0	0	4550	4223	1000	270	7554	34980	32735			
District total		519959	356069	826710	470542	598371	234087	634851	363156	1851842	1657714	536920	246507	193868	201657	1208591	936761	43682	83536	75182	77330	123289	135927	311715	205032	1081816	477375	1687012	8075686	7222705	7222705				

4.1.2 Water Resources

4.1.2.1 Introduction

Management of water resources assumes a more significant role for a State like Gujarat in context of its main rural livelihood activity being agriculture, challenge to food security and spatial variation of water resources. As there is a strong correlation between farm productivity and availability of assured irrigation, a focus is required on harnessing untapped irrigation potential, improving management of water resources and increasing water use efficiency of existing infrastructure/devices with an objective to ensure regular, timely and safe delivery of irrigation facility to our farmers. The State has available Surface Water Resources and Ground Water Resources to the tune of 38,100 MCM and 17,500 MCM respectively. A major part of these resources (about 88%) is used in irrigation sector. (Source: State Water Policy, 2015)

Large rivers like Narmada, Mahi, Tapi, and Sabarmati flow through the state and form their own basins. Other minor rivers have been grouped together to form river basins. In all, eight river basins have been identified by the All India Soil Survey & Land Use Department are (i) Sabarmati river basin, (ii) Mahi river basin, (iii) Narmada river basin, (iv) Tapi river basin, (v) Luni and other drainage in the Great Rann of Kachchh, (vi) Draining in to Gulf of Kachchh, (vii) Southern Kathiawar & (viii) Sharavati to Tapi.

4.1.2.2 Surface Water Resources of the State

- The total ultimate irrigation potential through surface & ground water is estimated to be 71.04 lakh hectares
- Net area irrigated in Gujarat is 52,38,200 ha, of which 33,99,800 ha by wells, 11,64,200 ha is irrigated by canals, 2,32,100 ha by tanks and 4,42,200 ha by other sources. (Source: Gujarat Season and Crop Report- 2019-20).
- The total irrigation potential of surface water and ground water created upto June- 2020 works out to 97.28 percent of ultimate irrigation potential whereas maximum utilization works out to 88.22 percent of the ultimate total irrigation potential created.

Status of development of water resources are given in the Table 4.3

Table 4.3 Status of development of water resources.

(In lakh hectares)

Sr. No.	Surface Water	Ultimate Irrigation Potential	Irrigation Potential Created up to June, 2020	Maximum Utilisation up to June, 2020
I	Surface Water	48.45	46.52	38.38
(a)	Major and medium Schemes	17.06	16.53	13.68
(b)	Sardar Sarovar Project	17.93	16.67	13.29
(c)	Minor Irrigation	2.67	2.63	1.63
(d)	Indirect benefit through Minor irrigation works such as percolation tanks, safe stage etc.	3.06	2.96	2.05
(e)	Indirect benefit through Check Dams.	7.73	7.73	7.73
II	Ground Water (including private resources)	22.59	22.59	22.59
	Grand Total (I+II)	71.04	69.11	60.97

(Source: Socio-economic review, Gujarat State, 2021-22)

4.1.2.3 Ground water Resources & Development of the State

The State is underlain by diverse rock types of different geological ages from Pre-Cambrian to Recent. As much as 60% of the State is underlain by hard rock and rest by soft rock / alluvium formations. In hard rock areas, the ground water is tapped mostly through dug wells constructed in the weathered zone. Dug cum bore wells and deep bore wells are common for

irrigation. In alluvium & soft rock areas, deep tube wells are common for both irrigation and domestic usage. The yield of open (dug) wells varies from 2 to 10 m³/day, whereas that of tube wells ranges from less than 10 to 100 m³/day.

Total Annual Ground Water Recharge of the State has been assessed as 26.8 bcm and Annual Extractable Ground Water Resources as 24.86 bcm (Dynamic Water Resources of India, 2020). The Annual Ground Water Extraction has been assessed as 13.3 bcm and Stage of Ground Water Extraction as 53.5 %. Out of 248 assessment units (taluks), 25 units (10.08%) have been categorized as 'Over- exploited', 4 units (1.61%) as 'Critical', 24 units (9.68%) as 'Semi-critical', 182 units (73.39%) as 'Safe' and there are 13 units (5.24%) as 'Saline' categories of assessment units.

A comparison of status of utilization of ground water in the Blocks/Assessment Units in the State as per GEC-97 and GEC-2015 (for 2017 and 2020) classification is given below:

Table 4.4 Comparative status of utilization of ground water

Category	2002	2009	2011	2013	2017	2020
Over Exploited	32	27	24	23	25	25
Critical	13	6	5	6	5	4
Semi Critical	69	20	13	9	11	24
Saline	14	17	10	10	13	13
Safe	95	156	171	175	194	182
Total	223	226	223*	223	248	248

(* Two Block unassessed)

In the State of Gujarat, ground water has an important role in meeting the water requirements of agriculture, industrial and domestic sectors. However, growth contributing to soaring demand for water for industrialization, urbanization and modern farming practices have put an immense pressure on quantity & quality of water resources of the State. The main contaminants in the ground water are fluoride, chloride, nitrate and iron besides being saline in most of the districts.

4.1.2.4 Availability of Infrastructure, critical gaps & interventions required, action points/issues to be addressed

Government of Gujarat has taken various initiatives for water resources augmentation and its management under various projects and programmes. The major initiatives are indicated below (Source: Gujarat State Socio-Economic Review, 2021-22):

- The Micro Irrigation Scheme in Gujarat is being implemented, in a uniform mode, by the Gujarat Green Revolution Company (GGRC), (on behalf of the Government of Gujarat and the Government of India), since May-2005. Upto November, 2021, out of total 20,47,822 hectare area covered under Micro Irrigation System, 17,25,163 hectare is covered under agriculture crops and 3,22,659 hectare is covered under horticulture crops. Major agriculture crops covered under Micro irrigation system are Groundnut (9,29,802 ha), Cotton (6,21,127 ha) and Sugarcane (15,376 ha). Horticulture crops covered under micro irrigation system are Potato, Banana, Mango and Vegetables.

Table 4.5 Farmers covered as per land holding under Micro Irrigation Scheme

S No.	Category of Farmer	No. of Beneficiaries	Area (ha)
1	Large Farmer	1,36,373	94,052
2	Marginal Farmer	3,95,297	4,76,151
3	Medium Farmer	7,08,439	13,49,577
4	Small Farmer	46,682	1,28,042
	Total	12,86,791	20,47,822

(Source: Socio-economic review, Gujarat State, 2021-22)

- The Government has decided to cover maximum possible command area under Participatory Irrigation Management. The Government has also passed "Gujarat Water Users Participatory Irrigation Management Act-2007". Upto June 2021, under participatory irrigation management scheme, an area of 8,41,859 hectare area has been covered through 2799 Water Users Associations.
- The Sardar Sarovar Project, which is multipurpose project, is expected to provide irrigation benefits to about 18 lakh hectares command area in 77 talukas of 17 districts in the State. It is also envisaged to provide water in 9490 villages and 173 townships for domestic purpose as well as for industrial uses.
- The Kalpasar project has planned to irrigate approximately 10.54 lakh ha area of 37 talukas of 9 coastal districts by allocating about 6500 Million Cubic Meter water from Kalpasar reservoir.
- During the year 2021-22 (Upto November, 2021), total 2230 tube-wells (including Tribal Area Sub Plan) are functional in irrigation through which total 16601 hectares area is irrigated.
- Government has decided to implement Drip Irrigation Scheme on tubewells (operated by Corporation/Mandali/Juth) of Gujarat Water Resources Development Corporation Limited. Upto the year 2021-22, drip irrigation work in 8418 ha on 886 tubewells were completed.

4.1.2.5 Credit Potential for the Sector

The aggregated credit potential for the year 2023-24 for the sector is estimated at **₹5751.78 crore**. The credit potential for 2023-24 has been assessed at **₹5751.78 crore** for the State recording a growth of 38.2% over the previous year 2022-23 (assessed at **₹4,162.48 crore**).

4.1.2.6 Action Points for Stake Holders

- State Government may devise a suitable mechanism to help farmers in selection of suitable sites for construction of ground water based MI structures, especially in hard rock areas using modern technologies, such as geophysical surveys, resistivity surveys, Remote Sensing etc. considering the fact that large areas in Saurashtra and South Gujarat are in hard rock terrain where selection of suitable sites for construction of various ground water based irrigation structures, such as, Dug Wells, and Dug-cum-bore wells, is a challenging task, and probability of failures is high.
- Gujarat has the largest coastline in the country, where salinity ingress is a major issue which needs to be addressed with careful ground water management strategies, conjunctive planning along with surface water. State Government may consider expeditious completion of all salinity ingress prevention projects envisaged in the Master Plan, which includes construction of Bandharas, Spreading Canals, Radial Canals etc. Further, State Government may help identify saline aquifers and suggest the zones requiring cement ceiling at a micro level.
- Regulation of ground water exploitation in coastal areas and encouraging efficient irrigation systems like drip and sprinkler is critical.
- MIS systems need to be encouraged especially in over-exploited and critical areas. While financing for drip and sprinkler irrigation system based on ground water in over exploited areas, the balance useful life of existing ground water-based MI structure may be assessed. The same would be helpful to assess the bankability of the project.
- Bankers may consider an integrated implementation of Drip Irrigation System while extending credit for MI loans. This will on the one hand enhance the MI investment and at the same time would act as water saving device for the farmers.
- Conjunctive use of surface and ground water also needs to be encouraged.

4.1.2.7 Conclusion

There is a strong correlation between farm productivity and availability of assured irrigation.

- Considering the potential of the water resources in the state, present level of utilization and the projected level of utilization in coming years, the state needs to focus on

harnessing untapped irrigation potential, improving management of water resources and increasing water use efficiency of existing infrastructure/ devices.

- Further, Global warming is likely to intensify the hydrologic cycle with more intense rainfall in short and fewer spells, shifting of rainfall towards winter, increase evapotranspiration and thus change in crop water requirement. In such a scenario, storage of water and transferring of water with greater certainty can reduce impact of uncertainty. In Gujarat context, it poses a challenge as our water resources are mainly fed by the rivers.
- Presently, in Gujarat a large portion of cropping area is yet to be irrigated. Often, the farmer, mainly of tail end of canal command areas, are not sure of getting right amount of water at right time.
- Field water application is as per the supply/availability of water from system rather than demand of the crop. This mismatch between supply and demand results in water wastage, yield decrease and quality deterioration.
- Conjunctive use of surface water and ground water, integration of canal water/ Ground water with micro irrigation may increase the much required dependability of our irrigation system and provide assured irrigation at farm level.

The time has come now to ensure that productivity of the crops is seen not only in terms of per unit of land but also as per unit of water.

Water Resources - District-wise / Activity-wise PLP Projections - 2023-24

Sr.No.	District	Dugwell		Pumpsets		Lift Irrigation		Borewell		Drip Irrigation		Sprinkler irrigation		Pipeline		Renovation of well		Others/Misc		Total Minor Irrigation	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank	No.	Bank loan	No.	Bank loan
1	Ahmedabad	140	189	7300	11813	0	0	3050	22225	1800	1944	3200	1296	2100	945	510	230	3300	1485	22000	40126
2	Anand	2335	5464	2330	2358	330	386	2000	5850	6030	6947	2090	1298	0	0	4255	2160	4615	831	23985	25293
3	Anand	955	1291	1260	1613	40	42	0	0	5300	5385	2400	1824	1050	168	1200	576	163	991	12368	11889
4	Aravali	645	1336	1326	1347	3298	3430	2140	2101	3065	4103	1784	1042	841	309	918	408	0	0	14017	14257
5	Banaskantha	30	41	650	904	1070	1204	170	1186	20000	12000	55000	12375	51000	22950	0	0	0	0	0	50659
6	Bharuch	1468	2708	0	0	310	349	1254	2088	11810	13499	0	0	16412	11226	0	0	0	0	31254	29870
7	Bhavnagar	400	932	550	188	0	0	400	378	9000	10287	100	86	0	0	700	302	0	0	11150	12173
8	Botad	200	466	350	120	320	360	160	151	12000	12802	50	43	0	0	190	82	0	0	12470	14024
9	Chotaudepur	1230	2103	1650	771	930	1088	825	810	4400	968	420	129	7975	1436	0	0	1000	270	18430	7575
10	Dahod	1060	1847	3250	1434	400	510	0	0	4100	3694	1700	881	0	0	650	182	340	315	11500	8864
11	Dang	37	68	37	22	30	41	0	0	37	45	26	21	0	0	26	12	23	157	216	365
12	Devbhoomi	40	93	120	70	40	54	0	0	0	0	120	90	40	36	40	14	180	567	580	924
13	Gandhinagar	0	0	1780	1041	2040	1285	0	0	10100	13181	4000	3096	0	0	0	0	3510	4066	21430	22669
14	Gir Somnath	1175	2282	1457	415	0	0	0	0	1767	1683	2152	710	0	0	0	0	2313	2515	8864	7606
15	Jamnagar	60	140	300	178	600	810	0	0	0	0	2100	1569	1200	1080	60	22	1500	2666	5820	6463
16	Junagadh	1581	3071	4044	1153	0	0	0	0	5159	4914	4319	1425	0	0	0	0	1390	1512	16493	12074
17	Kheda	120	162	355	454	640	666	0	0	3500	3556	2480	1885	6100	976	550	264	96	584	13841	8547
18	Kutch	88	119	180	230	493	403	150	912	276	276	0	0	3570	714	266	213	0	0	4933	2857
19	Mahisagar	930	1257	340	165	990	1148	92	243	490	172	480	330	383	182	423	223	966	1275	5094	4996
20	Mehsana	0	0	1000	486	1000	4000	105	638	3500	2968	2500	1220	0	0	500	80	0	0	8605	9393
21	Morbi	1250	2590	600	182	0	0	0	0	10800	10973	3000	1080	0	0	0	0	600	523	16250	15348
22	Narmada	594	1096	0	0	309	348	419	549	648	741	0	0	445	224	0	0	0	0	2415	2957
23	Navsari	550	1015	800	468	520	702	0	0	2040	2461	1110	875	650	556	0	0	210	1436	5880	7513
24	Panchmahal	692	936	481	234	638	740	0	0	661	233	614	422	0	0	608	321	1460	1591	5154	4476
25	Patan	0	0	4450	1738	1750	3150	0	0	4700	4917	1900	1411	0	0	0	0	0	0	12800	11216
26	Porbandar	11	26	0	0	34	54	0	0	6230	7121	525	392	94	15	0	0	0	0	6894	7608
27	Rajkot	120	280	0	0	0	0	0	0	24800	25275	6150	3640	0	0	0	0	525	355	31595	29550
28	Sabarkantha	11800	24450	41500	42294	3044	3166	14300	14635	25400	26416	38200	23409	8275	3945	1919	1689	0	0	144438	139104
29	Surat	905	1577	3650	1746	335	356	1610	3832	8150	10045	0	0	690	1026	652	421	0	0	15992	19004
30	Surendranagar	1700	3522	500	152	0	0	0	0	12100	12294	6300	2268	0	0	0	0	500	436	21100	18672
31	Tapi	599	982	1428	638	637	637	305	683	1962	1324	0	0	1092	3058	0	0	0	0	6023	7322
32	Vadodara	1200	2052	4300	1673	2045	2392	713	699	15400	8162	725	268	13550	3659	0	0	0	0	37933	18905
33	Valsad	130	227	915	506	250	319	50	323	1030	981	240	169	170	145	590	201	0	0	3375	2809
	District total	32045	62323	86903	74393	22003	27638	28343	57394	215455	209454	143685	63252	115637	51750	14057	7399	22691	21575	680819	575178

(Rs. Lakh)

4.1.3 Farm Mechanization

4.1.3.1 Introduction

Agriculture Mechanization is crucial for modernization and commercialization of agriculture as it improves productivity and timeliness of agriculture operations, aids in value addition, brings down the cost of cultivation and enables climate change adaptation. Financial assistance is available for different category of farmers through Central Government programme on 'Sub-Mission on Agricultural Mechanization (SMAM)' to improve the existing farm power availability. There is a need to increase the availability of farm power from 2.02 kW per ha (2016-17) to 4.0 kW per ha by the end of 2030 to cope up with increasing demand of food grains. Average per hectare farm power availability of the State is 2.56 kW/ha, which is above the national average (Source: SMAM Report 2018, Ministry of Agriculture & Farmers Welfare, GoI).

Table 4.6 Potential of Farm Mechanization in Gujarat

S. No.	Particular	Area/power requirement/ potential	Remark
A	Total farm power potential for the State	1,931 HP/ha x 97.87 lakh ha = 1,88,98,311 hp	
B	Out of total farm power potential for animate power	9,44,915 hp @ 5 % of the total power requirement	Labour and Animal power along with hand and animal power operated tool/ implements/ devices
C	Potential for mechanical power	1,32,28,818 hp @ 70 % of the total power requirement	Tractor, Power Tiller, Power thresher, Diesel Engine along with power driven implements except driven by electric power
D	Potential for electrical power / Solar power	47,24,578 hp @ 25 % of the total power requirement	Electric/ Solar operated motors along with electric power driven tool/implements/devices

The Department of Agriculture, Government of Gujarat provides subsidy on various small and large farm implements.

4.1.3.2 Credit Potential Assessed for 2023-24

Credit potential for 2023-24 has been assessed at **₹7,478.11 crore** for the State recording a growth of 2.11% over the previous year 2022-23 (assessed at **₹7,323.45 crore**).

The activities presently considered, for financing are: (1) Tractors - New as well as second hand, (2) Power Tillers and (3) Other agriculture implements like threshers, rotavator, seed cum fertilizer drill, levellers, seed planter, sprayers, harvester, Zero Till Drill etc.

Mechanization is significantly low in paddy sowing/ planting and harvesting of cotton, sorghum, millets, gram, millets, oilseeds, fodder crops, horticulture and vegetables. Land preparation or seedbed preparation across all the major crops is highly mechanized.

Purchase of farm machinery, implements and equipment such as tractor, harvester etc. involves higher investments and hence farmers would be able to earn part of the income by way of custom hiring charges also. The cost of labour is on the rise and the availability of labour force is decreasing. The demand for further mechanization of farm is likely to increase in near future.

4.1.3.3 Issues, Constraints and Suggested Action Points

To promote and make mechanized tools available to farmers, it is necessary for the Government to provide suitable and targeted support to farmers. The establishment of

enterprises (Custom Hiring Centre) that provide farming tools and machines is presently being supported through provision of subsidy. However, the farmers may also be provided support for hiring of such machines. Different stakeholders need to be involved to boost the farm mechanization sector in the State.

- There is a need to popularise farm mechanization by inculcating custom hiring practices among the farmers, mainly to help small and marginal farmers.
- The costly equipment's such as Tractors, Rotavator, Laser leveller, Harvester etc. may be made available through Government departments, NGOs, big farm houses/farmers, PPP mode etc. in a big way to reduce the cost of cultivation and increase the production & productivity of the farm which will result in increase of farmers' income and pave the way for doubling the farmers' income.
- As Primary Agriculture Cooperative Credit Societies (PACS) are actively working in the state, PACS may purchase the farm machinery under PACS as Multi Service Center (MSC) scheme of NABARD and make it available to the small and marginal shareholder farmers on rental basis with minimal profit margin. It will meet their requirements and help to complete the farming operations on time.
- Agri universities / KVKs / banks may encourage a collective of farmers to establish Custom Hiring Service Centres (CHSC) and train the group on the maintenance of CHSCs.
- Agriculture Universities / Research Institutes to promote innovative ideas and create smaller machinery suitable for small farms.
- State Govt. departments and banks may promote start-ups to encourage development of precise and more advanced farm machineries and equipment.
- RBIC established in SDAU may build capacity of agri start-ups for growth in agri business.
- Extension agencies to advise farmers on suitability of various manufacturers/brands, models and horse powers for different sized operational holdings.
- Banks may encourage agri-business centres by agri. graduates under the ACABC scheme, to provide custom hire services to small and marginal farmers at affordable rates.
- There is an urgent need to design, develop and adopt machinery especially suitable to Indian farming conditions such as machines appropriate for small holdings which reduces the dependency on labour and ensures timely completion of activities.
- Promote drone technology for spraying of pesticides and foliar application of nutrients.

4.1.3.4 Critical Infrastructure Gaps

Solar power is eminent source of energy, which will support to run electrically operated equipments. Solar farm power would be a sustainable power source for the farm operations without using fossil fuel, which will results in decrease in carbon emission. Thus, there is a need to set up centres where solar power run machineries are available.

Farm Mechanisation - District-wise / Activity-wise PLP Projections - 2023-24															(Rs. Lakh)
Sr. No.	District	Tractors		Power tillers		Improved farm equipments		Harvester / Thresher		Others / Misc*		Total Farm Mechanisation			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		
1	Ahmedabad	2400	15708	3550	6035	0	0	0	0	9100	27073	15050	48816		
2	Amreli	3055	21171	5595	10071	2350	2538	316	569	14819	6201	26135	40550		
3	Anand	3170	19527	420	672	6300	2520	0	0	0	0	9890	22719		
4	Aravali	0	0	0	0	460	442	490	784	600	3696	1550	4922		
5	Banaskantha	2000	11550	770	1155	43200	68794	725	1088	0	0	46695	82586		
6	Bharuch	3298	22855	0	0	0	0	0	0	23232	25728	26530	48583		
7	Bhavnagar	2000	13090	1100	1870	0	0	0	0	3250	2916	6350	17876		
8	Botad	1225	10413	1200	3366	0	0	0	0	1100	935	3525	14714		
9	Chotaudepur	850	5891	384	692	1162	3138	0	0	6	54	2402	9775		
10	Dahod	767	4238	893	1518	0	0	0	0	693	2356	2353	8112		
11	Dang	61	423	80	144	105	756	0	0	0	0	246	1323		
12	Devbhoomi Dwarka	400	2618	400	680	0	0	0	0	1000	4534	1800	7832		
13	Gandhinagar	3055	13897	1545	2318	1885	3888	0	0	0	0	6510	20102		
14	Gir Somnath	1034	5971	658	987	0	0	517	776	1802	1128	4011	8861		
15	Jamnagar	2100	13745	1200	2040	1620	9212	0	0	600	1683	5520	26680		
16	Junagadh	4196	24232	1927	2891	6120	3715	919	1379	0	0	13162	32216		
17	Kheda	2575	15862	810	1296	3000	1200	0	0	0	0	6385	18358		
18	Kutch	3287	20248	1180	2266	1329	2924	0	0	37	296	5833	25733		
19	Mahisagar	180	475	240	384	348	334	270	432	132	285	1170	1910		
20	Mehsana	2000	10400	1200	2048	7170	4902	2150	3440	3600	634	16120	21424		
21	Morbi	3300	17160	0	0	0	0	0	0	9600	8376	12900	25536		
22	Narmada	1023	5109	0	0	0	0	0	0	2991	2518	4014	7627		
23	Navsari	365	2529	1055	1899	540	3888	0	0	0	0	1960	8316		
24	Panchmahal	505	1333	475	760	257	555	552	883	442	424	2231	3956		
25	Patan	2425	8766	3650	6205	2890	2512	900	1530	20714	17707	30579	36719		
26	Porbandar	390	1158	450	810	0	0	0	0	500	675	1340	2643		
27	Rajkot	3960	20495	6200	11160	0	0	0	0	6570	10815	16730	42470		
28	Sabarkantha	4760	29322	3134	5014	3715	3566	0	0	0	0	11609	37902		
29	Surat	2567	21178	1575	2363	0	0	1640	1722	5285	11297	11067	36559		
30	Surendranagar	6200	32240	0	0	20	160	0	0	8200	6892	14420	39292		
31	Tapi	429	3539	468	702	0	0	553	830	335	704	1785	5774		
32	Vadodara	1663	11525	983	1769	3065	9655	0	0	14	126	5725	23075		
33	Valsad	310	2029	1470	2499	0	0	0	0	1815	10321	3595	14849		
Total		65550	388697	42612	73613	85536	124698	9032	13431	116437	147372	319192	747811		

4.1.4 Plantation and Horticulture

4.1.4.1 Introduction

Growing plantation & horticulture crops is an ideal option to improve livelihood security, enhance employment generation, attain food & nutritional security and increase income through value addition. Agro climatic conditions of Gujarat are conducive for development of various horticulture crops. Horticulture crops are cultivated in approximately 19% of the total cultivated area of the State. The predominant horticulture crops of the State are, fruit crops like Mango, Sapota, Banana, Aonla and Dates, vegetables like Okra, Beans, Cucurbits, Onion, Potato, spices like Cumin, Fennel, Chilly, Coriander, Garlic and flower crops like Rose, Lily, Marigold, Jasmine and Tuberose. Grape, Cashew nut, Aloe Vera and Palmarosa are emerging as potential new crops in suitable areas of the state. Area under new fruit crops viz. Tissue Culture Date Palm, Dragon Fruit (Kamalam Fruit) and Strawberry are on increasing trend.

4.1.4.2 Credit Potential Assessed for 2023-24

Based on the priorities, policies and programmes of Government of India (GoI)/ Government of Gujarat (GoG) for the development of horticulture sector, past development trends and existing infrastructure, PLP projections have been arrived for each district. The aggregated PLP projections for Bank Loan for Plantation & Horticulture sector for the year 2023-24 have been at **₹2,627.32 crore** for the State recording a growth of 13.22% over the previous year 2022-23 (assessed at **₹2,320.53 crore**).

4.1.4.3 Thrust Areas

Horticultural crops of the State have good export potential. Major commodities being exported from the State are Banana, Mango, Cumin, Fennel, Isabgol and Onion. The importance given by GoI/GoG for the development of the sector through various promotional schemes covering the whole gamut of activities of the sector provides enabling environment for increasing the area and production further.

- Dry land horticulture; Suitable crops are fruit crops like Mango, Sapota, Ber, Guava, Custard Apple, Date Palm, Amla, spice crops like Cumin, Fennel etc.
- High density orchards for fruit crops like mango, sapota, guava, pomegranate so as to increase the productivity per unit area
- Crop clusters for processing varieties like Kesar mango, white onion, high TSS potato, seed spices etc.
- Rejuvenation of old and senile orchards
- Cost effective poly houses/ Shade nets
- Commercial tissue culture units especially for Date Palm, Banana & Pomegranate
- Commercial nurseries
- Cultivation of Medicinal and Aromatic Crops with firm market linkages
- Organic farming
- Post-Harvest Management and Processing of Horticulture crops
- Value Chain Financing

Area Based cluster approach with adoption of improved package of practices and market linkages needs to be encouraged. Crop-wise clusters identified by the Department of Horticulture for this purpose are given in table 4.7 below.

Table 4.7 Crop-wise clusters identified by the Department of Horticulture

Crop	Potential Districts
Mango	Kutch, GirSomnath, Junagadh, Valsad, Navsari
Banana	Anand, Vadodara, Bharuch, Surat, Narmada, Chhota-Udepur
Sapota	Valsad, Navsari
Pomegranate	Kutch, Banaskantha, Sabarkantha, Surendranagar, Rajkot
Papaya	Kutch, Sabarkantha, Gandhinagar, Chhota-Udepur, Tapi, Surat
Guava	Bhavnagar, Botad, Kutch

Crop	Potential Districts
Lime	Mehsana, Bhavnagar, Botad, Surendranagar, Morbi
Date palm	Kutch, Surendranagar, Patan, Jamnagar
Coconut	Bhavnagar, Girsomnath, Junagadh, Porbandar
Potato	Banaskantha, Arvalli, Sabarkantha, Gandhinagar, Mehsana, Kheda, Vadodara
Onion	Rajkot, Bhavnagar, Amreli
Tomato	Mehsana, Banaskantha, Sabarkantha, Vadodara, Chhota-Udepur, Kheda, Ahmedabad
Cabbage & Cauliflower	Sabarkantha, Vadodara
Cucurbits	Kheda, Anand, Vadodara, Surat, Tapi
Okra	Gandhinagar, Sabarkantha, Vadodara, Surat, Tapi, Bharuch
Chilly	Rajkot, Bhavnagar, Botad, Banaskantha, Vadodara, Tapi
Cumin	Banaskantha, Kutch, Mehsana, Patan, Ahmedabad, Surendranagar
Fennel	Mehsana,, Banaskantha, Kheda
Coriander	Kutch, Junagadh, Jamnagar, Morbi, Surendranagar

4.1.4.4 Infrastructure Available

- Department of Horticulture, Government of Gujarat promotes various programmes on the following segments:
 - Fruits, vegetables, medicinal and aromatic plants, spices and flowers
 - Production of Planting material
 - Protected cultivation
 - Integrated Nutrients and Pest Management
 - Organic farming
 - Mushroom and Beekeeping
 - Horticultural mechanisation
 - Post-harvest, storage and value addition
 - Demonstration, training and skill development
 - Marketing infrastructure for horticultural produce
- There are about 55 clusters of fruits and vegetables in the state. Out of which, provision has been made to set up six FPO with post-harvest management infrastructure facilities on a pilot basis at local level in horticultural clusters of Banaskantha, Jamnagar, Kachchh and tribal districts like Navsari, Chhotaudepur and Panchmahal.
- As of November 2021, out of total 20.47 lakh hectare area covered under Micro Irrigation System, 17.25 lakh hectare are covered under agriculture crops and 3.22 lakh hectare are covered under horticulture crops. Major horticulture crops covered under micro irrigation system in terms of area are Potato 1.55 lakh hectare, Banana 0.27 lakh hectare, Mango 0.17 lakh hectare and Vegetables 0.43 lakh hectare.
- Mukhya Mantri Baghayat Vikas Mission (Horticulture Development Mission) announced by Government of Gujarat in the 2021 with objective to convert wastelands for Horticulture farming. This will help to increase the income of farmers and generate employment through utilization of unfertile and fallow land.
- “I-khedut” a portal to enable farmers to apply online for various subsidy schemes, to provide information on list of dealers providing equipment’s, latest technical information, APMC market price etc. has been launched by Government and the same is operational.
- **Gujarat State Horticulture Mission:** The mission has been implemented in 21 potential districts and covers important crops like Mango, Chikoo, Amla, Banana, Papaya, Lime, Cumin, Fennel, Flowers, Medicinal and Aromatic crops. While remaining districts have been covered by the state fund as per norms of State Horticultural Mission (SHM)

- During the year 2019-20, under centrally sponsored scheme of National Horticulture Mission, total 3 Tissue Culture Units, 3 Bio-Control Units, 1 Small Nursery, 3 Green Houses, 33 Net Houses, 44 on Farm Pack Houses, 24 Cold Storages, 7 Processing Units, 5 Ripening Units, 23 Sorting Grading Units, 196 Onion Low Cost Storage Structure, 5 Cold Room, 3 Integrated Cold Chain Units and Solar Panel Installation on 23 Cold Storages have been established.
- Six Centers of Excellence are working in the state under the Indo-Israel work plan with the aim of providing guidance/training and financial support for the use of technology, with improved utilization of technology to enhance production and quality of horticulture crops and to provide good market value to farmers through postharvest processing and valuation.
- There are four new Centers of Excellence under formation in the state. At these centers farmers, students and all interested citizens are given demonstrations and training on hitech horticulture. In these training, students as well as landless farm labourers are also included with purpose to give necessary insights on self-employment through skill enhancement for the first time in the state.
- Gujarat is one of the leading states having second highest number (969) of cold storages with capacity of 38,22,112 MT; 1577 on farm pack house and 33 integrated pack houses has been created under MIDH scheme.
- The State has a good cooperative marketing structure with 42 fruit & vegetable co-operative marketing societies and 197 Agriculture Produce Market Committees (APMCs) dealing with selling & buying of horticulture produce.

4.1.4.5 Constraints and Gap in Infrastructure

Despite all efforts and support rendered by the State Government and various nodal agencies, the development of the sector is not commensurate with the existing vast potentials. Major issues identified that require immediate attention are as follows:

- The existing extension set up/network needs to be further improved for effective transfer of technology.
- Even though there is considerable area expansion due to programmes like NHM, there are no concerted efforts to increase the productivity of existing orchards. Further, these area expansion programmes do not give adequate attention to backward & forward linkages.
- Integrated Pest Management (IPM) with special emphasis on biological system of control has not gained significance for P & H crops despite its distinct advantages.
- There is a need to sensitize farmers on Good Agricultural Practices (GAP) mainly to meet the export market standards for both open and protected cultivation.
- Even though, private sector investment in post-harvest management & processing is picking up due to the support under various subsidy programmes, it is not to the desired extent.
- There is no price discovery mechanism and market intelligence on supply and price of major horticultural crops.
- Credit flow, especially long term credit, is not commensurate with the potentials.
- Uncertainties and risks of Climate change imposing constraints on production systems.

4.1.4.6 Action Points

The following points are suggested to give a boost to development activities in the sector and facilitate smooth flow of the required credit.

State Government

- Leverage farmers' collectives/organizations (FPOs, co-operatives, etc.) for promoting aggregation at farm level through cheaper and easier credit, and access to common infrastructure and marketing facilities.

- Value chain management approach can be adopted for major horticulture produce of the state like mango, banana, sapota, onion, etc. through encouraging FPO's in the sector. Value Chain Approach will help to access latest technology, one-stop service access, attracting private players' investment in critical infrastructure, minimizing the role of intermediaries, improved margin and better price discovery.
- Area expansion programme for premium fruit crops of the state needs to be promoted with adequate backward and forward linkages. High density planting for mango, guava, pomegranate, etc., if promoted, will ensure enhanced productivity and better returns to the grower. Horticulture Directorate and the State Agriculture Universities may provide the necessary extension services and popularise such package of practices.
- State Government has taken initiatives for establishing Centres of Excellence in collaboration with Israel Government. Anand Agriculture University has established a "State of the Art" certification unit for promoting exports. Individual entrepreneurs have also set up Tissue Culture Units at various places. However, there is a need to take all these initiatives to the 'common' farmer and cultivator in the State to attract them to this sector so as to increase area under horticulture.
- Government may encourage Growers co-operatives/ associations with a view to facilitate transfer of technology, procurement and distribution of inputs, providing market information, processing, branding and marketing of the produce.
- The government may play a catalytic role in popularisation of contract farming of medicinal and aromatic plants and development of standard package of practices for organic cultivation and medicinal plants.
- There is scope to promote nurseries. Government may give thrust for setting up of public and private nurseries.
- NABARD has been implementing 'Wadi' projects for sustainable development of tribal farmers of the State. There is a need for collaboration to replicate the 'good initiatives' elsewhere in the State.

State Agriculture Universities/ Research Institutes

- Develop micro-zones based on micro-climate within broad zones classified on the basis of physio-graphic and agro-climatic conditions and recommend horticulture species, varieties and associated package of practices, etc.
- Develop and recommend varieties especially for exports as also for processing and value addition.
- Develop and suggest integrated production systems especially for marginal farmers with components like livestock, fisheries, etc.
- Develop and promote improved low-cost tools and implements for farm mechanization/storage.
- Step up extension efforts for Transfer of Technology.
- Agriculture Universities may identify Medicinal and Aromatic crops that can be popularized locally through effective extension works.

Banks

- Banks may adopt cluster / area development approach for promotion of Horticulture crops and sensitize / orient the branch level staff on potential available for financing.
- Banks, in consultation with the Horticulture Department may prepare area based schemes/ banking plans and implement project based lending for beneficiaries under Schematic Approach in close coordination with banks.
- The banks can finance the collectives like FPO, SHG, JLG, PACS or individual agriprenures, startups in the creation of agri infrastructure, where the borrowers are eligible for 3% interest subvention and a credit guarantee up to ₹ 2 crore under the scheme 'Agri. Infrastructure Fund' by Govt. of India. Banks may spread awareness about Agriculture Infrastructure Fund (AIF) scheme.
- Various schemes of the Central Government/ State government may be suitably dovetailed into the loan products.

Plantation & Horticulture - District-wise / Activity-wise PLP Projections - 2023-24

Plantation & Horticulture - District-wise / Activity-wise PLP Projections - 2023-24																																	(Rs. Lakh)						
Sr.No.	District	Mango		Sapota		Lime		Ber		Guava		Pomegranate		Papaya		Amla		Coconut		Floriculture		Hi-tech floriculture		MAPs		Patchouli		Nurseries		Grape		Plant Health		Others / Misc. *		Total Plantation & Horticulture			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		
1	Ahmedabad	162	217	90	104	405	529	225	162	135	134	315	680	0	0	135	109	0	0	0	0	0	82	987	0	0	0	71	587	0	0	0	0	421	2709	1959	5231		
2	Amreli	610	489	202	235	660	861	149	87	150	97	0	0	0	0	2400	1836	0	0	1400	476	0	1100	140	0	0	24	60	0	0	0	0	5185	3206	18511	15678			
3	Anand	2100	2660	0	0	5250	6471	225	84	480	294	360	441	0	0	0	0	0	0	0	0	0	0	0	0	0	11	70	0	0	0	0	0	0	0	0	0	0	0
4	Anavali	220	382	24	25	358	415	49	18	35	31	63	73	0	0	145	104	0	0	0	0	45	720	1900	10929	0	0	587	1991	0	0	0	0	30	27	3456	14715		
5	Banskantha	975	781	600	691	330	431	225	101	0	0	3475	7506	0	0	925	749	0	0	1	189	0	0	0	1	189	0	22	198	0	0	0	400	2304	6953	12950			
6	Bharuch	3105	5727	724	791	745	918	0	0	1232	1781	0	0	0	0	0	0	0	0	1485	1262	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7291	10480		
7	Bhavnagar	1700	2280	300	348	450	587	1370	740	270	413	495	1069	0	0	0	0	0	185	213	0	0	0	0	0	0	12	30	0	0	0	150	54	4932	5735				
8	Botad	100	134	130	151	120	157	120	65	170	260	100	216	0	0	0	0	0	0	20	7	0	0	0	0	0	10	25	0	0	0	0	0	0	770	1015			
9	Chotandeupur	1400	1122	0	0	0	0	0	0	173	113	0	0	0	0	0	0	0	0	0	0	0	0	0	0	63	102	11	50	0	0	440	313	2087	1700				
10	Dahod	285	326	0	0	350	431	0	0	120	73	90	110	0	0	225	172	0	0	120	102	0	0	0	0	0	0	0	0	0	0	100	97	1290	1512				
11	Dang	250	219	42	49	0	0	80	82	0	0	0	0	0	0	0	0	0	80	92	70	95	0	0	0	0	75	743	0	0	0	85	73	682	1352				
12	Devbhoomi Dwaraka	40	54	80	93	80	104	0	0	0	0	40	86	0	0	0	0	0	120	138	0	0	0	0	0	0	0	0	0	0	0	40	230	400	706				
13	Gandhinagar	505	677	470	541	565	737	200	108	240	238	240	518	0	0	310	251	0	0	440	396	0	0	0	0	0	16	86	0	0	0	0	0	2986	3554				
14	Gir-Somnath	4360	8515	319	370	338	441	0	0	236	234	198	451	0	0	0	0	0	772	889	818	736	126	6124	499	314	0	117	595	0	0	2995	1330	10778	19910				
15	Jamnagar	300	402	180	209	200	261	0	0	0	0	220	475	0	0	0	0	0	120	138	0	0	0	0	0	0	0	0	0	0	120	691	1140	2177					
16	Junagadh	5908	11538	662	769	464	606	0	0	141	140	312	710	0	0	0	0	0	785	904	407	366	243	11810	483	304	0	369	1594	0	0	13459	8096	23233	36837				
17	Kheda	840	1064	0	0	3450	4252	0	0	570	349	320	392	0	0	0	3275	2505	0	0	0	0	0	0	0	0	0	0	0	0	0	1160	834	9396					
18	Kutch	1135	1970	179	183	775	899	0	0	780	822	5685	11506	935	823	0	0	0	550	563	0	0	0	0	0	0	14	84	0	0	0	2145	11065	12198	27915				
19	Mahisagar	1635	1949	510	525	313	363	120	56	385	339	360	415	0	0	0	173	125	0	0	0	0	0	0	30	23	0	0	0	0	0	3990	800	7516	4593				
20	Mekhsana	200	262	220	250	2700	3445	200	160	300	190	390	380	300	264	300	238	0	0	250	220	48	395	0	0	0	0	0	0	0	470	678	5288	6482					
21	Morbi	100	174	0	0	1150	1334	0	0	180	104	2550	2938	0	0	210	151	0	0	0	0	0	0	0	0	0	0	0	0	0	60	307	4250	5007					
22	Narmada	1502	2770	160	175	55	68	0	0	94	136	62	76	0	0	0	0	0	78	66	0	0	0	0	0	0	0	0	0	0	806	349	2757	3641					
23	Navsari	2230	1806	1050	1219	0	0	125	128	0	0	0	0	0	0	0	0	0	260	300	96	130	0	0	0	0	190	1881	0	0	25	22	3976	5485					
24	Panchmahal	3224	3843	777	802	874	1014	154	71	583	513	144	166	0	0	0	256	184	0	0	0	0	0	153	115	0	0	0	0	0	4470	1160	10635	7868					
25	Patan	50	67	40	46	250	326	130	70	0	0	210	478	0	0	110	89	0	0	0	0	0	0	0	0	0	37	148	0	0	115	547	942	1771					
26	Porbandar	100	225	104	47	53	24	33	12	0	0	0	0	0	0	0	0	0	290	287	0	0	0	0	0	0	35	63	0	0	0	0	0	615	658				
27	Rajkot	0	0	80	95	410	535	55	20	340	220	329	425	0	0	120	95	0	0	0	0	58	90	0	0	0	16	30	0	0	50	290	1458	1800					
28	Sabarkantha	1441	2502	303	312	827	959	176	63	249	219	133	153	1660	9548	275	198	0	0	0	0	250	7500	0	0	0	319	1082	0	0	822	750	6455	23286					
29	Surat	1095	1224	775	523	0	0	0	0	0	0	0	0	0	0	0	0	0	565	542	715	536	0	0	67	75	167	207	90	0	345	2234	3819	7029					
30	Surendranagar	295	512	220	225	1650	1914	0	0	600	346	1120	1290	0	0	265	191	0	0	0	0	0	0	0	0	0	0	0	0	0	340	578	4490	5056					
31	Tapi	4733	5289	234	225	0	0	0	0	0	0	0	0	0	0	0	0	0	59	58	195	146	71	533	80	90	72	194	72	378	0	0	0	5516	6912				
32	Vadodra	2675	2143	470	544	1015	1325	0	0	620	403	0	0	0	0	425	344	0	0	0	0	0	0	0	0	165	267	30	135	0	0	38	39	5138	5200				
33	Valsad	3235	2703	350	384	0	0	0	0	100	61	0	0	0	0	0	0	0	220	239	70	60	0	0	0	0	30	383	0	0	0	270	228	4275	4057				
	District total	46510	64226	9295	9931	23837	29408	3636	2028	8183	7508	17121	30555	2895	10635	9549	7342	4186	4372	6164	4598	924	28346	4312	11091	467	770	2158	11811	0	0	38531	39011	17768	262732				

4.1.5 Forestry and Wasteland Development

4.1.5.1 Introduction

Gujarat has a total Forest cover of 14.93 lakh ha and Tree cover of 5.49 lakh ha which is about 10.40% of the total geographical area as per latest India State of Forest Report 2021 (SFR 2021). State has wide variations in Geophysical and Eco-climatic conditions ranging from hot saline deserts to humid hilly tracts and from coast to high hills, which has resulted in to formation of various types of forest. As per National Forest Policy 1988, one third of the geographical area should be maintained as forest and tree cover. The SFR 2021 states that as compared to previous SFR 2017, there is an increase of about 6854 ha in forest cover whereas in terms of tree cover it has decreased by 142300 ha. The forest is of dry deciduous type having very low productivity. The State of Gujarat had adopted Social Forestry model in 1969-70 and Social forestry divisions were established for the first time in the country.

The main source of timber in the state is Teak, Babul, Ardusa, Gorasamli, Eucalyptus, Shisham, Sadad, Kalam, Neem and Khair. The major trees which have changed the Gujarat landscape are Ganda baval, Nilgiri, Sharu, Israel Baval, and Bengali Baval. Due to deforestation and encroachments on forest land, degradation of forests is taking place. There are also occurrences of forest fires and collection of fuel wood for consumption contributing to degradation of forests. Forestry includes farm forestry, social forestry, agroforestry and bamboo plantation. Afforestation of wastelands by planting trees would lead to achievement of desired forest and tree cover. Felling of exotic tree species like Eucalyptus, Casuarina, Acacia auriculiformis, etc., are not covered under a law and there is no restriction on felling of these species. Five species –Teak, Chandan, Shisham, Mahua and Khair are reserved trees under the Saurashtra Tree Felling Act, and felling as well as transport of timber and firewood of these species need permission.

4.1.5.2 Schemes of Government of Gujarat

- i. **Strip Plantation:** Under this scheme, 1.03 lakh ha area has been afforested till date. In such plantations, the fodder grass which comes up in the plot is collected free of cost by the local stakeholders. When the trees are mature, the trees are auctioned and 50% of the net profit (after deducting the plantation expenditure) is deposited in the account of Taluka panchayat for utilization in developmental works of the respective taluka.
- ii. **Gram van:** The scheme envisages creation of Gramvan through panchayat resolution on 4 ha of gaucher, which is usually done by the Forest Department having multiple benefits such as creation of source of income to the panchayat, supply of wood resource to local population at their door step, prevention of encroachments, soil and moisture conservation, etc. 75% of the net income from sale of trees is handed over to the Village Panchayat for use in developmental activities & the remaining 25% amount is utilized for re-plantation activities in the village.
- iii. **Rehabilitation of Degraded Farm Land (RDFL):** Private farmlands, especially those with medium to low productivity are selected for tree plantation in block or on the bunds up to 1ha per beneficiary who is usually a small or marginal farmer, or belonging to the scheduled Caste/ Scheduled Tribe category. The Department undertakes plantation at its cost & the post plantation care is the responsibility of the beneficiary. For first three years, at the end of each year, survival link compensation is paid. This scheme, which has not only resulted in better efficiency of land use, but has benefited the farmers.
- iv. **Environmental Plantation:** Under this model, tree plantation is undertaken in schools, colleges, Government premises, institutions of public importance, places of tourist and religious importance, etc. In addition to improving the aesthetic beauty of the place, these plantations also make the micro climate of the place more amicable.

- v. **Drip Irrigation:** Under this model, tree plantation is undertaken gradually slopy areas of barren hillocks in order to cover these hills by vegetation with trees using the technology of Drip Irrigation.
- vi. **Decentralized School / Kisan nursery:** Under this scheme, plants are raised in the nurseries by small and marginal farmers, BPL card holder families, landless labourers, and schools. Once the nursery is allotted to the stakeholder, financial support is provided by the Forest Department in various installments, as per Government guidelines. This scheme is a part of the *vanmahotsav* scheme of the Department

4.1.5.3 Infrastructure and linkage support available

The State Forest Department is implementing various afforestation programmes like Joint Forest Management and Social Forestry. Gujarat State Forest Development Corporation is appointed as the sole agent of Government to purchase, sell and transport Non-Timber Forest Produce in Gujarat. It is engaged in collection, processing and marketing of Non timber Forest Produce.

Climate change

Forest ecosystems will be impacted by climate change. Afforestation on wastelands will help in mitigating adverse effects of climate change. Afforestation projects need to be implemented by government/NGOs/PRIs through support from Green Climate Fund/Adaptation Fund/National Adaptation Fund for Climate Change. NABARD has already taken various initiatives in addressing the challenges posed by Climate Change particularly in the areas of agriculture and rural livelihood sectors. NABARD is the National Implementing Entity for the Adaptation Fund (AF), Green Climate Fund (GCF), and National Adaptation Fund for Climate Change (NAFCC). In this capacity NABARD aims to channelize national, international and private finances for adaptation and mitigation activities in India.

4.1.5.4 Credit Potential Assessment for 2023-24

The credit potential assessed for the year 2022-23 under Forestry and Waste land Development is estimated for **₹167.96 crore**. Major portion is assessed under farm forestry and wasteland development followed by allocation to bamboo plantation. Amreli continues to be the major district where there is a greater potential under forestry.

4.1.5.5 Action points

- Credit linked subsidy needs to be provided as incentive to involve farmers/ Corporates/NGOs and other interested entities who would be encouraged to go in for cultivation of forestry species.
- Decentralized nurseries are the solution for addressing the problem of lack of timely availability of quality planting material. Training programmes need to be conducted on a large scale possibly through SHGs/JLGs.
- Group approach has to be adopted and popularized for providing training to small and marginal farmers to take up planting of forestry species through suitable systems like agroforestry, farm forestry, silvipasture, silvihorticulture, etc.
- Integrated farming system and short rotation forestry for livelihood enhancement, soil conservation and water conservation needs to be made thrust areas in all programmes of Natural Resource management.
- Training and extension services to the local tribal women for collection of non-wood forest produce, promotion of viable collection practices and value addition to non-wood forest produce needs to be encouraged.
- Energy plantations need to be promoted since there is a demand for fuelwood which is the raw material for biomass based power plants. Linkage of energy plantations to small megawatt power plants in rural areas needs to be explored to establish viable business models. Buyback arrangements with farmers raising energy plantations would provide assured income to farmers.

Forestry/Wasteland Development - District-wise / Activity-wise PLP Projections - 2023-24															(Rs. Lakh)	
Sr.No.	District	Farm / Social Forestry		Teak Cultivation		Jatropha cultivation		Bamboo Plantation		Waste Land Dev.		Others / Misc.*		Total Forestry & Wasteland Dev.		
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	
1	Ahmedabad	225	57	0	0	180	109	0	0	810	689	0	0	1215	855	
2	Amreli	0	0	0	0	0	0	1965	1904	2141	346	1550	593	5656	2843	
3	Anand	650	332	0	0	0	0	0	0	380	129	750	128	1780	588	
4	Aravali	339	144	0	0	53	32	0	0	85	9	0	0	477	185	
5	Banaskantha	440	224	0	0	480	306	0	0	1400	595	0	0	2320	1125	
6	Bharuch	0	0	398	452	0	0	2150	780	0	0	1513	386	4061	1618	
7	Bhavnagar	0	0	10	11	15	9	120	44	0	0	0	0	145	64	
8	Botad	0	0	31	35	12	7	22	8	0	0	0	0	65	51	
9	Chotaudepur	160	68	105	119	0	0	50	18	0	0	0	0	315	205	
10	Dahod	0	0	94	107	45	27	165	60	0	0	0	0	304	194	
11	Dang	205	122	0	0	0	0	155	55	160	82	66	78	586	337	
12	Devbhoomi Dwarka	160	91	0	0	0	0	0	0	0	0	0	0	160	91	
13	Gandhinagar	0	0	0	0	255	154	275	101	0	0	0	0	530	254	
14	Gir Somnath	71	241	103	117	0	0	0	0	1363	498	0	0	1537	857	
15	Jamnagar	102	58	0	0	0	0	0	0	0	0	0	0	102	58	
16	Junagadh	0	0	255	290	0	0	0	0	2069	756	118	401	2442	1448	
17	Kheda	510	260	0	0	0	0	0	0	430	146	400	68	1340	474	
18	Kutch	87	44	10	18	69	42	81	34	0	0	0	0	247	139	
19	Mahisagar	138	66	190	216	202	122	145	53	134	68	0	0	809	524	
20	Mehsana	0	0	250	151	250	91	0	0	0	0	10	18	510	260	
21	Morbi	0	0	0	0	0	0	0	0	0	0	500	721	500	721	
22	Narmada	0	0	175	199	0	0	487	177	0	0	273	23	935	399	
23	Navsari	105	62	0	0	0	0	25	9	75	38	180	217	385	327	
24	Panchmahal	192	91	77	88	616	372	533	193	234	119	0	0	1652	864	
25	Patan	0	0	0	0	0	0	0	0	0	0	75	19	75	19	
26	Porbandar	21	12	0	0	0	0	0	0	31	17	0	0	52	29	
27	Rajkot	7	4	0	0	0	0	0	0	13	7	0	0	20	11	
28	Sabarkantha	416	141	0	0	0	0	172	585	0	0	152	92	740	818	
29	Surat	129	110	107	122	0	0	120	44	0	0	0	0	356	275	
30	Surendranagar	105	357	0	0	0	0	0	0	0	0	275	166	380	523	
31	Tapi	127	49	79	91	0	0	0	0	237	202	0	0	443	341	
32	Vadodara	230	100	40	45	0	0	40	15	0	0	0	0	310	160	
33	Valsad	0	0	78	84	0	0	77	26	0	0	39	28	194	138	
	Total	4419	2634	2002	2146	2177	1270	6582	4107	9562	3701	5901	2939	30643	16796	

4.1.6 Animal Husbandry –Dairy, Poultry, Sheep, Goat, Piggery etc.

4.1.6.1 Introduction

Livestock sector is an important sub-sector of the agriculture in Indian economy. Gujarat State has a remarkable position in the country as far as livestock health, wealth and development are concerned. The Animal Husbandry Sector plays an important and vital role in Gross State Domestic Product (GSDP) of Gujarat State and contributes about 5.08 % share to it.

As per the 20th Livestock Census, total livestock population of Gujarat State stands at 26.9 Million. Gujarat is having high yielding indigenous breeds of cattle and buffaloes including Gir and Kankrej breed of Cattle and Mahesani, Jafarabadi and Banni breeds of buffaloes. Dairy Co-operative sector is well established & equipped in the State, which is being taken as a model for other States. The production of major livestock products like milk, egg, wool production has been increasing in the last decade. However, climate change and emerging zoonotic disease pose a major challenge to the sustained growth of the sector.

To meet the working capital requirements for rearing of animals, birds etc., Union Government in the Budget 2018-19, had announced its decision to extend the facilities of Kisan Credit Card (KCC) to Animal Husbandry farmers.

1. Livestock population

According to the 20th Livestock Census Data, Gujarat ranks 10th in terms of total livestock population in the country. In overall terms, total livestock population reduced from 27.1 Million in 2012 (as per 19th Livestock census) to 26.9 Million in 2019 (as per 20th Livestock census). In terms of buffaloes, Gujarat with total population of 10.54 million stands 3rd in the country. However, there is scope for improvement under remaining categories of livestock population. Poultry population has registered good growth from 150.05 lakh to 217.73 lakh between the two census referred above. The details of the livestock population of All India as well as Gujarat as per 20th Livestock Census Survey Data are given in the Table 4.8 below.

Table 4.8 Livestock population of All India as well as Gujarat as per 20th Livestock Census Survey Data

S.no.	Livestock category	Gujarat	India	% share of livestock population of Gujarat to India
1	Cattle	96,33,637	19,34,62,871	4.98
2	Buffalo	1,05,43,250	10,98,51,678	9.60
3	Sheep	17,87,263	7,42,60,615	2.41
4	Goat	48,67,744	14,88,84,786	3.27
5	Pigs	658	90,55,488	0.01
6	Horse + Ponies	21,811	3,42,226	6.37
7	Mules	05	84,261	0.01
8	Donkeys	11,286	1,23,587	9.13
9	Camel	27,620	2,51,956	10.96
10	Total (1 to 9)	2,68,93,274	53,67,61,343	5.01
11	Poultry	2,17,73,392	85,18,09,931	2.56

2. Livestock production:

As per the estimates of the Integrated Sample Survey (ISS) of major livestock products, the production of milk has increased to 152.92 lakh tonnes in 2019-20 from 144.92 lakh tonnes in 2018-19. The estimated production of milk, eggs and wool of last three years is presented in table 4.9 below

Table 4.9: Production of Milk, Eggs and Wool

Item	Unit	Year		
		2018-19	2019-20	2020-21 (P)
Milk	Lakh Tonnes	144.92	152.92	158.53
Eggs	Lakhs Nos	18544	19274	17863
Wool	Lakh Kgs	22.71	22.33	20.04
(p) Provisional				

(Source: Bulletin Of Animal Husbandry and Dairying Statistics 2020-21, Directorate of animal Husbandry, Government of Gujarat)

Table 4.10: Per capita Availability of Livestock Products in Gujarat

Item	Unit	Year		
		2018-19	2019-20	2020-21 (P)
Milk	gms/day	595	617	(633)
Eggs	Nos./year	28	28	26
Wool	gms/year	34	33	29
(p) Provisional				

(Source: Bulletin Of Animal Husbandry and Dairying Statistics 2020-21, Directorate of animal Husbandry, Government of Gujarat)

Milk is the pivotal product of livestock, which contributes about 68 % of value of output from livestock sector of the total livestock product. Gujarat state contributes about 7.55% of milk production and also enjoys fourth rank among the all state and union territory of the country in the year 2019-20.

Gujarat is having good breed of sheep such as Patanvadi, Marvadi, as well as non-descript breeds, which are sheared at an interval of four or six months as per native practices. As per Bulletin of Animal Husbandry & Dairying Statistics 2020-21, the overall average annual yield of wool is estimated as 1390 gms per sheep during the year 2019-20. From the table 4.9, it can be inferred that there is decrease in wool production during 2018-19 to 2020-21. The wool produced was mostly carpet grade wool and almost 100% of the wool produced goes to other states like Haryana, Punjab and Rajasthan for processing.

Total egg production in Gujarat State during 2020-21 (P) is estimated at 17863 lakh eggs, showing a decrease from the previous year's production of 19274 lakh eggs. Of the total egg production, 22% is from desi birds and 78 % is from improved layers. The estimate of broiler reared in the year 2019-20 is 234.58 lakh compared to the previous year's 234.72 lakh, showing an increase of 0.06%.

Overall total meat production (including Livestock Meat & Poultry Meat) during 2018-19 works out at 33,468.65 metric tonnes, excluding the production at unregistered slaughter houses, showing an increase of 0.42% over the previous year's estimation of 33,329.27 metric tonnes.

4.1.6.2 Infrastructure of AH sector Status of infrastructure

Critical infrastructure items supporting the sector are listed here under:

A. Cattle and Buffalo development

- **Veterinary Infrastructure:** In Gujarat State at present, there is 01 Kamdhenu University ((a) Dairy Science - Amreli (b) Polytechnic in Animal Husbandry-Himmatnagar), 04- Colleges of Veterinary Science and Animal Husbandry, 33 Veterinary Polyclinics, one high tech veterinary polyclinic, 747 Veterinary Dispensaries (including 675 Veterinary Dispensaries, 27 Branch V.D and 45 Mobile Dispensaries), 552 First Aid Veterinary Centres, 460 Mobile Veterinary Dispensaries (per 10 villages), 2 Epidemiological Units, 18 Animal Disease

Diagnostic Units and 1 Animal Vaccine Institute at Gandhinagar. (Source: Bulletin Of Animal Husbandry And Dairying Statistics 2020-21, Directorate of animal Husbandry, Government Of Gujarat)

- There are 26 blocks of Intensive Cattle Development Projects (ICDP) functioning in the State, whose basic objective is to improve the breed of cattle and buffaloes for improving milk production. These are further divided into 1156 centers under this project. The main activities carried out under this project are Artificial Insemination (A.I.), Castration, Sexual Health Control Services, cattle camps for providing health services, fodder development and other activities.
- Gujarat Livestock Development Board, Gandhinagar is primarily an institute related to the breeding of bovines i.e. cattle and buffalo. It is the State Implementing Agency (SIA) for the implementation of National Project for Bovine Breeding. Artificial Insemination centers are being established by GLDB in the remote and hinterland areas of the state having least or absence of the breeding infrastructure. Various activities are being carried out by the Gujarat Livestock Development Board (GLDB) which are as Stated below:
 - 04 cattle breeding farms & 01 Buffalo Breeding Farm: Cattle Breeding Farms at Bhuj (Kankrej cattle and Banni buffalo), Bhutvad (Gir cattle), Thara (Kankrej cattle), Mandavi – Tapi (Kankrej cattle and Mehsani buffalo) are working for the conservation and propagation of local breeds of the state.
 - State Frozen Semen Production and Training Institute – Patan
 - Semen Production and LN₂ Distribution: Five semen banks have been established at Mehsana, Himmatnagar, Vadodara, Haripura – Surat and Rajkot for the distribution of Semen doses.
- The Milk unions in Gujarat are also maintaining veterinary services through a strong technical force of veterinary doctors.
- The State Government Farms make continuous efforts for improvement of indigenous breeds. Bulls of superior genetic potentials are raised at these farms for breeding. The bulls so reared are supplied to the state semen centers for A.I. activities and also to the Jilla Panchayats, Gaushalas and private breeders at nominal cost of ₹1500 for natural services.
- **Milk Processing Infrastructure:** Dairy industry is well established in Gujarat State and it is a model for other states in the country. In Gujarat, there are 22 Dairy processing units at 18 district level, 124 Chilling centers and 18565 Milk Co-operative Societies at village centres are functioning. These Co-operative Dairy Unions have total 277.50 lakh litre per day (LLPD) milk processing capacity and they produced 225.29 lakh kg per day (LKPD) milk in the year 2020-21.
- **Fodder production:** To cater to the needs of fodder production there is one Regional Station for Forage Production and Forage Research Station (Under State Agriculture University)

B. Poultry

Poultry farming plays an important role in improving socio-economic status of the farmers and providing nutritious food to the people. There are 2 Regional Poultry Breeding Farms, 3 District Poultry breeding Farms, 4 Poultry Demonstration Centers, 05 Chick Rearing Centers and 18 District Poultry Extension Farms working in the State for promoting poultry farming. 11 blocks are covered under Intensive Poultry Development Programme, having 64 service centres.

C. Sheep, Goat and Piggery

- In sheep Patanwadi, Marwadi and Duma are the most reared breeds in the State. Kachchhi, Mehsani, Surati, Zhalawadi and Gohilwadi breeds are the common goat breeds in the state.

- There are four sheep and five goat breeding farms established by Department of Animal Husbandry and Gujarat Sheep and Wool Development Corporation.
- For supply of rams of superior quality, 05 Ram Depots have been established by Department of Animal Husbandry.
- Under Intensive Sheep Development Programme, there are five blocks with total 86 service centres. There are six blocks covered under District Sheep and Wool Extension Programme with 91 service centers (which includes 45 large scale sheep breeding farms) for providing various technical and extension service to goat and sheep farmers.
- To cater to the needs of migrating animals two sheep centers for migrating flocks has been established.

D. Other livestock

For promoting other livestock species, the following breeding farms are established by the State department of Animal Husbandry:

- Horse Breeding Farm, Gir Somnath
- Horse Breeding Farm, Patan
- Donkey Breeding Farm, Patan
- Camel Breeding Farm, Kutch

4.1.6.3 Gaps in basic infrastructure

- a. From the breeding infrastructure available and total breedable population to be covered, it is very clear that there is a need to strengthen breeding infrastructure in the State.
- b. As per the estimates of 36th Livestock survey in the year 2018-19 estimated milk yield per day per in-milk animal of various category viz. crossbred cow, indigenous cow, Non-Descript Cow, Indigenous Buffalo, Non-Descript Buffalo and goat of the Gujarat state are 9.37 kgs, 4.71 kgs, 3.93 kgs., 5.47 kgs, 4.56 kgs. and 0.49 kgs. respectively. Whereas milk yield per day of India is 8.09 kgs., 3.90 kgs. 2.57 kgs. 6.43 kgs. 4.51 kgs. and 0.44 kgs. respectively, this shows high productivity as compared to national average (Except indigenous Buffalo). But when compared to international standards the productivity is low, indicating that there is ample scope to increase the productivity in animal of all category indicated above.
- c. Feed and fodder account for more than 70% cost of milk production and green fodder has very important and inevitable role in Milk production. Fodder scarcity is one of the important aspects which requires long term planning for holistically addressing the problem.
- d. With emergence of newer strain of existing endemic diseases, for example recent outbreak of spread of Lumpy Skin Diseases and newer Zoonotic diseases, there is need to develop critical infrastructure for disease diagnosis and control the spread of diseases. There is need to increase awareness among various stakeholders about emerging zoonotic diseases.
- e. Egg production, for the year 2019-20 was 19274 lakhs, which decreased to 17863 lakhs in 2020-21 (P). This needs focused attention from state government and poultry sector stakeholders to improve the sector.
- f. Meat production for the year 2018-19 was 33.33 MT which increased slightly to 33.46 during 2019-20. As observed from the table below, there is overall decline in no. of animals slaughtered for meat purpose except for Pig & Buffalo (Data on animals slaughtered is from Registered slaughter housed only)

No. of animals slaughtered during 2018-19 and 2019-20 for meat production are given in table 4.11

Table 4.11 No. of animals slaughtered for meat production

Sr.no.	Name of Livestock	No. in “000	
		2018-19	2019-20
1	Buffalo	9.43	11.73
2	Sheep	39.73	30.12
3	Goat	70.05	56.98
4	Pig	5.35	5.59
5	Poultry	29863.02	23457.87

4.1.6.4 Credit Potential for the Sector

The potential for 2022-23 under the three sectors of Animal Husbandry viz. Dairy Development, Poultry Development and Sheep, Goat & Piggery Development is assessed at **₹5,323.57 crore**, **₹313.73 crore** and **₹101.44 crore** respectively.

4.1.6.5 Future Strategy and suggested Action Points

Livestock sector is important for sustainable growth of agriculture sector and in turn for the overall economy. The sector is key for stability and increasing farm income.

Deficiency of feed and fodder followed by inadequate breeding and reproduction, and increasing diseases among animals have emerged as major challenges among livestock farmers

The following suggestions are made to ensure supply of nutritious food to all while putting the livestock development on the growth trajectory.

- **Genetic Improvement:** One of the ways to increase the genetic potential of our livestock is suitable breeding policy and time bound action plan for covering all the breedable animals with AI services by bridging the gap in AI centres. Banks may also plan for extending financial assistance to trained entrepreneurs for establishment of these units. Use of sex sorted semen and embryo transfer technology may be attempted for faster genetic improvement.
- **Climate change adaptation:** Alongside genetic improvement of breeds for production, needs to develop breeds which are climate resilient.
- **Fodder production and management:** Deficit feed and fodder situation need planned interventions on various fronts like proper utilization of rain/river water, development of community gauchar lands either with high yielding fodder varieties or with silvi pastoral systems, silage making units in scarcity blocks etc.
- Renewed research for mapping nutritional profile of local feed resources and their utilization for bridging the gap in overall feed resources has to be given utmost importance. Fodder densification schemes may be promoted for efficient and economic utilization of storage space especially in urban areas.
- **Dairy Infrastructure:** The State has good milk processing infrastructure for handling the marketable surplus of milk produced. However, modernization of milk procurement mechanism / storage has to be planned, covering all the village dairy cooperative societies for quality and clean milk production and its handling during procurement.
- **Disease diagnosis and surveillance:** Recent spread of Lumpy skin disease indicates the need for continuous surveillance and prompt action. The epidemiology units at State level are required to be strengthened with necessary infrastructure facilities for diagnostic, surveillance and control of emerging pathogenic and zoonotic diseases.
- **Credit Support:** Union Government in the Budget 2018-19, has announced to extend the facility of working capital to Animal Husbandry farmers under Kisan Credit Card (KCC), the same may be promoted among farmers and owners of livestock for increasing financing under

AH sector. Also, financing of dairy sector by various ground level banking institutions are confined largely to milch animal units only. Various nodes of dairy sector comprising of fodder production, calf rearing, AI services, veterinary aid, mechanized milking, modern milk procurement, cold chain with a focus on bulk milk cooling at village level, milk processing, traditional milk product manufacturing and retail market infrastructure should be considered by banks for giving due impetus for establishing vibrant dairy industry with export orientation

- **Rehabilitation of old/stray animals:** Stray cattle pose danger of road accidents and also hinder traffic movement in cities. Establishment of Gaushalas at appropriate locations, increasing use of sex-sorted semen and effective management by respective urban local bodies are key to solve the problem. With increase awareness about cow dung as manure, utilisation of animal produce such as Vermi-compost unit for Cow Dung etc can be planned.
- **Backyard poultry:** The focus of the GoI is promotion of improved desi poultry while ensuring biosecure environment. Such an approach also provides opportunity for small farmers, especially weaker sections, to derive benefit out of poultry production and promotes inclusive growth. In Gujarat, 22% poultry eggs come from desi eggs, so Department of Animal Husbandry/ Banks may promote establishment of backyard poultry farms with low input technology birds in the light of incentives available under GoI scheme.
- **Livestock Insurance:** To safe guard assured protection to the animals of the farmer against eventual losses, cattle insurance scheme needs to be popularized among farmers along with reasonable cost of the same. Similarly, in poultry sector, the issue of high premium should also be looked into for development of this sector.
- **Modern livestock markets:** Availability of good quality animals at fair prices has become difficult in the absence of an organized cattle-marketing infrastructure. Establishment of specialized cattle markets by APMCs may be considered by availing subsidy under Agriculture Marketing Infrastructure Scheme. Cattle Fair had played an important role in providing a platform for livestock farmers to sell and purchase their animals. Hence, State Government must promote and make arrangement for organizing cattle fair at various location across.

Animal Husbandry - Dairy Developmemnt - District-wise / Activity-wise PLP Projections - 2023-24																	(Rs. Lakh)
Sr.No.	District	C B Cows (2 animals)		Indigenous Cows		Buffaloes		Fodder		Milk Cooler / Houses		Cattle shed		Others / Misc.*		Total Dairy Development	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	5000	5400	3600	3888	6300	7371	0	0	23	489	430	366	125	17	15478	17530
2	Anreli	0	0	2470	1334	2780	1751	295	2420	39	878	968	523	266	2873	6818	9778
3	Anand	13900	13344	0	0	7600	8512	0	0	0	0	0	0	5700	1140	27200	22996
4	Aravali	6950	6672	6650	6384	6750	7020	3060	490	85	34	3256	4428	169	452	26920	25480
5	Banaskantha	14000	7560	6000	3240	13000	8775	0	0	400	7500	5600	10080	2070	15975	41070	53130
6	Bharuch	4945	4050	5085	5492	3945	3195	0	0	40	41	0	0	10454	2308	24469	15086
7	Bhavnagar	4000	4320	0	0	2250	2835	0	0	175	788	450	405	90	972	6965	9320
8	Botad	2000	2160	0	0	2600	3276	0	0	0	0	125	113	40	432	4765	5981
9	Chotaudepur	1500	1620	2050	1107	1200	756	0	0	0	0	600	1080	438	197	5788	4760
10	Dahod	2300	1173	2400	1224	3600	1989	0	0	0	0	0	0	0	0	8300	4386
11	Dang	690	745	0	0	600	432	0	0	15	52	0	0	125	90	1430	1319
12	DevBhoomi Dwarka	200	216	200	216	200	162	0	0	80	1440	800	1080	20	175	1500	3289
13	Gandhinagar	3850	3153	1980	891	6600	5346	0	0	79	356	280	50	44	906	12833	10703
14	Gir-Somnath	810	365	1381	621	1477	775	0	0	0	0	1381	518	0	0	5049	2279
15	Jamnagar	300	324	1200	1296	300	243	0	0	30	540	300	405	40	349	2170	3157
16	Junagadh	2704	1217	2674	1203	2896	1520	0	0	0	0	2732	1025	0	0	11006	4965
17	Kheda	8250	7920	0	0	7850	8792	0	0	0	0	0	0	4050	810	20150	17522
18	Kutch	2270	2179	11105	10661	6900	7728	0	0	0	0	259	1347	35	700	20569	22615
19	Mahisagar	1795	1723	4200	4032	2260	2531	0	0	0	0	690	762	0	0	8945	9048
20	Mehsana	12760	12250	6500	6240	19500	20280	0	0	25	400	1000	960	0	0	39785	40130
21	Morbi	2300	1674	3700	3552	4800	4992	0	0	0	0	0	0	0	0	10800	10218
22	Narmada	920	753	913	986	743	602	1511	272	0	0	0	0	0	0	4087	2613
23	Navsari	3150	3402	0	0	3270	2354	1820	1310	0	0	0	0	0	0	8240	7067
24	Panchmahal	4811	4619	4971	4772	4901	5489	0	0	0	0	1332	1471	0	0	16015	16350
25	Patan	1515	661	7800	3456	7150	4338	0	0	105	1890	2500	2250	390	4100	19460	16695
26	Porbandar	45	37	1410	1523	2310	2911	0	0	0	0	200	450	2440	1033	6405	5953
27	Rajkot	1365	1475	13395	14465	7700	9700	0	0	0	0	1444	3250	440	120	24344	29010
28	Sabarkantha	26418	19232	15216	14607	18760	19510	6092	975	88	211	29383	39961	510	564	96467	95061
29	Surat	4040	2182	7180	3877	6740	4246	0	0	113	2079	4060	5526	2310	748	24443	18659
30	Surendranagar	4400	3203	9000	8640	9500	9880	0	0	0	0	0	0	0	0	22900	21723
31	Tapi	3533	1908	3332	1799	2684	1691	0	0	64	1178	997	1411	1233	399	11843	8386
32	Vadodara	5400	5832	1130	610	3100	1953	0	0	0	0	1090	1962	1095	493	11815	10850
33	Valsad	2600	2652	2450	2499	1360	1040	180	107	0	0	0	0	0	0	6590	6299
	Total	148721	124021	127992	108616	171626	161998	12958	5574	1361	17874	59877	79421	32084	34854	554619	532357

Animal Husbandry - Poultry Development - District-wise / Activity-wise PLP Projections - 2023-24															
(Rs. Lakh)															
Sr.No.	District	Comm Layers		Comm Broilers		Hatchery		Layer Unit		Broiler Unit		Others / Misc.*		Total Poultry Development	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	0	0	0	0	0	0	400	162	180	175	0	0	580	337
2	Amreli	0	0	0	0	0	0	42	151	87	352	0	0	129	504
3	Anand	160	896	425	1530	10	200	0	0	0	0	0	0	595	2626
4	Aravali	0	0	548	2017	0	0	536	686	0	0	0	0	1084	2703
5	Banaskantha	0	0	80	65	0	0	120	81	0	0	0	0	200	146
6	Bharuch	1481	1047	1082	1577	0	0	0	0	0	0	0	0	2563	2624
7	Bhavnagar	0	0	0	0	0	0	500	450	280	340	0	0	780	790
8	Botad	0	0	0	0	0	0	26	23	26	32	0	0	52	55
9	Chotaudepur	62	125	54	175	0	0	0	0	0	0	0	0	116	300
10	Dahod	125	143	130	149	0	0	0	0	0	0	0	0	255	293
11	Dang	0	0	110	119	0	0	0	0	0	0	110	74	220	193
12	Devbhoomi Dwarka	60	77	48	86	0	0	0	0	0	0	0	0	108	163
13	Gandhinagar	100	473	85	345	0	0	0	0	0	0	0	0	185	817
14	Gir Somnath	0	0	0	0	0	0	456	394	456	554	0	0	912	948
15	Jamnagar	210	269	0	0	0	0	0	0	240	432	0	0	450	701
16	Junagadh	0	0	0	0	0	0	671	580	856	1040	0	0	1527	1620
17	Kheda	200	1120	360	1296	4	80	0	0	0	0	0	0	564	2496
18	Kutch	0	0	0	0	0	0	10	14	57	115	0	0	67	130
19	Mahisagar	240	261	498	143	0	0	0	0	0	0	0	0	738	404
20	Mehsana	500	1800	500	1800	0	0	0	0	0	0	0	0	1000	3600
21	Morbi	0	0	0	0	0	0	125	360	125	450	0	0	250	810
22	Narmada	232	594	46	166	0	0	0	0	0	0	0	0	278	760
23	Navsari	32	35	34	55	0	0	0	0	0	0	0	0	66	90
24	Panchmahal	0	0	428	123	0	0	115	125	0	0	0	0	543	248
25	Patan	0	0	6	38	0	0	0	0	0	0	350	126	356	164
26	Porbandar	65	26	40	16	0	0	0	0	0	0	9	1	114	44
27	Rajkot	27	25	11	5	0	0	0	0	0	0	0	0	38	30
28	Sabarkantha	0	0	2070	1788	0	0	637	612	0	0	0	0	2707	2400
29	Surat	555	212	0	0	17	1488	116	138	0	0	0	0	688	1838
30	Surendranagar	0	0	0	0	0	0	375	120	230	83	0	0	605	203
31	Tapi	0	0	0	0	18	1913	256	259	0	0	440	168	714	2339
32	Vadodara	145	295	125	405	0	0	0	0	0	0	0	0	270	700
33	Valsad	90	122	46	176	0	0	0	0	0	0	0	0	136	298
	Total	4284	7520	6726	12075	49	3680	4385	4155	2537	3573	909	370	18890	31373

Animal Husbandry - Sheep Goat & Piggery Development - District-wise / Activity-wise PLP Projections - 2023-24

(Rs. Lakh)											
Sr.No.	District	Sheep Rearing		Rabbit rearing		Goat Rearing		Others*		Total Sheep / Goat/ Piggery Dev.	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	45	30	0	0	225	91	0	0	270	122
2	Amreli	425	287	0	0	520	211	0	0	945	497
3	Anand	21	13	0	0	24	9	0	0	45	21
4	Aravali	171	102	0	0	253	91	0	0	424	193
5	Banaskantha	290	141	0	0	260	111	0	0	550	252
6	Bharuch	1162	784	0	0	1594	646	0	0	2756	1430
7	Bhavnagar	170	115	0	0	170	69	0	0	340	184
8	Botad	65	44	0	0	85	34	0	0	150	78
9	Chotaudepur	16	12	0	0	265	108	0	0	281	120
10	Dahod	90	57	0	0	1210	463	0	0	1300	520
11	Dang	0	0	0	0	39	26	0	0	39	26
12	Devbhoomi Dwarka	14	9	0	0	31	14	0	0	45	23
13	Gandhinagar	81	55	0	0	475	192	0	0	556	247
14	Gir Somnath	160	90	0	0	250	84	0	0	410	174
15	Jamnagar	14	9	0	0	35	16	0	0	49	25
16	Junagadh	534	300	0	0	468	158	0	0	1002	458
17	Kheda	90	50	0	0	226	81	0	0	316	132
18	Kutch	590	398	0	0	1760	792	0	0	2350	1190
19	Mahisagar	90	54	0	0	1080	389	0	0	1170	443
20	Mehsana	200	120	0	0	200	72	0	0	400	192
21	Morbi	185	111	0	0	250	90	0	0	435	201
22	Narmada	203	137	0	0	264	107	0	0	467	244
23	Navsari	54	35	0	0	47	31	0	0	101	66
24	Panchmahal	169	101	0	0	2027	730	0	0	2196	831
25	Patan	55	33	0	0	105	38	0	0	160	71
26	Porbandar	38	26	0	0	40	16	180	135	258	177
27	Rajkot	22	15	0	0	25	10	0	0	47	25
28	Sabarkantha	1067	800	0	0	1000	450	0	0	2067	1250
29	Surat	175	126	0	0	495	223	0	0	670	348
30	Surendranagar	180	108	0	0	180	65	0	0	360	173
31	Tapi	259	184	0	0	277	125	0	0	536	309
32	Vadodara	31	20	0	0	200	80	0	0	231	100
33	Valsad	3	2	0	0	50	19	0	0	53	21
	District total	6669	4371	0	0	14130	5639	180	135	20979	10144

4.1.7 Fisheries

4.1.7.1 Introduction

Gujarat leads among the 14 maritime states of the country. Fisheries in Gujarat is featured by both Marine and Inland fishery resources. Coastal length of 1,600 km., continental shelf of 1.84 lakh sq. km., 121 fish landing centers and more than 65,300 families' together in marine fisheries indicate the importance of fisheries in the State.

Gujarat has emerged as a leading State for fish export during the recent years. Govt of Gujarat is engaged in supervising & supporting the requirement of fisheries sector across the State.

a. Fisheries Production

During the year 2020-21, total fish production in the Gujarat State was estimated at 7.44 lakh tonnes (6.20 lakh tonnes Marine fish production and 1.24 lakh tonnes Inland fish production) worth Rs.8773.31 crore. The Marine fish production contributes about 83.25 percent of total fish production of the State. During the year 2020-21, Gujarat exported 2.28 lakh tonnes of fish and fish products which added to the foreign exchange earnings of Rs.4254.21 crore.

b. Shrimp Production

The available brackish water potential land is estimated to be 90,000 Ha. and the present utilization under shrimp culture up to 2020-21 is 9021 Ha. (8986 Ha. in *L. vannamei* & 35 Ha. *P. monodon*). The production from *L. vannamei* and *P. monodon* culture have been estimated at 50410 MT and 116 MT valued at ₹2142.42 crore and ₹4.93 crore respectively during 2020-21 in Gujarat State. Beside the shrimp production the State Scampi (freshwater prawn) production of 1991 MT valued at ₹159.28 crore during the same period.

According to the Eighteenth Live Stock Census 2007, there were 1058 fishing villages scattered in the remote places of the state, classified into Marine (260), Inland (716) and Estuarine (82). These villages were inhabited by 5.59 lakh fishermen, out of which 2.18 lakh were active fishermen who were engaged in fishing, marketing of fish and repairing of boats/nets etc.

For the development of reservoir fisheries, particularly for tribal area, all the reservoirs in tribal area have been reserved for the tribal federation, tribal fisheries co-operative societies and tribal individual and for the purpose of fisheries all the beneficiaries are allotted reservoir on upset price. The upset price of reservoir has been fixed by the department.

A table indicating the latest marine and inland fish production as well as foreign export is furnished below:

Table 4.12 Marine and Inland fish production and foreign export

Year	Inland (In '000 tons)	Marine (In '000 tons)	Total (In '000 tons)	Value (₹ in crore)	Foreign Export	
					Quantity (In '000 tons)	Value (₹ in crore)
2015-16	112.23	697.33	809.56	6086.84	208.62	3567.24
2016-17	116.73	698.83	815.56	6233.89	237.44	4417.40
2017-18	138.00	701.00	839.00	6763.74	313.00	5071.40
2018-19	142.88	699.23	842.11	7005.14	305.33	5202.30
2019-20	157.463	700.809	858.27	7612.67	279.75	5019.48
2020-21	124.705	619.72	744.42	8773.32	228.07	4254.21
2021-22	185.69	688.27	873.96	11221.26	NA	NA

Source: Commissioner of Fisheries, Gujarat State, Gandhinagar for production figures & MPEDA, Valsad for vannamei, monodon and scampi figures.

4.1.7.2 Govt. Support

The State has become self-sufficient in fish seed production (Spawn) by establishing Chinese hatcheries. Further, Govt of Gujarat supports most of the activities associated with fisheries e.g. development and exploitation of fresh water fisheries, help in marketing of fresh water fish and marine fish, manufacture and supply of various types of fishing nets and twines, construction and supply of Wooden and Fibreglass Reinforced Plastic (FRP) fishing boats, construction and supply of tin boats, different size of aquarium and fish, etc., production and distribution of fish seeds - spawn, fry and fingerling of Indian Major Carps, mechanization of fishing crafts, dispensing of high speed diesel to the fishing vessels. It also implements Group Accidental Insurance Scheme for the fishermen.

4.1.7.3 Credit Potential Assessment for 2023-24

Credit potential for 2023-24 has been assessed at **₹632.55 crore** for the State recording a growth of 3.37% over the previous year 2022-23 (assessed at **₹611.95 crore**).

4.1.7.4 Action for State Govt. and banks

- Specific training programme for upgradation of skills of SF/MF, SHGs/ JLGs on Cage Culture in Reservoirs/ Lakes, Brackish water Aquaculture, Mariculture (Sea weed, Oyster and Mussel culture), Inland Fish Feed Mills, Ornamental Fish Rearing & Breeding Units etc. specific to district be planned by the District Fisheries Officials by taking concurrence of the Commissionerate of Fisheries to plan & avail financial assistance under NFDB Schemes which had been merged under an Umbrella of Blue Revolution. This will greatly facilitate Banking Sector in accelerating credit flow, doubling the fisher's income as also capital formation in much needed fishery sector.
 - The Government of Gujarat have adopted the Brackish water Aquaculture land leasing policy in April 1987 and revised in 1994 to make it still much more attractive, however considering the vast untapped potential as indicated at item 4.1.1.7.3 above and presently valued ₹2147.35 crore in 2020-21, it is suggested that appropriate joint co-operation of ICAR institutes (CIBA, CIFA, CMFRI, CIFRI) MPEDA, NFDB, NABARD may be attempted by the Commissionerate of Fisheries, GOG to consolidate the success achieved in the Southern States and consolidate the strength of all leading institutions of India.
 - Though this sector has huge potential for exports as well as generating livelihood opportunities, bank financing to the sector is insignificant. Department may consider drawing up Area Based Schemes in identified districts in association with NABARD and other stakeholder for increasing bank financing during 2023-24.
 - Joint Liability Groups (JLGs)/Self Help Groups (SHGs) of fishermen may be organized and financed by the banks. Department may consider drawing up an action plan in this regard.
- Few of the critical interventions required for developing this sector are given in Annexure-IV.

Sr.No.	District	Fisheries (Marine, Inland & Brackish Water) - District-wise / Activity-wise PLP Projections - 2023-24																								(Rs. Lakh)		
		Fish Pond (new)		Fish Pond (renovation)		Trawlers		Non-mechanised Boats		Mechanised Boats		Gill Netters		Fresh water fish/prawn		Brackish water prawn		Prawn Hatchery		Fishing boat-FRP		Reservoirs		Others / Misc.			Total Fisheries	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		No.	Bank loan
1	Ahmedabad	15	89	35	104	0	0	0	0	0	50	64	0	0	0	0	0	0	0	0	0	0	0	0	0	100	257	
2	Anand	10	60	26	77	0	0	60	179	0	0	18	306	18	199	45	765	1	14	50	298	0	0	35	357	263	2253	
3	Anand	22	131	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	56	71	0	0	0	78	202	
4	Aravalli	50	149	100	128	0	0	0	0	0	50	64	0	0	0	0	0	0	0	0	0	0	0	0	0	150	276	
5	Banaskantha	0	0	9	27	0	0	0	0	0	0	64	0	0	0	0	0	0	0	0	0	0	0	0	0	59	91	
6	Bharuch	109	649	53	158	0	0	95	533	380	517	0	0	0	0	204	3468	0	0	0	0	0	0	0	0	841	5324	
7	Bhavnagar	40	238	0	0	0	0	64	354	0	0	0	0	0	0	100	1700	0	0	100	128	0	0	0	0	304	2419	
8	Botad	18	107	10	30	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28	137	
9	Chotaudepur	15	88	16	47	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	31	135		
10	Dahod	11	65	24	71	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	64	85	201	
11	Dang	7	42	9	27	0	0	0	0	14	18	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	86	
12	Devbhoomi Dwarka	0	0	0	0	0	0	0	0	35	208	0	0	0	0	30	510	0	0	40	51	0	0	0	0	105	769	
13	Gandhinagar	0	0	0	0	0	0	0	0	0	0	0	0	10	30	0	0	0	0	0	0	0	0	44	26	54	55	
14	Gir Somnath	0	0	0	0	0	0	362	923	0	0	470	7990	561	2282	407	6919	0	0	357	1972	0	0	1152	1567	3309	21633	
15	Jamnagar	0	0	0	0	0	0	208	530	0	0	198	3566	737	3047	199	3383	0	0	99	547	0	0	813	1037	2254	11910	
16	Junagadh	0	0	0	0	0	0	0	0	10	60	50	64	0	0	32	544	0	0	0	0	0	0	0	0	92	667	
17	Kheda	66	393	0	0	0	0	0	0	0	0	0	0	0	0	7	48	0	0	0	0	69	88	0	0	135	481	
18	Kutch	0	0	61	363	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	68	411	
19	Mahisagar	0	0	37	110	0	0	50	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	87	180	
20	Mehsana	0	0	14	42	0	0	22	28	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	41	77	
21	Morbi	60	336	50	140	0	0	150	191	14	18	0	0	0	0	0	0	0	0	60	240	0	0	15	18	349	943	
22	Narmada	6	36	20	60	0	0	75	96	0	0	0	0	0	0	0	0	0	0	0	0	0	0	30	77	131	267	
23	Navsari	25	149	15	45	0	0	80	204	0	0	0	0	0	0	85	1445	0	0	70	393	0	0	0	0	275	2235	
24	Panchmahal	0	0	10	30	0	0	90	126	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	156	
25	Patan	17	36	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	12	15	29	51	51	
26	Porbandar	0	0	0	0	0	0	0	0	105	589	0	0	0	0	6	102	0	0	52	66	0	0	17	1490	180	2247	
27	Rajkot	0	0	12	35	0	0	150	190	0	0	0	0	0	0	0	0	0	0	0	0	0	12	15	174	240	667	
28	Sabarkantha	315	402	165	491	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	480	893	
29	Surat	53	315	115	342	0	0	0	0	123	690	0	0	97	495	207	3519	0	0	0	0	82	105	10	106	687	5572	
30	Surendranagar	14	83	0	0	0	0	63	353	0	0	0	0	0	0	0	0	0	0	0	0	0	0	40	151	117	588	
31	Tapi	70	417	82	244	0	0	0	0	0	0	0	0	47	320	0	0	0	0	69	88	0	0	103	131	371	1199	
32	Vadodara	10	59	13	38	0	0	10	13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	33	110	
33	Valsad	7	42	12	36	4	68	0	0	0	0	0	0	0	0	65	697	0	0	55	309	30	38	0	0	173	1189	
	District total	940	3884	888	2643	4	68	1479	3790	786	2234	736	11726	1470	6352	1387	23100	1	14	952	4091	237	302	2333	5053	11213	63255	

Working Capital - Animal Husbandry - Dairy, Poultry, Sheep/Goat, Piggery, Fisheries Development - District-wise / Activity-wise PLP Projections - 2023-24													(Rs. Lakh)
Sr.No.	District	AH - Dairy Dev.		AH - Poultry Dev.		AH - Sheep/Goat/Piggery Dev		Fisheries Dev.		Total Others			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		
1	Ahmedabad	40600	16240	1920	288	3150	473	0	0	45670	17001		
2	Amreli	0	31095	0	0	0	155	0	349	0	31600		
3	Anand	220310	33046	7261	1452	1040	73	12	15	228623	34586		
4	Aravali	810000	36450	276000	12420	207564	9340	29	4	1293593	58215		
5	Banaskantha	227000	78800	200	25	6400	320	0	0	233600	79145		
6	Bharuch	81270	12191	190	39	1667	133	436	756	83563	13119		
7	Bhavnagar	97840	16144	1120	185	1410	124	20	6	100390	16458		
8	Botad	52560	8672	200	33	140	12	33	25	52933	8742		
9	Chotaudepur	5160	775	0	0	462	32	72	23	5694	830		
10	Dahod	8475	1081	270	160	1100	81	35	48	9880	1369		
11	Dang	5976	717	193	29	840	50	16	17	7025	813		
12	Devbhoomi Dwarka	41100	7398	57	10	1130	203	414	225	42701	7837		
13	Gandhinagar	19608	8824	1850	248	425	43	0	0	21883	9115		
14	Gir Somnath	50650	12663	168	76	1628	244	2248	8924	54694	21906		
15	Jamnagar	30100	5418	97	17	3450	621	494	261	34141	6318		
16	Junagadh	94250	23563	143	64	1777	267	872	2804	97042	26697		
17	Kheda	264486	39673	1560	312	1224	86	10	13	267280	40083		
18	Kutch	15705	7224	86	15	1050	179	303	529	17144	7947		
19	Mahisagar	71246	9404	151	10	8500	823	22	8	79919	10245		
20	Mehsana	65500	26200	2000	1500	0	0	15	6	67515	27706		
21	Morbi	7924	3566	244	54	2341	234	10	42	10519	3895		
22	Narmada	53310	7997	153	32	852	68	75	22	54390	8119		
23	Navsari	72640	8717	875	131	4765	286	85	269	78365	9403		
24	Panchmahal	76940	10156	428	28	16650	1099	146	55	94164	11338		
25	Patan	47500	19000	0	0	0	0	0	0	47500	19000		
26	Porbandar	0	0	0	0	0	0	0	0	0	0		
27	Rajkot	646	290	38	10	75	8	17	10	776	318		
28	Sabarkantha	715091	32179	2707	122	195238	8786	114	5	913150	41092		
29	Surat	17605	12383	710	99	1250	50	380	350	19945	12883		
30	Surendranagar	24790	6198	28	6	3804	456	100	50	28722	6710		
31	Tapi	111450	7802	614	86	512	20	378	120	112954	8028		
32	Vadodara	8508	1075	0	0	512	35	34	20	9054	1130		
33	Valsad	7640	917	409	61	42	3	239	321	8330	1302		
	District total	3345880	485856	299672	17515	468998	24304	6609	15276	4121159	542950		

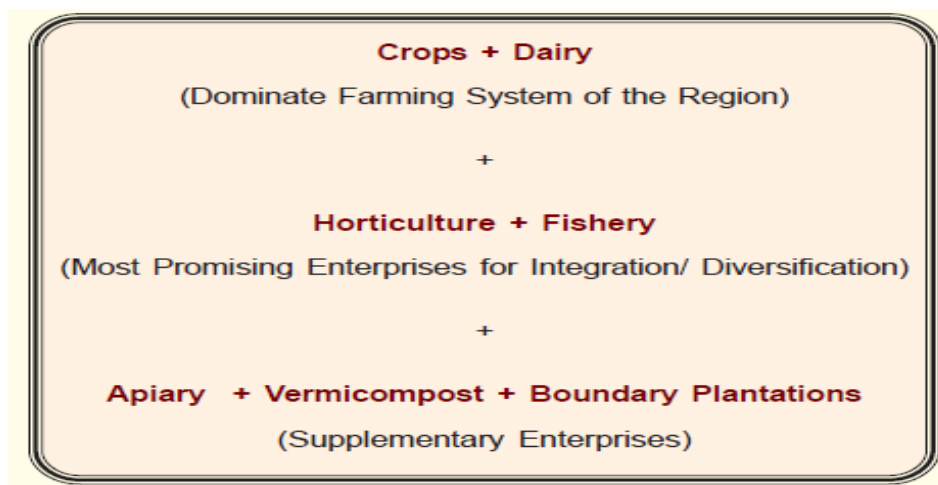
4.1.8 Integrated Farming System

4.1.8.1 Introduction

Indian agriculture is bestowed with combination of crop + livestock in the farming system. The integrated farming systems are not new to India as natural integration of components in the form of mixed systems such as crop+dairy, crop+dairy+fishery, crop+goat rearing+poultry, crop+fishery, etc. are present and dominant in many parts of India. However, due to natural integration, complementarity among components or enterprises could not be maximized leading to low productivity and profit from these systems. Migration of family members, especially from marginal and small farmers, for want of employment during the lean season, happens frequently in many parts of country due to the inherent nature of low profitability from the naturally integrated systems. Further, due to lack of proper complementarity in the existing systems, farmers depend far more on market inputs for crop and livestock production, which again contributes for higher production cost. In order to overcome the above lacunae in the present system, Integrated Farming systems with location-specific, need-based integration of components/enterprises are essential to meet the basic objectives of IFS. Integration of components such as crops, horticulture, dairy, poultry, goat rearing, aquaculture, apiary, etc. can be done for improving the production, profitability, employment and nutrition in a sustainable way.

An Integrated Farming System (IFS) is defined as *“a judicious combination of two or more components using cardinal principles of minimum competition and maximum complementarity with advanced agronomic management tools aiming for sustainable and environment friendly improvement of farm income, family nutrition and ecosystem services”*. Assessment of farm incomes indicate that diversified farms with more than two enterprises get twice the income than those with two or less enterprises. Scientifically designed IFS with minimum competition and maximum complementarity are essential to achieve multiple goals.

4.1.8.1.1 Component Enterprises of IFS Model



Various components of IFS are crops, live stocks, birds and trees. The crops may have sub-system like mixed/intercrop and multi-tier crops. The livestock components may be milch animals, goat, sheep, poultry and the tree components include fruits, timber, fuel and fodder. The major factors which need to be considered in choosing an IFS model are soil type, rainfall, its distribution and length of growing season.

The advantages of IFS are indicated below:

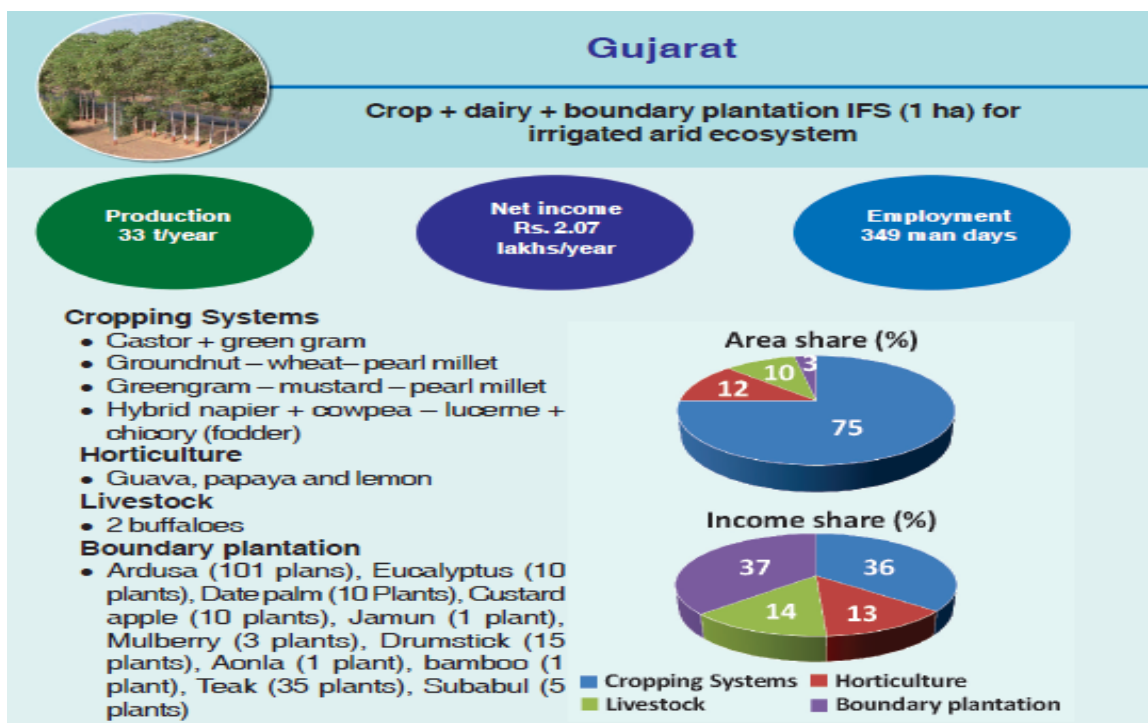
- IFS, by virtue of intensification of crop and allied enterprises, provides opportunity to increase economic yield per unit area per unit time.
- Each and every inch of land area is effectively utilized. Growing of perennial fodder legume trees in the border and watercourses is a recommended practice in IFS. This helps in supplementing legume fodder as well as enriches soil nutrients by fixing the atmosphere nitrogen.
- Soil fertility and productivity enhancement through organic waste recycling and increased sustainable farm income.
- IFS supplements in meeting the energy and timber needs of rural households and also timber needs of construction sector in a cost effective manner.
- In IFS, farmers are bound to get regular income. When farmer feel that his/her standard of living is on par with others, it will act as a booster to continue agricultural profession without any reluctance among most of the farmers.

4.1.8.2 Policy Support

The developmental programmes of Government of India, State Govt., National Horticulture Board, etc., such as Agri-implement subsidies, Agriculture support schemes for Farm Mechanization, Horticultural aid schemes for setting up of nutritional gardens, Animal Husbandry Aid Scheme, Fisheries Aid Scheme, etc. directly or indirectly support Integrated Farming Systems.

4.1.8.3 State IFS Models

Indian Institute of Farming Systems Research (IIFSR), Modipuram and other ICAR institutions have developed 51 integrated farming systems suitable to marginal and small holders of 25 States/UTs of India. State-specific IFS models are available from the link given here: http://www.iifsr.res.in/sites/default/files/prog_files/Bulletin_IFS_July_2020.pdf. Location specific IFS models were also evolved by SAUs. An IFS model for Gujarat prescribed by SDAU is represented below:



4.1.8.4 District IFS Models

Farmers in the district have been traditionally growing crops like paddy, wheat, bajra, castor with animal husbandry and fisheries as a subsidiary business. There is a huge demand particularly for milk and milk products in the district while fishery as an economic activity is also gaining traction. Therefore, IFS model of 1 hectare, comprising major agri-horticulture crops, animal husbandry and fisheries is recommended as per the suggestion from Comprehensive District Agriculture Plan of Anand district.

Based on the discussion with line departments, the IFS model for 1 Ha. land area suggested for the district is as under:

Table 4.13 IFS model for 1 Ha. land area

Component	Area (ha.)
Crops (Paddy, Wheat, Bajra, Castor)	0.50 ha
Dairy (Gir Kankrej cattle)	0.05 ha
Horticulture (Potato, Tomato, Brinjal, Chili, Banana, Sapota, Papaya)	0.10 ha
Agro-Forestry (Moringa tree)	0.05 ha
Fisheries	0.30 ha

The credit potential is projected under respective sectoral chapters.

4.1.8.5 Issues and Suggestions

- Finance for various components of IFS simultaneously and parallelly is not forthcoming. Also, the marketable surplus with SF/MF may be small and, therefore, needs aggregation.
- Anand Agriculture University may work out and test IFS models as per the requirements of small and marginal farmers.
- Initiation of Mission on Integrated Farming Systems in the district by converging various schemes of crop husbandry, horticulture, livestock, and fisheries can give impetus to integrated farming systems approach.
- Banks may explore possibility of financing IFS models in a cluster mode.

4.1.9 Farm Credit – Others- Bullocks-carts, two wheelers etc.

4.1.9.1 Introduction

The average size of land holding is shrinking due to demographic pressure. In the State of Gujarat, as per the Agri Census 2015-16, the total number of registered farmers in Gujarat is around 53.21 lakh – of them 20.18 lakh were marginal farmers, 16.16 lakh small farmers, 11.50 lakh semi-medium farmers, 4.96 lakh medium farmers and 39,893 big farmers.

As observed above, there is a huge concentration of Small and Marginal farmers in the State. It can therefore be inferred that these small/marginal farmers would still be depending on animal power for their farm operations and transportation as they lack the means to mechanize their farm. This form of transportation is used for various purposes viz. carrying the seedlings from the nursery to the farm, carrying the harvest to the home or to the local markets/mandis, cold storage/godowns etc.

The bullock carts have been traditionally used for ploughing and transportation. However there have been many innovative developments in this field viz. a bullock cart mounted device that generates electricity from the movement of the cart, which has been developed by The University of Agricultural Sciences, Raichur, Karnataka. The Institute for Steel Development and Growth (INSDAG) in collaboration with Central Mechanical Engineering Research Institute (CMERI), Durgapur has developed two types of improved bullock carts.

In the past few decades, the usage of two-wheelers in addition to bullock carts has increased the mobility of farmers in the villages and has significantly increased efficiency of farm activities. It has been widely speculated that the two-wheeler market in India would touch 26.6 million units by 2025. As the country's rural market has a strong consumer base of two-wheeler customers accounting for around 30 percent two-wheeler owners, there exists a vast potential to extend timely finance at affordable pricing to these rural consumers to buy a two-wheeler.

4.1.9.2 Infrastructure and linkage support available, planned and gaps

Banks, Department of Agriculture and Animal Husbandry need to consider these activities for the small and marginal farmers, as also landless farmers, for earning additional income out of maintaining and using these resources for farm and off-farm activities.

4.1.9.3 Credit Potential Assessment for 2023-24

Credit potential for 2023-24 has been assessed at **₹3025.56 crore** for the State recording a growth of 4.53% over the previous year 2022-23 (assessed at **₹2894.33 crore**).

Farm Sector-Others (Bullocks, Bullock Carts, etc.)- District-wise / Activity-wise PLP Projections - 2023-24															(Rs. Lakh)
Sr.No.	District	Bullock		Bullock Carts		Camel		Two Wheelers		Others / Misc.		Total Others			
		No.	Bank	No.	Bank	No.	Bank	No.	Bank	No.	Bank	No.	Bank		
1	Ahmedabad	150	81	225	132	65	73	56000	40320	550	1361	56990	41967		
2	Amreli	2406	758	2100	756	0	0	4300	2709	1255	621	10061	4844		
3	Anand	200	112	470	113	0	0	16200	6480	11300	4520	28170	11225		
4	Aravali	215	86	230	110	0	0	5565	3116	1815	7260	7825	10573		
5	Banaskantha	0	0	140	69	360	178	0	0	0	0	500	248		
6	Bharuch	795	429	207	75	0	0	1133	816	0	0	2135	1320		
7	Bhavnagar	680	214	100	45	0	0	5350	4815	0	0	6130	5074		
8	Botad	250	79	50	23	0	0	2335	2102	0	0	2635	2203		
9	Chotaudepur	79	25	30	10	0	0	240	119	85	76	434	230		
10	Dahod	340	173	80	31	0	0	300	153	0	0	720	357		
11	Dang	50	16	50	23	0	0	90	57	0	0	190	95		
12	Devbhoomi Dwarka	3200	1536	3200	1126	0	0	18000	8640	10000	7200	34400	18502		
13	Gandhinagar	80	43	70	35	68	61	4540	3065	0	0	4758	3204		
14	Gir Somnath	424	111	587	220	0	0	1241	745	452	3051	2704	4127		
15	Jamnagar	600	288	60	21	0	0	15000	7200	3480	2506	19140	10015		
16	Junagadh	1041	273	1758	659	0	0	5935	3561	804	5427	9538	9921		
17	Kheda	490	274	330	79	0	0	9900	3960	4300	1720	15020	6034		
18	Kutch	40	19	0	0	40	16	555	350	0	0	635	385		
19	Mahisagar	465	223	316	202	0	0	780	437	300	120	1861	982		
20	Mehsana	500	240	250	100	0	0	1000	600	1000	450	2750	1390		
21	Morbi	500	240	150	60	0	0	1350	659	3800	9120	5800	10079		
22	Narmada	1279	614	210	67	0	0	292	234	0	0	1781	915		
23	Navsari	63	20	63	28	0	0	0	0	0	0	126	48		
24	Panchmahal	619	297	459	294	0	0	2967	1662	339	136	4384	2388		
25	Patan	0	0	0	0	0	0	1950	936	65	156	2015	1092		
26	Porbandar	130	41	65	35	0	0	110	74	1800	4860	2105	5010		
27	Rajkot	560	175	270	145	0	0	310	210	19904	53740	21044	54270		
28	Sabarkantha	290	116	264	74	0	0	4180	1672	2420	9680	7154	11542		
29	Surat	560	302	547	246	0	0	49856	33902	7058	11999	58021	46449		
30	Surendranagar	700	336	700	280	0	0	3500	1708	3000	21600	7900	23924		
31	Tapi	238	150	313	141	0	0	7919	6395	598	1076	9068	7762		
32	Vadodara	140	45	0	0	0	0	810	402	4725	4253	5675	4700		
33	Valsad	130	66	0	0	0	0	95	48	2050	1568	2275	1683		
District total		17214	7384	13294	5199	533	329	221803	137144	81100	152500	333944	302556		

4.2 Agriculture Infrastructure

4.2.1 Construction of Storage and Marketing Infrastructure

4.2.1.1 Introduction

Storage is an important marketing function, which involves holding and preserving goods from the time they are produced until they are needed for consumption. The storage of goods ensures a continuous flow of seasonal goods in the market. It helps in the stabilization of prices by adjusting demand and supply, prevents distress sale by farmers, promotes grading of produce, standardization and quality control, protects the quality of perishable and semi-perishable products from deterioration by reducing post-harvest & handling losses, promotes pledge financing and market access. Construction and maintenance of storage structures provides employment and income. The different types of scientific storage structures are as follows:

1. Warehouses/Godowns- Covered buildings for storing produce, agri inputs such as fertilizers, pesticides etc
2. Market Yards – Mandi where assembling, grading sale and purchase of agricultural produce is performed.
3. Silos – Vertical storage structures used for storing food grains
4. Cold Storage Units/Cold Chains- Temperature controlled structures and transport equipment for storing and distributing perishable produce.

4.2.1.2 Infrastructure and Linkage Support Available, planned and gaps

1. Grameen Bhandaran Yojana (GBY) was instituted by GoI in the year 2001 with an aim to reverse the declining trend of investment in agriculture sector by encouraging private and cooperative sector to invest in the creation of storage infrastructure for the development of the agriculture sector. Over the years, GBY has been instrumental in development of existing storage and warehousing infrastructure.
2. The Warehousing Development and Regulatory Authority (WDRA) was constituted in the year 2010 under the Warehousing (Development and Regulation) Act, 2007 with an aim to promote orderly and targeted growth of the warehousing business.
3. Farmers depositing their produce in the accredited warehouses are provided with a NWR (Negotiable Warehouse Receipt) which can be used as a collateral to avail bank finance. This gives farmers the much-needed marketing freedom allowing them to achieve higher remuneration for their produce. The ushering in of IT backed e-NWR (Electronic NWR) which creates a centralized digital repository of stored produce seeks to bring in transparency in warehousing transactions.
4. The integration of e-NWR on the e-NAM portal allows farmers to remotely sell their stored produce online at any mandi.
5. RBI has enhanced loan limit per borrower under e-NWR from ₹50 lakhs to ₹75 lakhs under priority sector lending norms. This shall lead to faster adoption of warehousing and scientific storage by farmers.
6. Despite a year ravaged by COVID-19 pandemic, agriculture and rural sector came out as the bellwether sector of the Indian economy. With high growth rates seen in sub-sectors of food processing, fisheries, the demand of warehousing infrastructure is bound to go up on the back of higher exports as well as retail consumption.
7. The pandemic has led to significant growth of businesses operating on Inventory based marketplace model which works on stockpiling of produce. This creates huge potential for warehousing to develop.
8. The setting up of Agriculture Infrastructure Fund with a total corpus of ₹1 lakh crore will channel flow of funds for creation of post-harvest management infrastructure and

community farming assets through interest subvention (3% per annum) and credit guarantee (under CGTMSE for loans up to ₹2 Crores).

9. The central government is running schemes such as Pradhan Mantri Matsya Sampada Yojana, Fisheries and Aquaculture Infrastructure Development Fund (FIDF) and Centrally Sponsored Scheme on Blue Revolution for development of fisheries which needs forward linkages with storage infrastructure.
10. Availability of land, entrepreneurial mindset, skilled workforce in creation and maintenance of godowns is essential for ensuring success of warehousing.
11. Good transport connectivity through land, air and sea routes creates potential for enhancement of intra and international trade. The coming up of National Infrastructural Pipeline, Dedicated Freight Corridor seeks to enhance existing transport capacity.
12. Coming up of Mega Food Parks on hub and spoke model in the state seek to integrate value chains. Backward linkage necessitates development of storage and warehousing infrastructure.
13. The enhancement of MSPs by the GoI creates potential to usher in prosperity for the farmers.

4.2.1.3 Credit Potential Assessment for 2023-24

Construction of Storage Infrastructure for agricultural purpose has received a substantial impetus in recent times owing to the increase in marketable as well as export potential of agricultural goods such as marine fisheries of which Gujarat produces 19% of the national produce, groundnut of which Gujarat produces 41.80% and 37.28% of cotton.

There were a total of 969 cold storage projects in Gujarat with a cumulative capacity of 38.22 lakh MT, forming 10.12% of all India capacity. Thus, there is immense potential for the storage infrastructure to increase from current levels.

Credit potential for 2023-24 has been assessed at **₹9,773.07 crore** for the State recording a growth of 36.82% over the previous year 2022-23 (assessed at **₹7143.27 crore**). The district wise estimates the details of which are furnished in the table at the end of the chapter.

4.2.1.4 Action points for State Government / Banks & Suggestions

1. The banks may create awareness about the subsidy schemes and popularize the same through their branches. Quick response and offering suitable guidance to potential customers under the scheme is suggested.
2. Very good potential exists for financing cold chain units and godown facilities in the district for preservation of fruits and vegetables. Banks may identify and finance potential beneficiaries.
3. Banks to encourage pledge loans to avoid distress sale of agricultural produce. Awareness on warehouse receipts issued by accrediting agency will facilitate access to pledge loans. Banks may consider financing projects in the warehousing sector. The services of NABCONS may be availed for techno-economic feasibility studies of the proposals received.
4. Rural Haats should be promoted to bring ease for small and marginal farmers to market their produce.
5. Farmers may form Producer Groups to aggregate their produce and deal with organised buyers for selling and sellers for availing benefits of bulk purchases. Regulated markets may be established to facilitate competitive prices.
6. There is a need to start modern post-harvest infrastructure with a high-tech Value Addition Centre and a cold storage engaged in grading, packing and export of fresh vegetables like banana, potato, tomato, chilli, etc. to sell the produce at National as well as International market.

7. Accreditation and registration of godowns/cold storages may be encouraged to facilitate Small and Marginal Farmers to keep their produce against Negotiable Warehouse Receipts which enable them to get bank loan of up to ₹3.00 lakh at concessional rate of 7% for a period of six months, besides getting a remunerative price for his produce. This will increase the farmers' income towards achieving the goal of "Doubling the Farmers' income by 2022".
8. PACS as MSCs (Multi-Service Centres) is the way forward where PACS will serve as one-stop shop for meeting the farm mechanisation (including transportation) needs of farmers, providing them logistical support to market their produce.
9. The one-nation-one-agri-market initiative of e-NAM should be promoted across all major mandis in the state. The state of Gujarat is the largest producer of various food grains (groundnut, jeera etc.) and cash crops (cotton etc.). The produce of Gujarat reaches the length and breadth of the nation. APMCs across the state should be well equipped to certify produce, so that the benefits of e-NAM could be leveraged across the state.

Construction of Storage facilities - District-wise / Activity-wise PLP Projections - 2023-24																	(Rs. In lakh)	
Sr.No.	District	Cold Storage		Rural Godowns		Market Yards		Rural Haats		Bulk Milk Coolers		Others / Misc (*)		Total Storage Facilities				
		No.	Bank loan	No.	Bank loan	No.	Bank	No.	Bank	No.	Bank	No.	Bank	No.	Bank loan			
1	Ahmedabad	420	141750	2100	29547	23	8625	0	0	225	4219	89	14404	2857	198545			
2	Amreli	330	7413	487	8223	4	7920	0	0	0	0	254	2195	1075	25750			
3	Anand	21	10080	290	4352	21	514	0	0	0	0	0	0	332	14946			
4	Aravali	48	211	72	1184	12	2304	0	0	0	0	0	0	132	3699			
5	Banaskantha	184	62100	4600	71884	28	10500	0	0	0	0	0	0	4812	144484			
6	Bharuch	7	4200	125	1800	0	0	16	192	0	0	5	72	153	6264			
7	Bhavnagar	65	24863	1040	24398	0	0	0	0	0	0	1400	11424	2505	60685			
8	Botad	14	4725	430	8901	0	0	0	0	0	0	10	72	454	13698			
9	Chotaudepur	6	2024	184	2538	10	38	0	0	0	0	0	0	200	4600			
10	Dahod	3	383	36	2815	4	510	0	0	0	0	0	0	43	3708			
11	Dang	12	311	10	207	0	0	0	0	0	0	0	0	22	518			
12	Devbhoomi Dwarka	60	2295	280	6569	40	680	0	0	0	0	0	0	380	9544			
13	Gandhinagar	10	5625	120	2484	6	1013	0	0	0	0	140	2625	276	11747			
14	Gir Somnath	17	9563	1115	26494	6	3375	0	0	0	0	0	0	1138	39431			
15	Jamnagar	180	6885	2280	53489	120	2040	0	0	0	0	0	0	2580	62414			
16	Junagadh	76	42750	2024	45950	9	5063	0	0	0	0	0	0	2109	93763			
17	Kheda	13	6240	400	6003	70	1714	0	0	0	0	0	0	483	13957			
18	Kutch	9	3240	72	1590	8	96	0	0	0	0	24	2880	113	7806			
19	Mahisagar	5	300	74	982	0	0	0	0	0	0	0	0	79	1282			
20	Mehsana	300	4800	50	16000	150	2400	0	0	0	0	0	0	500	23200			
21	Morbi	0	0	2400	31784	24	2016	0	0	0	0	0	0	2424	33800			
22	Narmada	2	68	197	2660	0	0	0	0	0	0	16	360	215	3087			
23	Navsari	22	7369	6	8280	0	0	0	0	0	0	0	0	28	15649			
24	Panchmahal	31	1860	385	5167	0	0	0	0	0	0	0	0	416	7027			
25	Patan	17	442	900	14351	4	765	0	0	0	0	0	0	921	15559			
26	Porbandar	1	96	59	777	0	0	0	0	0	0	4	26	64	899			
27	Rajkot	195	22300	2050	31490	25	9375	0	0	0	0	285	2280	2555	65445			
28	Sabarkantha	107	471	397	6527	16	13	0	0	0	0	0	0	520	7011			
29	Surat	41	6458	600	8100	38	4275	0	0	0	0	0	0	679	18833			
30	Surendranagar	0	0	2380	32606	10	840	0	0	0	0	0	0	2390	33446			
31	Tapi	49	7718	88	1188	39	4388	0	0	0	0	0	0	176	13293			
32	Vadodara	10	5062	284	3919	9	3375	0	0	17	64	0	0	320	12420			
33	Valsad	118	3406	290	6803	18	337	0	0	0	0	20	255	446	10801			
	Total	2373	395005	25825	469061	694	72174	16	192	242	4283	2247	36592	31397	977307			

4.2.2 Land development, Soil Conservation, Watershed Development

4.2.2.1 Introduction

Land Development activity aims at making land suitable for sustainable agriculture, preventing the soil erosion, leading to improvement in soil productivity and fertility through various measures.

Unsustainable use of land, including imbalanced use of chemical fertilizers, leads to land degradation, which necessitates substantial investment in land development activities for improvement in chemical and biological properties of soil

Depending on rainfall, topography, agro-climatic zone and cropping pattern of the district, land development sector encompass the following sub activities

- On farm development works - Land levelling, bunding, trenching
- Land Reclamation - Tank silt application and organic manures
- Water Management – lining of field channel and farm ponds
- Watershed Development – filed level activities- bunding and trenching

Land development has been at the forefront of any development process. Gujarat State Watershed Management Agency (GSWMA), the State Level Nodal Agency in partnership with technical institutions like Agricultural Universities, Krishi Vigyan Kendra etc and social enterprises such as NGO, Academic institutions like IRMA facilitates implementation of Integrated Watershed Management Programme (IWMP) in Gujarat by undertaking capacity building of all stakeholders and preparing an appropriate strategy to execute the plans in a time bound manner.

As per the Waste Land Atlas 2019, of Department of Land Resources, MoRD, GoI around 0.218 Lakh Ha is affected by medium to deep ravines and 0.76 Lakh Ha is affected by medium to strong salinity and alkalinity. Around 9.17 Lakh Ha and 8.42 Lakh Ha classified as dense open scrub and open scrub respectively in the 2019 Wasteland Atlas are the major largest waste land categories in Gujarat.

The State has 192 soil testing laboratories, majority of which are owned and operated by Department of Agriculture and Farmers Welfare, Govt. of Gujarat. The facilities are also available with SAUs, KVKs and APMCs.

4.2.2.2 Major Soil Types of Gujarat

Major Soil types of Gujarat are Black soil (Shallow, medium and deep black), Mixed Red and Black soils, Alluvial (Sandy, Sandy loam and sandy clay), laterite soils (Dang District), Hill soils and Desert soil (desert of Kutch). Soils of Gujarat are low in Nitrogen, Phosphorus and micronutrients. Soil pH ranges from neutral to Alkaline. Fertility status of black soils is low in shallow black soils, medium in medium black soils and high in deep black soils. Mixed Red and black soils are calcareous with alkaline pH, deficiency of phosphorus and micro nutrients. Due to more than 250 cm rainfall, lateritic soils exist in Dang district, with acidic pH, deficiency of phosphorus, calcium and magnesium. Alluvial sandy loams and Alluvial sandy soils are low in fertility. Alluvial sandy clay soils are medium in soil fertility status. Hill soils of eastern Gujarat are shallow, highly eroded and poor in fertility status. Desert soils of Kutch are sandy to silty clay loam in texture, saline with high gypsum.

The plains and the peninsulas constitute two basic soil regions of the State. The southern parts of the State plains show deep black soils. The central region possesses sandy loam soil, locally called Goradu which is highly fertile. The Goradu region of the State is called the 'Garden of Gujarat' because of its high fertility status. The Kathiawar and Kachchh peninsulas contain soils derived from Deccan lava, but each one of them has its peculiarities. The northern parts of Jamnagar, Rajkot and Surendranagar contain alluvium sandy soils.

4.2.2.3 Major Schemes and priorities of Government for soil and water conservation

Gujarat is the first State to have started Soil Health Card Programme. Soil health being an important factor in agricultural production, productivity and quality of production. The State has provided 118.23 lakh Soil Health Cards in the State. Based on soil health card information farmer can use fertilizers in balanced and integrated way. Soil testing laboratories are established and upgraded under the GoI programme, Mission for Sustainable Agriculture. In addition to Government investment, private investment should be encouraged for setting up of soil testing labs with credit linked subsidy. GoI extends subsidy for reclamation of Saline and Alkali soils under Rashtrya Krishi Vikas Yojana (RKVY)

Investment in soil and water conservation structure like check dams, tanks and village ponds is required. Revival of traditional water harvesting structures like Virdas and Step wells also need state government intervention. Subsidy is provided to farmers for construction of farm ponds, bunding and trenching under Mission for Sustainable Agriculture

Prevention of erosion and salinity ingress is one of the important land sustainability issues, requiring urgent investments in South Gujarat, Saurashtra, Kutch coastal regions. Saline water ingression requires different interventions like subsurface dykes and rain water harvesting structures like tanks, bandharas etc. Government of Gujarat is implementing saline water ingression scheme in coastal districts to prevent salinization of groundwater

The Mahi River draining into the Arabian Sea, is eroding fertile land and creating ravine lands in Anand, Kheda, Vadodara and Panchmahal districts. Reclamation of ravine lands require plantation of Agro forestry species like Bamboo, Babool, grass seeding, construction of check dams and bori bunds besides treatment of micro watersheds in Mahi catchment.

Repairs to check dams constructed under earlier programmes needs to be undertaken on mission made with the involvement of grass root level organizations and NGOs, which would lead to recharge of under groundwater on the upstream besides improving quality.

4.2.2.4 Activities for credit support

Activities like farm bunding with trench in completed watershed, Land levelling, lining of field channel under well command and canal irrigation projects command, land reclamation with tank silt application, farm ponds as water harvesting structures and barbed wire fencing are the potential activities for bank finance.

- i There is good potential for assisting farmers to undertake On Farm Development activities, especially land levelling and lining of field channels in the command areas of completed RIDF irrigation projects, well command and canal irrigation projects command for efficient utilization of irrigation water and fertilizers.
- ii Reclamation of saline soils with water harvesting structures like trenches and farm ponds to leach salts beyond root zone and improve the quality of groundwater besides growing salt tolerant forestry species like Babool and Meswak.
- iii Reclamation of alkali soils and calcareous soils with land improvement measures like tank silt application, organic manure application, water harvesting through farm ponds to improve ground water quality and Agro Forestry species like Babool.
- iv Application of tank silt to sandy and saline lands has been found effective for improving the fertility and texture of the soil. The silt deposited in the reservoirs and village tanks could be used for the purpose. The activity has become popular in Amreli, Jamnagar and other districts of Saurashtra and it is a potential activity for extending financial support by banks.
- v Construction of Water Harvesting Structures like farm ponds have been found extremely useful in providing protective irrigation in the dry land areas and thus saving the life of crops

during drought. They also play an important role in increasing the water level of wells through percolation of rain water into sub-soil.

- vi Lining of field channel is a potential activity to reduce irrigation water conveyance losses through seepage besides diverting clear rain water into dug wells.
- vii Fencing with barbed wire is a potential activity for bank finance for farming systems entailing a combination of activities like dairy, horticulture and vermin compost.

4.2.2.5 Credit Potential Assessment for 2023-24

GLC to this sector is more than ₹3800 crore during the past 5 years. However, against the credit potential of ₹2,439.19 crore projected for 2021-22, ground level credit flow is ₹461.00 crore (NABARD statistical statements), reflecting untapped potential in the State.

Table 4.14: GLC to Land Development Sector in Gujarat

Year	Credit Flow in ₹Lakh
2017-18	83,176
2018-19	1,15,052
2019-20	79,874
2020-21	1,08,487
2021-22@	46,100
Total	3,86,589

@ Due to non-availability of sector wise data for 2021-22 with SLBC Gujarat, data from NABARD statistical statements 2021-22 are quoted.

Table 4.15: NABARD Refinance to Land Development Sector in Gujarat

Year	Refinance (₹Lakh)
2017-18	59,423
2018-19	79,680
2019-20	57,809
2020-21	4,777
2021-22	41,500
Total	2,43,189

(Source Statistical Statements of NABARD)

Refinance disbursement to Land Development Sector was more than ₹400 crore in 2017-18, 2018-19, 2019-20 and 2021-22. A glance at ground level credit flow vis-a vis refinance leads to inference that land development activities in Gujarat is a prospective sector NABARD refinance. Credit potential for 2023-24 has been assessed at **₹2,982.92 crore** for the State recording a growth of 15.47% over the previous year 2022-23 (assessed at **₹2,583.24 crore**). The district-wise / activity-wise details are given at the end of this chapter.

4.2.2.6 Action Points

- State Government may disseminate information on assistance/subsidy available for various land development activities through its web portal *i-khedut*
- Saline water ingress in coastal areas, especially Saurashtra & Kutch needs to be addressed through multi-pronged activities like Check Dams, Bandharas and Farm Ponds.
- Creation of Awareness among farmers about utility of organic inputs and its impact on soil structure and fertility and hazards of excessive use of chemical fertilizers

- KVKs and Agriculture Universities to create awareness and demonstration on *Nano Urea* for adoption of Nano Urea by farmers, leading to judicious use of Nitrogen fertilizers, cost advantage and reducing ground water pollution
- Motivation of farmers to get soil tested once in 2 years to adopt balanced use of fertilizers
- Setting up of mobile soil testing labs and brick and mortar soil testing labs under PPP mode
- Extension agencies need to put in intensive efforts to create awareness among the farmers about land development and benefits being accrued thereof. Coordination between banks and Government agencies about providing technical and credit support to individual farmers for land development and water management activities needs to be increased. Interface may be mooted between Banks and Government agencies for enabling better coordination.
- Farmers should be encouraged to construct Rain Water Harvesting structures in their fields w in order to provide life –saving irrigation and take up short duration crops.
- Banks and Government may moot finance and convergence respectively in watershed for enabling tribal farmers to capitalize on increased soil and water potential.

Land Development - District-wise / Activity-wise PLP Projections - 2023-24

Sr.No.	District	Land Levelling/ Reclamation		Waste Land Dev.		Water Harvesting/ Management		Farm Dev./ Farm Ponds		Barbed Wire Fencing		Bunding / Soil Conservation		Others / Misc.*		Total Land Development		(Rs. Lakh)
		No.	Bank loan	No.	Bank	No.	Bank	No.	Bank loan	No.	Bank	No.	Bank	No.	Bank loan	No.	Bank loan	
1	Ahmedabad	5500	3802	0	0	0	0	4035	1330	4500	4775	0	0	0	0	14035	9906	
2	Anand	7020	1857	2080	1438	8000	3773	1270	884	5104	7455	11750	2221	4050	984	39274	18612	
3	Anand	190	117	0	0	0	0	235	145	0	0	1440	242	1030	238	2895	742	
4	Aravali	890	548	631	146	497	107	1276	786	0	0	638	107	0	0	3932	1695	
5	Banaskantha	20800	5504	11200	2722	6000	2830	1200	870	0	0	7000	1323	3500	2419	49700	15668	
6	Bharuch	9294	2323	0	0	0	0	2364	1553	4333	6736	0	0	22878	4977	38869	15589	
7	Bhavnagar	54000	10206	0	0	0	0	2500	1739	6000	2246	17100	4525	23000	15898	102600	34614	
8	Botad	3490	2412	0	0	0	0	11940	3349	3920	1468	24100	4555	0	0	43450	11784	
9	Chotaudepur	665	279	0	0	0	0	335	233	0	0	470	88	0	0	1470	600	
10	Dahod	180	124	0	0	550	383	0	0	0	0	1000	189	950	251	2680	947	
11	Dang	0	0	0	0	390	271	0	0	0	0	390	74	780	279	1560	624	
12	Devbhoomi Dwarka	400	99	0	0	0	0	2000	1309	0	0	2350	419	1200	615	5950	2442	
13	Gandhinagar	1150	304	0	0	0	0	1200	835	0	0	4100	775	0	0	6450	1914	
14	Gir Somnath	3347	738	0	0	0	0	1166	676	1324	1171	0	0	3272	1286	9109	3871	
15	Jamnagar	6000	2793	0	0	0	0	2800	1833	0	0	2600	464	1200	530	12600	5530	
16	Junagadh	18569	4094	0	0	0	0	2193	1271	3876	3427	25516	4019	11436	6587	61590	19399	
17	Kheda	2150	733	0	0	150	32	150	93	0	0	270	45	0	0	2730	904	
18	Kutch	8000	2643	0	0	0	0	5150	3185	0	0	7510	1262	0	0	20660	7090	
19	Mahisagar	1673	393	0	0	0	0	370	239	0	0	2620	440	0	0	4663	1072	
20	Mehsana	600	308	0	0	0	0	180	125	9500	4737	400	76	0	0	10680	5246	
21	Morbi	6500	4493	0	0	0	0	7300	5079	0	0	7200	1361	0	0	21000	10932	
22	Narmada	1023	271	0	0	0	0	230	160	196	323	0	0	22533	4357	23982	5111	
23	Navsari	0	0	0	0	0	0	1445	1005	0	0	2410	455	1905	746	5760	2207	
24	Panchmahal	0	0	0	0	0	0	161	104	0	0	654	110	626	147	1441	361	
25	Patan	7250	2900	0	0	0	0	1275	874	470	551	3900	696	0	0	12895	5021	
26	Porbandar	0	0	0	0	0	0	200	139	1100	1604	21000	3969	4200	1021	26500	6732	
27	Rajkot	53760	14225	0	0	0	0	680	495	0	0	12050	12785	60450	41785	126940	69290	
28	Sabarkantha	6800	1142	0	0	11200	6881	9800	2117	0	0	15200	3575	11300	6988	54300	20793	
29	Surat	1455	342	0	0	0	0	823	509	2190	470	518	87	37	8	5023	1416	
30	Surendranagar	5100	3525	0	0	0	0	7200	5009	0	0	7100	1342	0	0	19400	9876	
31	Tapi	2200	497	0	0	0	0	304	181	655	135	615	99	295	61	4069	974	
32	Vadodara	1100	461	0	0	0	0	470	327	0	0	385	72	0	0	1955	860	
33	Valsad	14700	4236	0	0	0	0	100	65	0	0	12600	2249	25	11	27425	6561	
	District total	243806	71280	13911	4306	26787	14277	70352	36518	43168	35098	102886	47624	174667	89190	765577	298292	

4.2.3 Others (Tissue Culture, Agri-Biotechnology, Seed Production, Bio-Pesticides/Fertilizers, Vermi-Composting)

4.2.3.1 Introduction

Biotechnology utilizes knowledge of biological systems to endow life-forms with special traits that have commercial value / value for society at large- such as features of longevity, enhanced medical value, greater nutritional value or adaptability etc.

As an example, under Agri-biotech, transgenic plants possess genetic traits to confer advantages to plants in terms of disease resistance, pest resistance, ability to withstand biotic and abiotic stress, nutrient content and ageing. The field has many far-reaching positive implications for food security and environment, though it also poses some important questions regarding ecology and human health in the long run. Also, production of fertilizers and pesticides through micro-organisms (such as bio fertilizers) and production of biofuels is another key application in agri-biotechnology. There are also applications such as biotechnology-based products for control of harmful insects or for removal of pollutants and to increase post-harvest shelf life of fruits and vegetables.

Climate resilient agriculture can benefit from agriculture biotechnology. There is also much scope for convergence between Biotechnology and Internet of Things (IoT) concept and this can be harnessed to transform agriculture practices. IoT-based sensors and other advanced systems can enable farmers to utilize real time data for prediction of plant height, health, crop yield etc.

4.2.3.2 Agri-Biotechnology: Existing and emerging technologies and Status in Gujarat

a) Plant breeding through Tissue Culture and Marker Assisted selection

Tissue culture (micro-propagation) involves a propagation tool wherein the cultivator grows tissue or cells outside of the plant itself in an artificial environment. It can produce millions of disease-free plantlets from high yielding varieties. Similarly, Marker-Assisted Selection is a cutting-edge technology that can help in locating and assembling desirable traits to speed up process of developing new commercial plant hybrids. In such a scenario, plant's natural genetic boundaries are not crossed unlike in genetically modified crops.

In Gujarat, during 2019-20, under National Horticulture Mission, 03 Tissue Culture Units have been established. Gujarat Biotechnology Research Centre established Plant Tissue Culture Laboratory for the development of tissue culture protocol of agricultural, medicinal and commercially important plants of the State such as Banana, Date Palm, Pomegranate and Guava.

b) Bio-fertilizers

These are the ready to use live formulations of beneficial micro-organisms that can be applied to the seed root or soil. These fertilizers can reduce excessive use of chemical fertilizers, enrich the soil with micro-organisms which produce organic nutrients for soil and help combat diseases. Promotion of Bio-fertilizers is in line with the “National Project on Organic Farming”. There are well-established schemes of providing capital investment subsidy for setting up Biofertilizer Production units. Increasing flow of Agri-credit dovetailed with these schemes will go a long way in promoting investments in bio-fertilizers in Gujarat.

c) Vermi-Compost Units and Compressed Bio Gas Units

Vermi Composting is basically a managed process of worms digesting organic matter to transform the material into a beneficial soil amendment. Rural areas with predominance of agriculture, suburbs of cities and peri-urban villages are considered ideal locations for setting up of vermicomposting units on a larger scale from the view point of availability of raw material and marketing of produce. Vermi-composting requires basic and well-built infrastructure comprising

sheds, vermi beds, land, seeds-stock, farm machinery and transportation. Vermi-Composting could be taken up on any scale starting from 10MT per annum to 1000 TPA and above.

RBI has issued guidelines on PSL including Compressed Biogas Units (CBG plants). Similarly, CBG plants are in the list of eligible projects under Agri Infrastructure Fund. Therefore, Banks in Gujarat should also strengthen their focus on facilitating credit-flow under these schemes.

4.2.3.3 Infrastructure and linkage support available, planned and gaps in Gujarat State

The Department of Biotechnology, GoI looks after and formulates policies under biotechnology in the country. Biotechnology has also been an important focus area for Government of Gujarat. The State has constituted '**Gujarat State Biotechnology Mission**' under the aegis of Department of Science and Technology. The mission aims to promote, support and facilitate research and development in the field of biotechnology and also supporting development of biotechnology industries. It also aims at creating scientific awareness, sensitization, socio-ethical acceptance and adoption to the potential application of biotechnology. **Gujarat Biotechnology Research Centre** has been constituted under Department of Science & Technology, Gujarat to undertake biotechnology research in the state priority areas.

Biotechnology Ecosystem in Gujarat has to be strengthened through garnering Investments. In this direction, it is important to strengthen research support system as well as infrastructure support, including manpower. It is vital to utilize the existing network of academia and universities/KVKs, to disseminate awareness and knowledge among farmers towards use of good quality and certified seeds, bio-fertilizers, high yield variety crops etc. Basic knowledge of biotechnology such as vermi-compost making and of bio-fertilizers should be shared with farmers' collective groups and efforts be undertaken to create "model demonstration agro-biotech farms". Biotechnology Industry of Gujarat needs the right policy and financial nudge for it to thrive. Thus, it requires a clear policy (which has been unveiled recently) and a simplified process for uptake of loans. This will bolster the investments in Biotechnology in Gujarat.

Recognizing the need to strengthen the manpower, under the Gujarat State Biotechnology Mission, 12 Capacity Building Cells have been established in different colleges/departments of the state. Furthermore, Research Support System has been initiated under the Gujarat State Biotechnology Mission under which financial assistance is provided for research projects.

Augmenting the Academic and Research ecosystem is important. However, even more important is the need to giving a fillip to commercialization of technology through setting up a close-knit ecosystem of appropriate skills, expertise, infrastructure, finance and constant interface among scientific community, industries, entrepreneurs and financiers. With this perspective, Gujarat Government has developed a Bio-Incubator in Public Sector so as to strengthen the Biotechnology ecosystem. Savli Technology and Business Incubator, (STBI) a prominent Bio-Incubator, has been set up as a separate society (STBI). This shall house Scientific Infrastructure, much-needed Instrumentation, Laboratory Facilities and provide necessary mentoring and crucial linkages for finances, resources, commercialization, technologies etc. for hand-holding. Situated in Vadodara, STBI has provided incubation facilities to more than 25 biotechnology based startups and entrepreneurs.

More such bio-incubators are required to be set up, both in public domain and in PPP—mode, to encourage flow of investments in Agri-biotech and biotechnology sector as a whole, in a more sustainable and bigger manner.

Similarly, at grassroots level, it is vital to establish Community Science Centres to disseminate knowledge of practical agri-biotech to farmers, FPOs and rural community network, so as to

encourage them to invest in affordable yet very useful technologies such as bio-fertilizers, vermi-compost and tissue-culture.

4.2.3.4 Credit Potential Assessment for 2023-24

Credit potential for 2023-24 has been assessed at **₹1,063.17 crore** for the State recording a growth of 40.1% over the previous year 2022-23 (assessed at **₹758.89 crore**). The activity-wise details for each district and component are given at the end of this chapter.

4.2.3.5 Action Points

- For success of agriculture biotechnology, three factors are necessary: First, availability of **finance for commercialization of new technologies**; Second- securing Intellectual Property Rights for the same; and Third- **Fostering innovation and entrepreneurship in academic research arena, industries** and also at grass-roots level. In this regard, NABARD can contribute towards promoting rural biotech enterprises and promote local level farm leadership in the same. Farmers Producers Organizations can be involved in production of bio-fertilizers at the localized level. There is a growing demand for crop specific bio fertilizers from farmers. This can be a beginning towards organic farming.
- Bankers should increase focus towards **financing innovations in agri-biotechnology**. They should fund duly identified start-ups, early stage and existing companies in the areas of Bio-Pharma, Agri Biotech, Contract Research and other potential areas of biotechnology. This will help to accelerate technology adoption of biotechnological products and processes. The novel projects in Biotechnology-cum-IoT should be identified and incubated as they have potential to drive transformation in agriculture and livestock related fields.
- Steps may be taken towards embedding certain existing schemes with **special clauses on promotion of agri-biotechnology**. Existing schemes such as those on development of watershed/wadis, promotion of organic farming, catalyzing of some innovative farm projects on niche technologies (FSPF) etc. can be chosen and focus can be given on agri-biotech promotion. Similarly, new schemes can also be designed to promote agri-biotechnology through involvement of grass-root level institutions and efforts of universities.
- End-to-end monitoring of such schemes and projects is extremely important to arrive at any mid-course corrections on any parameters and to continually assess the benefits of agri-biotech related infrastructure on the income & productivity of beneficiaries, through a structured cost-benefit analysis.
- Encouraging the interface of Industry with grass-roots level institutions is also crucial, and this can help in fostering of the agri-innovation centres.

Agri Infra-Others (Tissue Culture, Agri Bio Technology, Seed Production, Bio-Pesticide/Fertilizer, Vermi Composting - District-wise / Activity-wise PLP Projections - 2023-24)														(Rs. Lakh)
Sr.No.	District	Tissue Culture Labs		Seed Production Units		Bio-Fertilizer / Pesticide		Vermi Compost Units		Others / Misc.*		Total Others		
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	
1	Ahmedabad	290	23200	150	2400	27	1404	4725	2835	0	0	5192	29839	
2	Amreli	0	0	16	1087	24	1642	145	1044	777	196	962	3969	
3	Anand	3	216	20	400	19	547	103	41	0	0	145	1204	
4	Aravali	34	2550	110	2640	326	15404	29	24	0	0	499	20617	
5	Banaskantha	1	60	10	150	3	146	140	79	0	0	154	435	
6	Bharuch	11	525	0	0	13	351	21	7	0	0	45	882	
7	Bhavnagar	2	60	3	13	3	64	60	51	0	0	68	187	
8	Botad	1	30	2	9	1	21	30	26	0	0	34	85	
9	Chotaudepur	3	203	30	54	5	162	440	81	0	0	478	500	
10	Dahod	1	47	12	112	6	163	270	46	0	0	289	368	
11	Dang	0	0	0	0	0	0	260	152	0	0	260	152	
12	Devbhoomi Dwarka	0	0	20	450	80	1080	40	7	0	0	140	1537	
13	Gandhinagar	10	810	32	144	24	1080	2800	504	0	0	2866	2538	
14	Gir Somnath	6	480	9	180	18	907	282	45	0	0	315	1612	
15	Jamnagar	0	0	30	675	60	810	180	32	0	0	270	1517	
16	Junagadh	15	1200	29	580	26	1310	321	51	0	0	391	3142	
17	Kheda	21	1512	59	1180	60	1728	500	200	0	0	640	4620	
18	Kutch	6	360	17	340	29	835	55	9	0	0	107	1544	
19	Mahisagar	2	120	139	1890	94	2406	2132	341	0	0	2367	4758	
20	Mehsana	2	160	10	800	15	1200	0	0	0	0	27	2160	
21	Morbi	5	300	0	0	5	144	500	80	0	0	510	524	
22	Narmada	13	620	0	0	19	513	1089	196	0	0	1121	1329	
23	Navsari	0	0	0	0	0	0	12	7	21	4038	33	4045	
24	Panchmahal	3	180	19	258	4	102	440	70	0	0	466	611	
25	Patan	1	77	195	332	29	247	180	153	8	34	413	842	
26	Porbandar	0	0	0	0	1	68	56	10	0	0	57	78	
27	Rajkot	24	1620	50	35	0	0	2200	395	0	0	2274	2050	
28	Sabarkantha	9	608	142	3408	17	803	132	37	0	0	300	4856	
29	Surat	30	2025	34	680	28	756	2845	1451	0	0	2937	4912	
30	Surendranagar	8	480	0	0	23	662	440	70	0	0	471	1213	
31	Tapi	12	810	9	180	8	450	128	65	0	0	157	1505	
32	Vadodara	6	406	150	270	25	810	1260	234	0	0	1441	1720	
33	Valsad	6	383	6	128	30	383	435	74	0	0	477	966	
	Total	525	39039	1303	18394	1022	36199	22250	8418	806	4267	25906	106317	

4.3 Agri Ancillary Activities

4.3.1 Food and Agro processing

4.3.1.1 Introduction

Gujarat had prioritised Agro and Food Processing industries as one of the thrust industries in the industrial policy for 2016-2021. The State has now identified 'Development of agro & food processing clusters and establishment of integrated food processing parks to cater value chain' as a strategic intervention under the implementation roadmap of 'Strategy for Government of Gujarat to enable India to become a USD 5 trillion economy'.

Apart from being the driver of industrial output, a well-developed food processing industry holds the key for improving value realisations to the farmers and growth of additional employment alongwith reduction in post-harvest losses, value addition, crop diversification and employment generation for unskilled, semi-skilled and skilled manpower.

As per the revised priority sector guidelines, loans for food and agro-processing up to an aggregate sanctioned limit of ₹100 crore per borrower from the banking system shall be classified under Agriculture – Ancillary activities

4.3.1.2 Infrastructure and Support Services

A brief status of Gujarat's Food Processing Industry is as under :

- More than 30,000 food processing units are operating in Gujarat providing employment to over 1 million people.
- Under the Agri-Export Zones scheme of Agricultural and Processed Food Export Development Authority (APEDA), the state government has earmarked 03 Agriculture Export Zones namely for mangoes and vegetables (Ahmedabad to Valsad), for value-added onions (Saurashtra) and for Sesame seeds (Saurashtra region)
- There are 02 Mega Food Parks projects in Surat & Mehsana and 05 Agro Processing Clusters in Banaskantha, Kutch, Daman, Bhavnagar and Navsari district. The Mega Food Park at Surat is already operational and the one at Mehsana is under implementation. Both are approved by MoFPI. MoFPI has also accorded In-principle approval to Adani Ports for setting up of Special Economic Zone Ltd.

Realising the potentials, the State Government has come out with Gujarat Agri-business Policy 2016. The main objectives of the Agri-business Policy 2016 are as under.

- to increase investment in agricultural industries;
- to increase agricultural production and productivity;
- to increase farmers' income;
- to create more employment opportunities in rural areas through agribusiness;
- to provide the best training for skill development in the field of agribusiness;
- to increase processing and reduce wastage;
- to increase their exports by maintaining high standards of agricultural produce;
- to give highest priority to food security and nutritional security;
- to promote agricultural practices that preserve the environment and
- to give advance opportunity to youth and women in agro business;

Government of Gujarat also extends various support to the sector covering :

- Capital subsidy for setting up of new food processing units, cold store and cold chain infrastructure, collection and primary processing centres and refrigerated vehicles;
- Interest subsidy for term loan extended to above units;
- Freight subsidy covering air freight subsidy, sea freight subsidy and

- Incentive on power tariff, electricity duty and registration/ stamp duty concession

Ministry of Food Processing Industries (MOFPI), GoI, is also implementing various schemes through Banks. Gujarat Agro Industries Corporation (GAIC), has been appointed as the nodal agency by MoFPI for the State of Gujarat. Small and suitable activities related to fruits and vegetables post-harvest management are also being supported by Government of Gujarat through the i-Khedut portal for a centralised distribution of subsidy. Thus, the bank loan requirement may also increase due to such initiative.

4.3.1.3 Credit Potential Assessment for 2023-24

Food Processing potential in Gujarat State is broad-based covering almost the entire spectrum of “food”, as outlined below:

- Agri / Horticulture Infrastructure Projects:** Onion Cold Storage, Fresh Fruits-Pack house, Vegetables-Pack house, Mechanized Grain handling and storage at port, Food Parks, Terminal Markets, Spices and Isabgol Irradiation center.
- Export Oriented Processing:** Peanut Butter, De-hulled Sesame seed & Roasted Sesame oil, Roasted, salted & coated nuts, Integrated Shrimp farming & processing.
- Value added Processing based on local resources:** Tomato, Potato Flakes & Powder, Specialty grades- Guar Gum powder, Refined Sugar, Egg Powder, Baker's Yeast, Fish oil extraction.
- Natural Resources Based Opportunities:** Natural food colors, Medicinal Herbs extraction, Neem / Tobacco Oil Base Bio-Pesticides, Food Processing Enzymes, and Fish Meal Base Bio-fertilizer.
- Newer Technology Base Projects / Opportunities:** Spices Cryo grinding, Freeze Dried Fruit Processing Unit, Instant Vegetables in Retort Pouches, Potato Fabricated Chips.
- Innovative Opportunities:** Organic Milk & Milk Products, Ice Cream Balls, Castor Derivatives Based Perfumery raw materials, Banana Fibre extraction and Textiles production.

Table 4.16 Commodity Profile of Gujarat

Crop	Growing Areas	Processing Areas
<i>Groundnut</i>	Junagadh, Rajkot, Amreli, Bhavnagar, Jamnagar, Kutch, Surendranagar	Rajkot, Junagadh
<i>Sesame</i>	Bhavnagar, Amreli, Rajkot, Junagadh, Jamnagar, Kutch, Surendranagar	Bhavnagar, Amreli, Ahmedabad, Mehsana
<i>Castor</i>	Banaskantha, Kutch, Sabarkantha, Mehsana	Banaskantha, Vadodara
<i>Rice</i>	Navsari, Surat, Valsad, Anand, Kheda, Ahmedabad	Navsari, Ahmedabad
<i>Pulses</i>	Vadodara, Bharuch, Dahod, Panchmahal	Vadodara, Dahod
<i>Cumin/ Fennel</i>	Patan, Banaskantha, Rajkot, Mehsana, Ahmedabad, Junagadh, Surendranagar	Mehsana
<i>Isabgol</i>	Banaskantha, Mehsana	Mehsana
<i>Banana</i>	Anand, Kheda, Bharuch, Narmada, Surat	-
<i>Mango</i>	Junagadh, Valsad, Navasri, Surat	-
<i>Chikoo</i>	Valsad, Surat, Junagadh, Bhavnagar	-
<i>Potato</i>	Banaskantha, Kheda, Sabarkantha, Mehsana, Ahmedabad	-

Crop	Growing Areas	Processing Areas
<i>Onion</i>	Bhavnagar, Junagadh, Rajkot, Jamnagar	-
<i>Garlic</i>	Junagadh, Rajkot, Jamnagar	

As per GAIC, there is potential for establishing at least 3 major food parks in the State. The locational /cluster and commodity details are as under.

- Fruits & Vegetables Food Park (Surat, Anand, Kheda and Prantij)
- Spices & Isabgul Processing Park (Mehsana, Patan, and Banaskantha)
- Groundnut & Sesame Food Park (Rajkot, Junagadh and Amreli)

Credit potential for 2023-24 has been assessed at **₹9,256.61 crore** for the State recording a growth of 76.48% over the previous year 2022-23 (assessed at **₹5,245.18 crore**).

Food and Agro Food Processing - District-wise / Activity-wise PLP Projections - 2023-24																											(Rs. Lakh)
Sr. No.	District	Flour Mills (Mint)		Dal Mills		Oil Mills		Rice/Poha Mills		Cotton Ginning & Pressing		Fruits & Vegetable Processing		Cleaning & Grading		Spice Processing		Milk Processing		Others / Misc.*				Working Capital		Total Food & Agro Processing	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	155	1976	75	1594	40	1190	30	1275	0	0	24	1020	0	0	0	0	300	1275	663	116434	0	31191	1287	155955		
2	Anand	37	1998	0	0	27	1337	0	0	73	19710	13	819	0	0	25	6750	410	3690	28	1512	0	8954	613	44769		
3	Anand	91	728	35	700	5	200	36	2880	0	0	22	3080	0	0	0	0	48	192	170	3360	0	2785	407	13925		
4	Aravali	49	1960	111	444	49	196	49	137	0	0	27	65	0	0	22	88	0	0	98	394	0	821	405	4106		
5	Banaskantha	0	0	42	1134	50	1350	0	0	0	0	32	1440	90	3375	45	1013	30	3510	16	1800	0	8174	305	21796		
6	Bharuch	192	979	74	629	32	544	31	158	109	1853	47	240	69	1173	0	0	114	485	524	1753	0	1953	1192	9766		
7	Bhavnagar	0	0	0	0	0	0	0	0	14	3150	31	8175	0	0	0	0	75	844	0	0	655	45094	775	57263		
8	Botad	0	0	0	0	0	0	0	0	50	11250	0	0	0	0	0	0	50	563	0	0	330	24750	430	36563		
9	Chotaudepur	60	216	13	878	0	0	0	0	7	1890	108	1580	0	0	50	180	4	90	70	630	0	1366	312	6830		
10	Dahod	41	697	0	0	0	0	0	0	0	0	0	0	0	0	16	408	0	0	9	1148	0	0	66	2253		
11	Dang	68	61	0	0	0	0	58	470	0	0	0	0	0	0	29	21	46	228	171	164	0	378	372	1321		
12	Devbhoomi Dwarka	40	800	40	1600	40	1600	0	0	0	0	100	3200	0	0	0	0	0	800	4320	0	0	1020	11520			
13	Gandhinagar	55	495	0	0	0	0	0	0	10	2625	17	2295	0	0	0	0	22	330	0	0	148	1110	252	6855		
14	Gir-Somnath	0	0	0	0	0	0	0	0	0	0	47	2327	7	1663	0	0	54	583	72	2417	114	616	294	7606		
15	Jamnagar	90	3600	90	1800	180	7200	0	0	0	0	180	5760	0	0	0	0	0	2580	15360	0	0	3120	33720			
16	Junagadh	0	0	0	0	0	0	0	0	0	0	55	2723	20	4752	0	55	594	156	6131	119	643	405	14842			
17	Kheda	285	2280	75	1500	23	920	42	3360	0	0	24	3360	0	0	0	0	72	288	390	6448	0	4539	911	22695		
18	Kutch	0	0	0	0	9	360	0	0	0	0	4	560	0	0	0	0	38	152	186	976	0	0	237	2048		
19	Mahisagar	66	594	0	0	0	0	0	0	0	0	8	358	64	256	0	0	89	1335	227	2543						
20	Mehsana	100	16000	65	10400	100	16000	65	5200	0	0	40	3200	0	0	280	56800	0	0	800	13600	481	80000	1931	201200		
21	Morbi	90	648	0	0	0	0	0	0	0	0	35	112	90	3226	30	96	0	75	240	320	75	240	320	4322		
22	Narmada	33	158	28	224	0	0	17	82	0	0	10	40	16	256	0	9	36	67	207	0	266	180	1269			
23	Navsari	21	151	9	259	6	243	26	1638	0	0	6	1188	0	0	0	0	0	163	4460	0	3970	231	11909			
24	Panchmahal	50	450	0	0	0	0	0	0	0	0	0	0	18	806	38	152	0	92	1472	198	92	1472	198	2880		
25	Patn	0	0	0	0	14	5250	0	0	4	1500	17	638	0	0	16	600	0	336	3263	116	30450	503	41700			
26	Porbandar	0	0	0	0	0	0	0	0	15	2700	0	0	11	1485	0	0	9	1013	42	1999	77	7197				
27	Rajkot	0	0	0	0	0	0	0	0	190	34200	0	0	145	19575	0	0	16	720	315	35440	858	41685	1524	131620		
28	Sabarkantha	53	2120	58	232	48	192	48	134	0	0	297	1075	0	0	71	284	0	1057	0	1685	0	1057	0	5287		
29	Surat	220	578	488	6637	0	0	0	0	0	0	88	15334	0	0	0	485	1455	547	3878	0	6970	1828	34852			
30	Surendranagar	95	684	0	0	0	0	0	0	0	0	150	480	100	3584	147	470	0	487	1558	979	6777					
31	Tapi	123	369	0	0	0	0	0	0	0	0	0	0	0	0	0	0	250	2324	0	673	373	3366				
32	Vadodara	215	774	10	675	0	0	0	0	7	1890	224	2387	0	0	202	727	30	675	432	3888	0	2754	1120	13770		
33	Valsad	11	113	13	276	2	85	8	340	0	0	27	918	0	0	0	45	191	79	587	0	628	185	3138			
	District total	2240	38430	1226	28982	625	36667	410	15674	479	80768	1625	62014	574	40254	1035	67845	1903	15900	8991	231698	3606	307430	22079	925661		

4.3.2 Agri. Ancillary Others

4.3.2.1 Introduction

As per the revised RBI Guidelines on Priority Sector, Loans to Primary Agriculture Credit Societies (PACS) by banks, loans to Micro Finance Institutions (MFIs) for on lending in the agriculture sector, loans up to ₹5 crore to co-operative societies of farmers for disposing of the produce of members, loans under Agri Clinic and Agri Business Center (ACABC) scheme are included in other ancillary activities of agriculture. As per new Priority Sector Guidelines 2022 of RBI, Loans up to ₹50 crore to Start-ups, as per definition of Ministry of Commerce and Industry, Govt. of India that are engaged in agriculture and allied services are also eligible under priority sector lending.

4.3.2.2 Loans to Cooperative Societies of farmers for disposing of their produce

Primary Agricultural Credit Societies (PACS) undertake a wide variety of operations such as lending, inputs sales, consumer goods sales, farm produce purchase and processing. Following the implementation of Vaidyanathan Committee reforms, PACS are eligible to avail credit facility from any financial institution apart from the apex institution to which these are affiliated. Such lending by commercial banks will qualify as priority sector advance under other ancillary activities of agriculture.

4.3.2.3 Aggregation of Agri produce

Nearly 68% of farm holdings in Gujarat are less than 2 ha. which cover about 34% of the cultivated area. There is also a preponderance of marginal farmers with 37% holding only 10% of land area. Aggregation of produce by these farmers will put bargaining power in their hands when dealing with the buyers of their produce. All such loans up to ₹5 crore to co-operative societies of farmers for disposing of the produce of members classify as priority sector loan.

4.3.2.4 Agriclinic and Agribusiness Centres Scheme

i Objectives of the Scheme

- To supplement efforts of public extension by necessarily providing extension and other services to the farmers on payment basis or free of cost as per business model of agri-preneur, local needs and affordability of target group of farmers;
- To support agricultural development; and
- To create gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, intermediate in agriculture and Biological Science graduates with PG in agri-related courses.

ii Concept

Agri-Clinics: Agri-Clinics are envisaged to provide expert advice and services to farmers on various technologies including soil health, cropping practices, plant protection, crop insurance, post-harvest technology and clinical services for animals, feed and fodder management, prices of various crops in the market etc. which would enhance productivity of crops/animals and ensure increased income to farmers.

Agri-Business Centres: Agri-Business Centres are commercial units of agri-ventures established by trained agriculture professionals. Such ventures may include maintenance and custom hiring of farm equipment, sale of inputs and other services in agriculture and allied areas, including post-harvest management and market linkages for income generation and entrepreneurship development. A subsidy-based Credit Linked Scheme has been launched by the GoI for establishment of ACABC. Loans to ACABC is classified under priority sector lending.

iii Eligibility Criteria for Candidates

- The scheme is open to following categories of candidates of age group of 18 to 60 years:
- Graduates in agriculture and allied subjects from SAUs/ Central Agricultural Universities/ Universities recognized by ICAR/ UGC. Degree in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture & Cooperation, Government of India on recommendation of the State Government.
- Diploma (with at least 50% marks)/Post Graduate Diploma holders in Agriculture and allied subjects from State Agricultural Universities, State Agriculture and Allied Departments and State Department of Technical Education. Diploma in Agriculture and allied subjects offered by other agencies are also considered subject to approval of Department of Agriculture & Cooperation, Government of India on recommendation of the State Government.
- Post-Graduation in Agriculture & allied subjects.
- Degree courses recognized by UGC having more than 60 percent of the course content in Agriculture and allied subjects.
- Diploma/Post-graduate Diploma courses with more than 60 percent of course content in Agriculture and allied subjects, after B.Sc. with Biological Sciences, from recognized colleges and universities.
- Agriculture related courses at intermediate (i.e. plus two) level, with at least 55% marks.

In Gujarat as many as 2,222 candidates have been trained by MANAGE as on 18 October 2022 of which, 875 trained candidates have established their units.

iv Nature of Subsidy

The composite subsidy available is back-ended in nature. It will be 44% of project cost for women, SC/ST & all categories of candidates from NE and Hill states and 36% of project cost for all others.

Loans to MFIs for on lending to agriculture

There are many MFIs engaged in lending mainly to SHGs as well as individuals in rural areas. Apart from equity and market borrowings, such MFIs depend on Bank finance for their fund requirements. As per new Priority Sector Guidelines, loans given by banks to such agencies are also categorized as priority sector finance under other ancillary activities.

4.3.2.5 Credit Potential Assessment for 2023-24

Credit potential for 2023-24 has been assessed at **₹1,588.36 crore** for the State recording a growth of 7.10% over the previous year 2022-23 (assessed at **₹1483.06 crore**).

4.3.2.6 Issues, Constraints and Suggested Action Points

- Banks may support profit making successful farmers cooperatives by providing loan to strengthen local value chain
- There is need to change the mind-set of agri-graduates to develop as 'agripreneuers'. Other than the training provided by MANAGE through its identified institutes, the Agriculture course may include subjects and internships on agripreneuership.
- Banks should consider financing for Agri-Clinic and Agri-Business Centres (ACABCs) and support the educated unemployed youth.
- NTIs should coordinate with the banks and facilitate filling of timely credit application by the ACABC trainings, so that the ACABC units gets established in time.
- Introduction of common accounting System, computerization of operations, capacity building of PACS functionaries etc. are some key issues which need to be focused upon in order to strengthen the position of these institutions to act as alternative viable channels of credit flow to agriculture.
- Banks may come forward and finance the Micro Finance Institutions (MFIs) for on-lending purposes. This may further add to the outreach of formal credit delivery system into the

deeper areas where banks have been unable to cater to the demand of funds for small and tiny Income Generating Activities.

- The MFI's to adopt digital technology based API platforms covering their entire gamut of services for enhanced penetration of their products in sector in fully transparent manner.

Agri. Ancillary - Others (Loans to Coop Societies of Farmers, ACABC, Loans to PACS/FSS/LAMPS, Loans to mFIs for onlending to agriculture) - District-wise / Activity-wise PLP Projections - 2023-24													(Rs. Lakh)
Sr.No.	District	Loans to PACS/FSS/ LAMPS		ACABC Financing		Loans to MFIs		Others / Misc. *		Total Others			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		
1	Ahmedabad	250	2000	120	1920	5	40	0	0	375	3960		
2	Amreli	122	10980	300	4050	18	3240	25	1125	465	19395		
3	Anand	9	72	19	228	6	240	0	0	34	540		
4	Aravali	775	6588	22	561	40	3400	0	0	837	10549		
5	Banaskantha	700	14000	60	1080	0	0	0	0	760	15080		
6	Bharuch	106	1081	27	115	11	47	0	0	144	1243		
7	Bhavnagar	65	11700	55	413	0	0	0	0	120	12113		
8	Botad	15	2250	15	113	0	0	0	0	30	2363		
9	Chotaudepur	150	1080	21	190	6	270	0	0	177	1540		
10	Dahod	38	388	24	163	18	184	0	0	80	734		
11	Dang	5	25	0	0	0	0	5	25	10	50		
12	Devbhoomi Dwarka	12	144	32	512	8	320	0	0	52	976		
13	Gandhinagar	100	450	21	236	9	135	0	0	130	821		
14	Gir Somnath	6	48	12	144	8	320	0	0	26	512		
15	Jamnagar	120	1440	108	1728	30	1200	0	0	258	4368		
16	Junagadh	77	616	47	564	42	1680	0	0	166	2860		
17	Kheda	21	168	38	456	6	240	0	0	65	864		
18	Kutch	230	1840	7	112	16	640	0	0	253	2592		
19	Mahisagar	61	927	18	144	0	0	0	0	79	1071		
20	Mehsana	10	240	42	672	6	240	0	0	58	1152		
21	Morbi	19	152	5	100	0	0	50	40	74	292		
22	Narmada	36	389	20	90	21	95	0	0	77	573		
23	Navsari	65	1850	25	50	0	0	115	3200	205	5100		
24	Panchmahal	72	1094	4	32	0	0	0	0	76	1126		
25	Patan	7	140	15	240	0	0	0	0	22	380		
26	Porbandar	0	0	7	126	0	0	0	0	7	126		
27	Rajkot	359	2870	195	2635	0	0	0	0	554	5505		
28	Sabarkantha	184	1380	49	1176	30	2250	0	0	263	4806		
29	Surat	232	5568	375	6000	49	1960	0	0	656	13528		
30	Surendranagar	750	600	65	163	0	0	300	240	1115	1003		
31	Tapi	72	1728	112	1792	49	1960	0	0	233	5480		
32	Vadodara	390	3121	42	379	380	34200	0	0	812	37700		
33	Valsad	14	179	10	170	2	85	0	0	26	434		
District total		5072	75108	1912	26353	760	52745	495	4630	8239	158836		

4.3.3 Others – Miscellaneous - SHGs, JLGs, distressed persons, PMJDY, etc.

4.3.3.1 Introduction

The Tertiary Sector (also referred to as Other Priority Sector) comprises of road transport, retail trade, small business, self-employment, education, housing and any other miscellaneous items of activities including loans to SHGs. The sector has large significance from the view of linkage to primary agriculture and industrial output. This sector is the fastest growing sector in the Indian economy.

Micro Credit

A. SHG-Bank Linkage programme

Table 4.17 SHG-Bank Linkage programme – Status - Agency wise position

₹Lakh

Agency	No. of SHGs savings linked		Cumulative No. of SHGs having loan O/S	Gap Saving and credit linkage	% of credit linkage
	During the year 2022-2023 (position as on 30.06.2022)	Cumulative			
Commercial Banks	3,052	1,95,796	32,436	1,63,360	16.57
RRBs	1,579	65,586	9,312	56,274	14.20
Cooperative Banks	5,378	48,438	3,058	45,380	6.31
Small Finance Banks	0	7	0	7	0
Total	10,009	3,09,827	44,806	2,65,021	14.46

(Source: SLBC)

After more than 30 years of SHG Bank linkage, the programme has grown exponentially, the system has evolved and matured, enabling the SHGs access to large loans under SHG BLP besides loans that SHGs have been able to access from their own federations and the NBFC MFIs. As on 31 March 2022, under SHG BLP programme in Gujarat, 2,92,226 SHGs have Savings Account having total saving amount of ₹31,138.54 Lakh with average saving of ₹0.11 lakh per SHG. During 2021-22, loan of ₹18,828.42 lakh was disbursed to 20,695 SHGs in Gujarat with average loan amount of ₹0.91 lakh. As on 31 March 2022, loan outstanding of 45,122 SHGs is ₹21,797.32 lakh, averaging to ₹0.48 lakh per SHG.

(Source: SLBC)

In the State of Gujarat, Gujarat Livelihood Promotion Company (GLPC) is the executive arm of Mission Mangalam, the implementation agency for NRLM and responsible for all the activities related to SHGs in the State.

B. Women Self Help Group (WSHG)

WSHG is a GoI programme for formation, financing and nurturing of SHGs in backward and Left Wing Extremism affected districts. 150 districts were identified by GoI throughout the country. In Gujarat, the Programme is being implemented in Dangs, Dahod and UT of DNH. Performance under credit linkage in these districts is much below the phasing. Banks are required to extend credit to the SHGs which have opened Savings bank accounts.

C. Village Level Programmes for SHGs

NABARD, Gujarat as a part of an All India Action Plan, sponsors Village Level Programmes on the lines of credit camp/ linkage meets, so as to increase the credit linkages in the State. NABARD provides an incentive of ₹2000/- per VLP to banks. As on 31 October 2022, against allocated target of 630 VLPs for FY 2022-23, 286 VLPs have been conducted by banks in the different

districts of the State. 509 VLPs were conducted by various banks during the FY 2021-22.

D. Micro Enterprise Development Programme (MEDP)

MEDP enhance the capacities of SHGs and JLGs through appropriate skill upgradation in farm as well as non-farm sector activities, enterprise management etc. As on 31 October 2022, 668 MEDPs covering 19,300 beneficiaries were conducted in the State with NABARD's assistance since 2006. Beneficiaries of MEDP are potential entrepreneurs for MSME bank finance.

E. Livelihood and Enterprise Development Programme (LEDP)

LEDP encompasses the customized package ranging from skill building to credit linkage to marketing arrangements of SHG and JLG members. As on 31 October 2022, 44 LEDP programmes covering 4740 beneficiaries were implemented with grant assistance of NABARD since 2015. Beneficiaries of LEDP are potential entrepreneurs for MSME bank finance.

F. Joint Liability Groups (JLGs)

JLG serves as an important tool for augmenting flow of credit to landless farmers cultivating land as tenant farmers, oral lessees, share croppers and small/marginal farmers and other individuals for taking up farm, off farm and non-farm activities. NABARD extends grant support for formation and nurturing of JLGs to banks and other JLG promoting agencies. Apart from extending 100% refinance support to Banks, NABARD also extends financial support for awareness creation and capacity building of all stakeholders of this programme. The grant assistance to the Joint Liability Group Promoting Institutions (JLGPIs) is linked to formation and nurturing as well as credit linkage of JLGs. Findings of the Impact Evaluation Studies on JLGs, conducted across the country by NABARD over the last 2 years indicate that the grant assistance is not being fully claimed as the JLGPIs generally discontinue their association with the JLGs due to low incentive for a long drawn process. In order to incentivise JLGPIs the quantum of grant assistance has been enhanced from ₹2000/- to ₹4000/- per JLG in respect of Cooperatives & RRBs.

During the year 2021-22, 3,49,150 JLGs were financed out of which 2,20,195 were from farm sector & 1,28,955 were from non-farm sector. As on 31 March 2022, loan outstanding under Farm-Sector was ₹1,54,601.64 lakh and under Non-Farm Sector was ₹2,02,058.22 lakh.

A target of financing 1,85,000 JLGs has been set for Gujarat state for the year 2022-23. The Bank wise target has been allocated among the member banks. The performance of PSBs in formation and credit linkage of JLGs has not been up to the desired levels. Banks may utilise the services of Business Correspondents for formation and nurturing of JLGs. Similarly training programmes may be conducted for Branch Managers by respective banks for which NABARD can provide faculty support. Banks may give directions to their branches to form and finance Joint liability groups particularly of Bhoomi Heen Kisan. Financing of JLGs should be a part of regular training curriculum of banks.

G. Business Model on financing of JLGs through RRBs

A huge opportunity is available with RRBs to easily rope in Business Correspondents and Community Service Providers for taking on the role of a business facilitator and persuade them for formation, monitoring and extending hand holding support to the JLGs, as an add on function. This will not only externalize some of the bank's functions viz., mainly of monitoring, ensuring borrower contact, hand holding and follow up for timely repayments but will also enable the BC Agents to get additional income from managing the JLGs.

NABARD, Gujarat RO has executed MOUs with Baroda Gujarat Gramin Bank & Saurashtra Gramin Bank in FY 2021-22 for formation, nurturing and credit linkage of 2000 JLGs & 1000 JLGs respectively, for formation, financing and successful repayment of loan by JLGs, phased over 3 years from Financial Year 2021-22.

H. Prime Ministers Jan Dhan Yojana (PMJDY)

PMJDY is national Mission for Financial inclusion to ensure access to financial services, namely, a basic savings and deposit accounts, remittance, credit, insurance, pension in an affordable manner. Under the scheme, a basic savings bank deposit (BSBD) account can be opened in any bank branch or Business Correspondent (Bank Mitra) outlet, by persons not having any other account.

As on 02 November 2022, 1,72,86,000 PMJDY accounts have been opened in the State of which 1,06,23,284 are in the rural/semi urban areas and 66,62,716 in urban areas. Also, a total 1,29,32,090 Rupay cards has since been issued under PMJDY. Balance in PMJDY accounts as on 2 November 2022 was ₹7970.29 crore.

(Source: PMJDY Portal)

I. Progress in enrollment social security schemes

The progress under Pradhan Mantri Suraksha Bima Yojana (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY) and Atal Pension Yojana (APY) as on 17 August 2022 is given in table 4.18 below.

Table 4.18 Enrollment under PMSBY, PMJJBY and APY as on 17 August 2022

Particulars	PMJJBY	PMSBY	APY	Total
Total enrollment	50,77,061	1,19,43,469	17,14,272	1,87,34,802

(Source: SLBC)

J. Pan India Project collaboration with NABFOUNDATION

To address the issue of menstrual hygiene of rural women and also enable a livelihood option for them, NABARD had launched a pan-India LEDP, 'MY PAD MY RIGHT (MPMR)' in 2020-21 through its subsidiary, NABFOUNDATION. The project aimed to provide sustainable livelihood enterprises to active SHGs for setting up sanitary pad making units in the identified districts. On pilot basis in first phase, 28 districts and 6 Union Territories in the country had been selected for implementation of the project. From Gujarat, Rajkot and Dadra and Nagar Haveli had been identified for implementation of LEDP, "My PAD MY RIGHT" under phase I. In the second phase, project will be taken up in all the aspirational districts of the country.

K. Pilot project on 'Nurturing Women's Livelihoods and Entrepreneurship'

The project was sanctioned to Friends of Women' World Banking with a financial assistance of ₹65.42 lakh for implementation in 9 districts of 3 states, viz., Gujarat, Nagaland and Manipur for promoting micro-enterprises by 800 rural women, of which 400 enterprises will be linked with credit. In Gujarat, 200 beneficiaries from 3 districts viz. Narmada, Gandhinagar & Mehsana have been identified for the project.

L. MFI-Banks Linkage Programme

Microfinance institutions have expanded the frontiers of institutional finance and have brought the poor, especially poor women, into the formal financial system and enabled them to access credit and fight poverty. Though some significant strides have been made in upscaling the reach of micro finance, it is observed that microfinance has had an asymmetric growth across the country with diverse rates of interest being charged to the members, which are areas of concern.

NABARD had been providing financial assistance to eligible MFIs by way of Long Term Refinance support since 2014-15. During 2021-22, refinance to the tune of ₹2938 crore have been disbursed to 36 MFIs all over India. In Gujarat, disbursement of ₹45 crore have been made to 2 NBFC-MFIs during the FY 2021-22.

4.3.2 Credit Potential Assessment for 2023-24

The credit potential for 2023-24 under Priority Sector - Others has been assessed at **₹2,401.61 crore**, out of which an amount of **₹1005.23 crore** has been assessed for credit to mature SHGs, **₹299.82 crore** for new SHGs and **₹572.89 crore** for JLGs.

Priority Sector-Others (SHG/JLG, PMJDY, Loans to distressed farmers / Govt. sponsored organisations for SC/ST) - District-wise / Activity-wise PLP Projections - 2023-24																	(Rs. Lakh)	
Sr.No.	District	Mature SHGs		New SHGs		JLGs		PMJDY		Distressed farmers		Govt. Sponsored SC/ST		Others / Misc		Total Others		
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	
1	Ahmedabad	6100	6100	0	0	6750	10125	2500	2500	6950	348	6850	3425	6000	6000	35150	26248	
2	Anreli	4105	4105	0	0	595	1488	10000	10000	56	112	1	100	0	0	14757	6805	
3	Anand	1585	1585	425	425	1810	4525	2800	2800	480	24	480	96	2800	560	10380	7495	
4	Aravali	1845	2768	680	680	850	1700	1360	1360	187	9	629	755	255	204	5806	6252	
5	Banaskantha	1200	1200	1200	1200	200	400	350	350	35	100	5	70	84	200	3320	3024	
6	Bharuch	12336	12336	0	0	690	690	852	852	690	345	0	0	0	0	14568	13456	
7	Bhavnagar	5995	5995	5050	2525	775	12200	1220	1220	550	138	1025	513	3050	3050	28645	14215	
8	Botad	2835	2835	780	390	500	500	15000	15000	710	178	2015	1008	800	800	22640	7210	
9	Chotaudepur	1465	1465	810	810	146	328	350	31	230	10	100	23	60	13	3161	2680	
10	Dahod	2700	2700	0	0	415	415	2400	2400	310	155	210	84	0	0	6035	3594	
11	Dang	650	650	0	0	150	100	1800	80	0	0	0	0	0	0	2600	830	
12	Devbhoomi Dwarka	800	1600	1300	1300	400	200	2000	2000	0	0	0	0	0	0	4500	3300	
13	Gandhinagar	2680	2680	0	0	1340	3350	1200	1200	950	48	2900	1450	30	1350	9100	8998	
14	Gir Somnath	1500	1500	1500	1500	425	1063	666	67	80	4	1013	162	560	90	5744	4385	
15	Jamnagar	1220	2440	300	300	280	140	9000	9000	0	0	0	0	0	0	10800	3780	
16	Junagadh	2780	2780	2320	2320	630	1575	1040	1040	230	12	210	34	1060	170	8270	6994	
17	Kheda	1006	1006	408	408	1300	3250	2500	2500	400	20	300	60	1000	200	6914	5194	
18	Kutch	1650	3300	2625	2625	2250	2250	1250	1250	1000	50	150	30	2150	538	11075	8918	
19	Mahisagar	525	420	480	384	402	129	360	144	178	142	147	59	540	139	2632	1417	
20	Mehsana	2279	4558	640	640	500	250	3007	1504	1250	625	1000	400	1700	680	10376	8657	
21	Morbi	851	851	475	475	100	100	1300	1300	0	0	0	0	0	0	2726	1556	
22	Narmada	2468	2468	0	0	289	289	100	10	40	20	0	0	0	0	2897	2787	
23	Navsari	5000	5000	0	0	800	800	5190	260	0	0	0	0	0	0	10990	6060	
24	Panchmahal	796	637	646	517	469	150	769	171	348	278	95	38	56	22	3179	1813	
25	Patan	1125	2250	500	500	625	625	13500	13500	850	191	1100	495	2250	2025	19950	7436	
26	Porbandar	170	170	663	663	221	398	211	21	0	0	0	0	0	0	1265	1252	
27	Rajkot	1185	1185	585	585	2250	4050	890	90	0	0	0	0	0	0	4910	5910	
28	Sabarkantha	4510	6765	1425	1425	990	1980	131	131	306	15	792	1188	550	550	8704	12054	
29	Surat	0	0	4785	4785	3270	3270	67420	67420	990	990	51	510	0	0	76516	16297	
30	Surendranagar	750	750	940	940	200	200	500	500	0	0	0	0	0	0	2390	1940	
31	Tapi	1025	1025	485	485	570	1710	3140	3140	481	481	37	370	0	0	5738	4385	
32	Vadodara	4750	14250	2450	2450	4520	10170	5900	5900	1740	1393	115	26	2490	1121	21965	30000	
33	Valsad	1575	3150	1650	1650	590	295	480	480	48	20	280	60	0	0	5055	5223	
District total		79461	100523	33122	29982	35302	57289	170166	18176	19586	5613	19570	10988	25551	17611	382758	240161	

4.4 MSME

4.4.1 Introduction

Definition: Ministry of Micro Small and Medium Enterprises, Government of India, defines MSMEs as under:-

Micro	The investment in plant and machinery or equipment does not exceed ₹1 Crore and annual turnover does not exceed ₹5 crores.
Small	The investment in plant and machinery or equipment does not exceed ₹10 crore and annual turnover does not exceed ₹50 crore.
Medium	The investment in plant and machinery or equipment does not exceed ₹50 crore and annual turnover does not exceed ₹250 crore.

With around 63.4 million units in the country, MSMEs contribute around 6.11% of the manufacturing GDP and 24.63% of the GDP from service activities as well as 33.4% of India's manufacturing output. They have been able to provide employment to around 12 crore persons and contribute around 45% of the overall exports from India.

Their capacity to foster entrepreneurship and generate large scale employment opportunities at comparatively low capital cost is pivotal to reducing disproportionate and often disguised employment in agricultural sector in the country. MSMEs also complement large industries which develop core industrial and private sector research in the host region. Health of MSME sector is important for inclusive socio-economic development of the country and putting it on the path of high income country.

4.4.2 Infrastructure and linkage support available, planned and gaps

Importance of MSME sector to economy and employment has been duly realised in policy making circles. This has resulted into several policy initiatives aimed at maintaining and improving the sector's health. The sector is eligible for credit under priority sector lending norms. Public procurement policy earmarks 25% of annual procurement by Central Ministry /Department / PSUs to be done from MSE Sector.

Schemes such as PMEGP (Prime Minister's Employment Generation Programme), provision of collateral free credit through Credit Guarantee Fund for MSEs (CGTMSE), (ASPIRE) A Scheme for Promotion of Innovation, Rural Industries & Entrepreneurship), ESDP (Entrepreneurship and Skill Development Programmes), SFURTI (Scheme of Fund for Regeneration of Traditional Industries), MSE-CDP (Micro and Small enterprises Cluster Development Programme), Scheme for providing financial assistance to Khadi institutions under MMDA, The National Scheduled Caste and Scheduled Tribe Hub, Ministry of MSME UNIDO, GEF-5 Project on 'Promoting Market Transformation for Energy Efficiency in Micro, Small & Medium Enterprises' have been launched by government of India to support MSME sector.

Government of Gujarat, under its Industrial Policy 2020, also provides assistance to MSMEs through several schemes such as Scheme for Assistance to MSME, Dr. Baba Saheb Ambedkar Udhog Uday Yojna for SC/ST Entrepreneurs of MSME, Scheme for Assistance for Mini-Cluster Development etc. supports the sector in state. Under industrial policy 2020, assistance is provided for activities like Capital Investment subsidy, interest subsidy, quality certification, financial support in Zero Defect Zero Effect certification, implementation of information and communication technology, technology acquisition, patent registration, efficient energy and water consumption, raising capital through SME exchange, reimbursement of Credit Guarantee Fund Trust for Micro and Small Enterprises Credit Guarantee Fund Trust for Micro and Small Enterprises etc.

These schemes are designed after identification of weaknesses and shortcomings of MSME enterprises and are aimed at bridging the gaps in access to credit; improving skill, competitiveness and bargaining power of the sector and creation of assured markets.

In spite of all these schemes and measures by governments and RBI, gaps remain in the achievement of goals. Major obstacles include poor knowledge among beneficiaries, information gap, lack of skill and professionalism, competition from e-commerce websites, insufficient capacity to take advantage of technology, lack of innovation, poor access to formal credit as well as cyclical nature of availability of funds, absence of standardised policies, legal compliance burden, poor delivery of services at the field level, corruption etc.

4.4.3 Credit Potential Assessment for 2023-24

The sector, with focus of government but limited access to formal credit, provides a big opportunity for banks. The geographical, infrastructural and entrepreneurial competencies of the state puts it among top ten states in the country in terms of size of MSME sector. Banks can and have been tapping into this large market and generating business. With disbursement of ₹94,815 crore of loan to MSME sector, the target of ₹94,365 crore for FY 22 in the state was crossed in the quarter ending December 2021 itself. The projected credit potential for MSMEs for financial year 2023-24 in the state is **₹1,41,48,2.17 crore** of which **₹1,01,580.23 crore** is assessed towards investment credit.

Table 4.19 The trend of MSME financing in Gujarat state during years 2020 to 2022

	31 March 2020	31 March 2021	31 March 2022
Loan Outstanding to MSMEs (in lakhs rupees)	1,29,03,176	1,35,15,964	1,82,38,911

Table 4.20 NPA trend in MSME sector in Gujarat

	31 March 2020	31 March 2021	31 March 2022
Gross NPA (percent)	6.84 %	5.83 %	5.11 %

Source: SLBC, Gujarat

4.4.4 Critical interventions required for creating a definitive impact and Suggested Action Points

While the story of MSME sector has been relatively brighter in comparison, it is not without dark chapters and to reach the bright light at the end of tunnel, focussed and better conceptualised interventions are needed that can improve access to formal capital, strengthen global competitiveness, bridge gaps in infrastructure, decrease compliance burden, provide speedier and reliable dispute resolution mechanism, enhance skill set and training quality of manpower and use modern technology to the sector's benefit.

4.4.5 Suggested Action Points

In order to realise full potential of the sector, some of the steps and strategies can be: -

- **Consultation with Stakeholders:** The views of stakeholders particularly, MSMEs should be represented in policies. An institutional mechanism may be developed which would conduct regular meeting with stakeholders to assess needs and fine tune policies related the sector.
- **Better access to information and knowledge:** Management information systems, dashboard for schemes, capacity building of MSME associations, regular training programmes for officers involved in related programmes, intra country and foreign interaction/exposure visits with aim to achieve peer group learning and market familiarisation etc can improve access to critical information necessary for increasing quality and efficiency of businesses.

- **Geographical spread:** The policies need to consider the strength of different areas of country/ state and add region specific attributes to the schemes/ programmes to take advantage of local competencies. This will also ensure inclusive development and balanced growth.
- **Helping hand to weaker sections of society:** Specialised skill and knowledge sharing programmes for women and weaker sections of society as well as backward areas of country will enlarge the pool of entrepreneurial manpower and free dormant potential.
- **Access to technology:** The government can provide open source software for asset management, supply chain management, book keeping etc for MSME sector. Similarly innovations like ONDC and UPI that are specialised for and specific to MSME entrepreneurs can be created.

4.4.6 Other related matters

To get it right, policy making should ensure continuous and concurrent consultation with stakeholders and put extra focus on poor regions and sections of population to ensure inclusive and balanced development. It needs to seep into the psyche that the progress of India into a high income country and industrial powerhouse will depend a lot on getting the MSME dream right.

Sr.No.	District	MSME Sector (Investment Credit) - District-wise / Activity-wise PLP Projections - 2023-24																(Rs. Lakh)	
		Wholesale & Retail				Manufacturing Sector- Investment				Total Manufacturing - Investment				Service Sector- Investment				Total Investment Credit (Mfg. + Service)	
		No.	Bank Loan	Micro Enterprise	Small Enterprise	Medium Enterprise	Bank loan	No.	Bank loan	No.	Bank loan	No.	Wholesale & Retail	Bank loan	No.	Bank loan	No.	Bank loan	No.
1	Ahmedabad	0	0	63000	787500	2700	337500	70	168000	65770	3768000	0	0	0	0	0	0	65770	3768000
2	Anand	0	0	427	17080	43	17200	3	6000	473	40280	0	0	0	0	0	0	473	40280
3	Anand	0	0	265	10600	112	44800	34	68000	411	123400	0	0	0	0	0	0	411	123400
4	Aravali	105	84	73	1450	120	9600	90	216	388	11350	95	760	380	82	326	53	722	13026
5	Sabarkantha	0	0	600	24000	68	27200	10	24000	678	75200	0	0	530	21200	70	28000	8	19200
6	Bharuch	418	1881	371	16695	49	22050	62	139500	900	180126	0	0	0	0	0	0	0	0
7	Bhavnagar	0	0	2750	51563	225	33750	140	262500	3115	347813	0	0	0	0	0	0	0	0
8	Bodad	0	0	121	4538	11	4195	6	11250	138	19913	0	0	0	0	0	0	0	0
9	Chotandeupur	0	0	145	1960	33	11880	3	2160	181	16000	0	0	0	0	0	0	0	0
10	Dahod	0	0	100	425	14	595	8	3400	122	4420	0	0	110	468	13	276	8	1360
11	Dang	0	0	805	1130	670	1698	0	1475	2828	0	0	0	0	0	0	0	0	0
12	Devbhoomi Dwarka	0	0	500	8500	20	8500	2	1700	522	18700	0	0	0	0	0	0	0	0
13	Gandhinagar	0	0	260	10400	38	14238	26	48750	324	73388	0	0	0	0	0	0	0	0
14	Gir-Somnath	34	7448	60	2400	59	23600	9	18000	162	51448	0	0	0	0	0	0	0	0
15	Jamnagar	0	0	800	13600	300	127500	30	25500	1130	166600	0	0	0	0	0	0	0	0
16	Junagadh	52	5432	135	5490	138	55200	3	6000	328	72032	0	0	0	0	0	0	0	0
17	Kheda	0	0	77	3080	54	21600	20	40000	151	64680	0	0	0	0	0	0	0	0
18	Kutch	0	0	166	6640	128	51200	40	80000	334	137840	0	0	166	6640	128	51200	40	80000
19	Mahisagar	0	0	123	2460	2	400	3	1800	128	4660	0	0	0	0	0	0	0	0
20	Mehsana	0	0	700	35000	167	88750	18	37000	885	160750	0	0	700	35000	168	88750	19	37000
21	Morbi	280	1120	310	12400	250	100000	250	500000	1090	613520	0	0	0	0	0	0	0	0
22	Narmada	140	630	43	1935	11	4950	2	4500	196	12015	0	0	0	0	0	0	0	0
23	Nasuni	0	0	2815	6145	3560	32856	0	0	6775	39001	0	0	0	0	0	0	0	0
24	Panchmahal	0	0	560	11200	35	7000	7	4200	602	22400	0	0	0	0	0	0	0	0
25	Patan	0	0	65	1300	40	4800	11	8800	116	18900	0	0	0	0	0	0	0	0
26	Porbandar	0	0	260	11700	55	14850	19	18810	334	45360	0	0	272	5100	55	6188	19	7838
27	Rajkot	0	0	1267	47515	968	360000	685	555125	2920	975640	0	0	0	0	0	0	0	0
28	Sabarkantha	334	1134	989	15625	214	15625	214	21400	2161	39147	334	1134	989	15625	214	21400	2161	39147
29	Surat	0	0	7177	322965	1185	474000	165	330000	8227	1166965	0	0	0	0	0	0	0	0
30	Surendranagar	120	480	160	6400	100	40000	45	90000	425	136880	0	0	0	0	0	0	0	0
31	Tapi	0	0	29	1160	18	7200	10	20000	57	28360	0	0	0	0	0	0	0	0
32	Vadodara	0	0	2259	40270	1515	681750	179	161100	3953	883120	0	0	0	0	0	0	0	0
33	Valsad	0	0	4010	170425	337	142225	65	138125	4412	451775	0	0	0	0	0	0	0	0
District total		1483	18209	91422	1638823	13650	2794642	2229	2805836	108783	9732510	429	1894	2862	6976	6537	205961	361	167008
																		9841	495513
																		130816	10158023

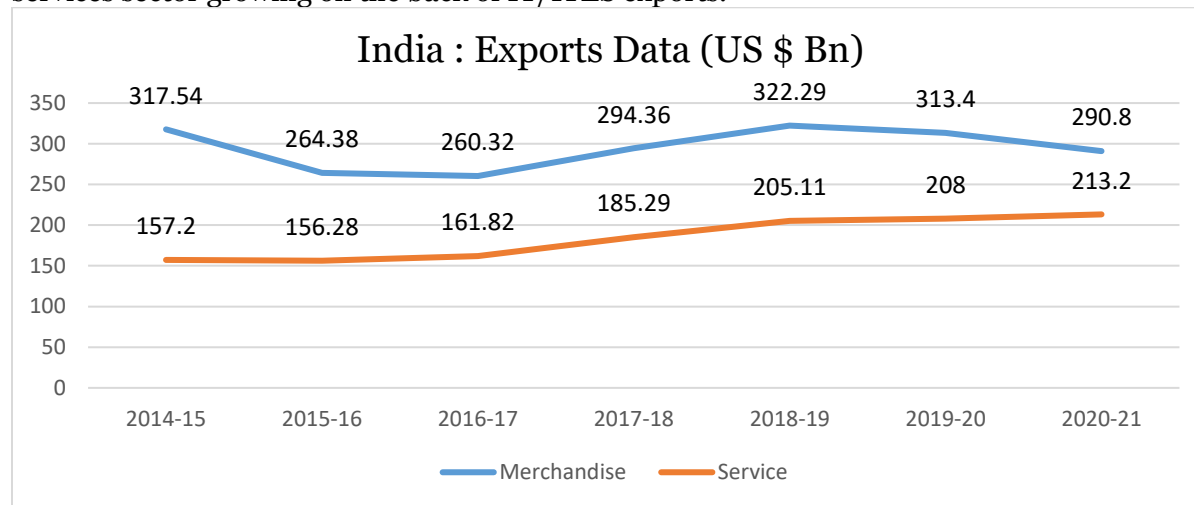
MSME Sector (Working Capital) - District-wise / Activity-wise PLP Projections - 2023-24																									(Rs. Lakh)
Sr.No.	District	Wholesale & Retail	Manufacturing Sector - Working Capital						Service Sector - Working Capital						Total Service Sector - Working Capital				Total Working Capital - Credit (Mfg. + Service)						
			Micro Enterprise		Small Enterprise		Medium Enterprise		Total Manufacturing - Working Capital		Micro Enterprise		Small Enterprise		Medium Enterprise		Total Service Sector - Working Capital		Total Working Capital - Credit (Mfg. + Service)						
			No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	
1	Ahmedabad	0	0	63000	787500	2700	337500	70	43750	1168750	0	0	0	0	0	0	0	0	65770	1168750	0	65770	1168750		
2	Amreli	0	0	380	4750	56	7000	7	4375	443	16125	0	0	0	0	0	0	0	886	16125	0	886	16125		
3	Anand	0	0	265	3313	112	14000	34	21250	411	38563	0	0	0	0	0	0	0	822	38563	0	822	38563		
4	Aravali	105	84	73	1450	120	9600	90	216	388	11350	95	760	95	380	82	326	324	1676	13026	1267	1676	13026		
5	Banskantha	0	0	7501	0	0	8500	0	7500	0	23501	0	6625	0	8750	0	6000	0	21375	0	21375	0	21375		
6	Bharuch	418	1045	371	4638	49	6125	62	38750	900	59558	0	0	0	0	0	0	0	1382	59558	0	1382	59558		
7	Bhavnagar	0	0	8965	22413	2100	105000	1127	225400	12192	0	0	0	0	0	0	0	0	24384	352813	0	24384	352813		
8	Bolad	0	0	2000	5000	135	6750	80	16000	0	0	0	0	0	0	0	0	0	2215	27759	0	2215	27759		
9	Chotandeupur	0	0	145	490	33	2970	3	540	181	4000	0	0	0	0	0	0	0	181	4000	0	181	4000		
10	Dahod	0	0	125	159	16	204	11	1403	152	1766	110	140	13	83	8	408	131	566	2397	631	566	2397		
11	Dang	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1131	0	0	1131		
12	Devbhoomi Dwarba	0	0	500	2500	20	2500	2	500	522	5500	0	0	0	0	0	0	0	1044	5500	0	1044	5500		
13	Gandhinagar	0	0	3200	35840	260	24379	90	42188	3550	102406	0	0	0	0	0	0	0	3550	102406	0	3550	102406		
14	Gir Somnath	34	1995	60	750	59	7375	9	5625	162	15745	0	0	0	0	0	0	0	128	15745	0	128	15745		
15	Jamnagar	0	0	800	4000	300	3750	30	7500	1130	15250	0	0	0	0	0	0	0	2260	15250	0	2260	15250		
16	Junagadh	52	1455	135	1688	138	17250	3	1875	328	22268	0	0	0	0	0	0	0	328	22268	0	328	22268		
17	Kheda	0	0	77	963	54	6750	20	12500	151	20213	0	0	0	0	0	0	0	302	20213	0	302	20213		
18	Kutch	0	0	150	1875	120	1500	40	20000	310	23375	205	1675	121	22600	40	20000	366	44275	6760	6760	44275	6760		
19	Mahisagar	0	0	123	492	2	80	3	240	128	812	0	0	0	0	0	0	0	128	812	0	128	812		
20	Mehsana	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
21	Morbi	0	0	310	3875	250	31250	250	156250	810	191375	0	0	0	0	0	0	0	1620	191375	0	1620	191375		
22	Narmada	140	350	43	538	11	1375	2	1250	196	3513	0	0	0	0	0	0	0	196	3513	0	196	3513		
23	Navsari	0	0	0	0	0	0	0	0	6375	19500	0	0	0	0	0	0	0	6375	19500	0	6375	19500		
24	Panchmahal	0	0	560	2240	35	1400	7	560	602	4200	0	0	0	0	0	0	0	1204	4200	0	1204	4200		
25	Patan	0	0	105	4200	70	8400	28	11200	203	23800	0	0	0	0	0	0	0	203	23800	0	203	23800		
26	Porbandar	0	0	272	5100	55	6188	19	7838	346	19125	0	0	0	0	0	0	0	346	19125	0	346	19125		
27	Rajkot	0	0	1272	28620	968	130680	685	339075	2925	498375	0	0	0	0	0	0	0	2925	498375	0	2925	498375		
28	Sabarkantha	1325	13250	1031	5153	1773	8865	703	3513	4831	30780	1031	5153	1773	8865	703	3513	4831	30780	16676	16676	30780	16676		
29	Surat	0	0	4630	57875	2205	275625	735	459375	7570	792875	0	0	0	0	0	0	0	7570	792875	0	7570	792875		
30	Surendranagar	0	0	160	2000	100	12500	45	28125	305	42625	0	0	0	0	0	0	0	305	42625	0	305	42625		
31	Tapi	0	0	66	660	40	4000	10	5000	116	9660	0	0	0	0	0	0	0	116	9660	0	116	9660		
32	Vadodra	0	0	2259	10165	1515	170440	179	40275	3953	220880	0	0	0	0	0	0	0	3953	220880	0	3953	220880		
33	Valsad	0	0	4010	50125	337	42125	65	40625	4412	132875	0	0	0	0	0	0	0	4412	132875	0	4412	132875		
	District total	2074	18179	95087	1055870	13633	1254080	4409	1546697	119362	3509763	1441	14353	2002	40678	833	30247	5652	98737	151790	98737	151790	3909014		

4.5 Export

4.5.1 Introduction

Exports are the key drivers of economic growth of a developing nation like India. Although there are other ways of financing imports such as FDI, FII inflows, Remittances from NRIs, foreign grants and loans etc but a continuous growth of exports is most sustainable and dependable source of foreign exchange. China's spectacular rise to become manufacturing powerhouse in the world hinges on the tremendous growth of exports at CAGR of 6% between 2010 & 2019.

India's record has been rather sluggish in propelling exports dominated growth despite a vibrant services sector growing on the back of IT/ITES exports.



It is evident from figure 1 that the pace of merchandise exports growth has not kept pace with services exports growth and that clearly reflects in the consistent Current Account deficit of -1.4 % during 2014-19.

4.5.2 Infrastructure and linkage support available, planned and gaps

Gujarat is India's most industrialized and urbanized state. With roughly 6% of India's geographical area and 5% of its population, the state accounts for almost 8% of India's Gross Domestic Product (GDP). As per the Annual Survey of Industries (ASI) 2017-18, Gujarat stood first in India in terms of Industrial Output with ~17% of India's output.

1. Gujarat contributes over 20% of India's exports.
2. Gujarat's ports handle over 40% of India's cargo.

Gujarat is one of the leading industrialised states in India. At current prices, Gujarat's Gross State Domestic Product (GSDP) was ~₹16.59 trillion (US\$ 267.40 billion) constituting 10% of India's GDP during 2020-2021. While, riding on the back of strong industrial ecosystem, Gujarat has been at the forefront of exports constituting close to 20% of total merchandise exports from India indicating powerhouse of India's export regime.

Gujarat is considered the petroleum capital of India due to presence of large refining capacity set up by private and public sector companies. The state is the world's largest producer of processed diamonds, accounting for 72% of the world's processed diamond share and 80% of India's diamond exports.

With a contribution of 65% to 70% to India's denim production, Gujarat is the largest manufacturer of denim in the country and the third largest in the world. There are 49 ports, 18 domestic airports and one international airport.

There are 106 product clusters and 60 notified Special Economic Zones (SEZs). Large scale investment is expected in Gujarat as part of the US\$ 90 billion Delhi-Mumbai Industrial Corridor (DMIC). As of September 2020, Gujarat had 20 operational SEZs. In addition to operational SEZs, Gujarat had four SEZs with valid in-principle approvals, 26 SEZs with formal approvals and 22 SEZs with notified approvals.

Table 4.21 Export Trends of Gujarat

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21 (April – Feb 2021)
Exports from Gujarat (merchandise)	61.23	49.82	54.21	66.82	67.40	63.44	52.76
India's Total Exports (merchandise)	317.58	264.38	260.32	294.36	322.29	287.34	256.34
Rank of Gujarat	2 nd	2 nd	2 nd	2 nd	2 nd	2 nd	2 nd
Share of Gujarat in India's exports (%)	19.2	18.84	20.82	22.70	20.91	20.05	20.58

Despite performing consistently well over the years in terms of export performance & retaining close to 20% share of exports in India's total exports, the state has performed rather poorly in providing access to credit for exporters in Gujarat.

To build a credible hypothesis and link the flow of credit with actual exports on ground, it is imperative to briefly assess the role played by credit in exports promotion & different type of credit products, types of export finance etc., priority sector guidelines for exports etc, bottlenecks in export credit regime etc.

Institutional Framework of Export Credit:

Export finance can broadly be classified under two heads:

- Pre-shipment Finance: This includes (i) packing Credit, and (ii) Advance against receivables from the Government like duty back, international price reimbursement scheme (IPRS) etc.
- Post-shipment Finance: This consists of (i) Negotiation of export documents under letters of credit, (ii) Purchase/discount of export documents, (iii) Advance against bills sent on collection basis, (iv) Advance against exports on consignment basis, (v) Advance against indrawn balances, and (vi) Advance against receivables from the Government like duty draw back etc.

Besides, the short-term trade financing above, banks on participation with Exim Bank, the apex coordinating agency for export financing in the country, extend project financing (through working group or otherwise) for export projects. Banks are also involved in issuance of letters of guarantee (bid bonds, performance guarantees, advance payment guarantees etc.) on behalf their constituents. The institutional framework also comprises of Export Credit Guarantee Corporation of India (ECGC) Limited, which, through its various policies and guarantees issued to the exporters and banks, endeavours to minimise the risks involved in international trade financing.

Export credit has been brought under the ambit of Priority sector guidelines and RBI has set a target of Incremental export credit over corresponding date of the preceding year, **up to 2 per cent of ANBC or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher**, effective from April 1, 2015 subject to a sanctioned limit of up to ₹ 40 crore per borrower.

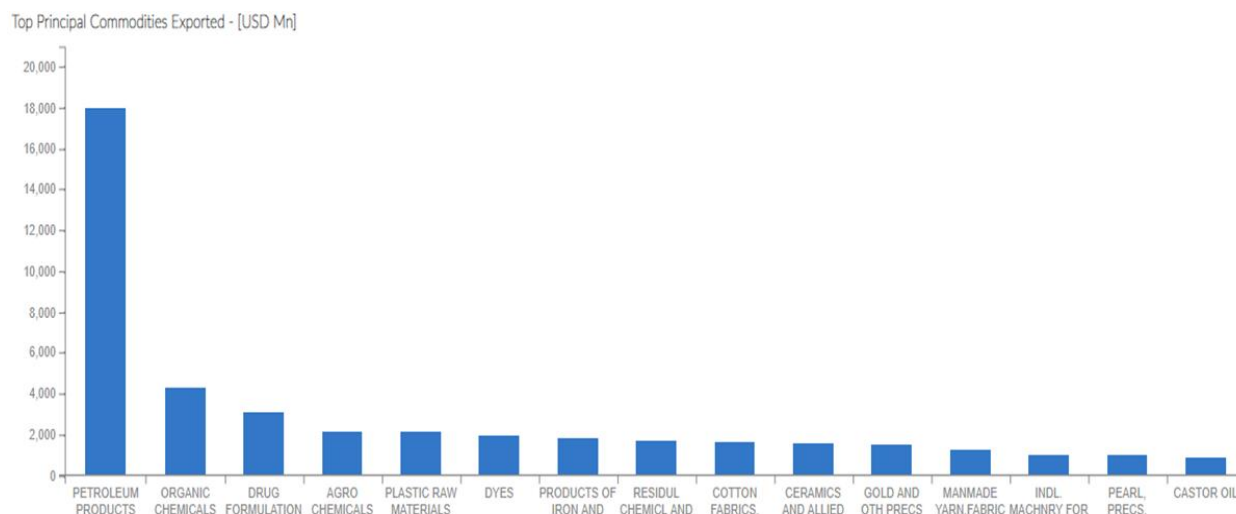
4.5.3 Issues in export financing:

- (i) Availability of adequate and timely finance.
- (ii) Provision of concessional credit on order to make the export internationally competitive.

- (iii) Institutional support to protect the losses on account of default risks of the overseas buyers,
- (iv) Availability of special deferred credit for promotion of project exports including turnkey assignments.
- (v) Rigidity of banks' credit mechanism along with delays in decision-making process.

Breakdown of Exports composition of Gujarat & policy prescription:

The below chart outlines the principal commodities of export:



It is evident from the above chart that close to 50% of the total merchandise exports from Gujarat comprise of 5-6 commodities viz. Petroleum products, Organic Chemicals, Agro Chemicals, Drug Formulations, Dyes & Plastic materials. The common aspect of these chief commodities of exports is their dependence on crude petroleum & natural gas, being the chief driver of exports from state of Gujarat. Other ancillary industries depending on crude are Fertilizer industry, synthetic fabrics industry, automobile chemicals etc. Therefore, a concentrated focus on meeting the credit needs of this critical sector shall ensure achieving higher growth rates of exports and contribute synergically to 'Make in India' initiative as well.

Findings & Suggestions from NITI Aayog's "Export Preparedness Index":

A credible assessment of export performance of different states has been carried out by NITI Aayog in its annual "Export preparedness Index" Report wherein Gujarat has emerged as top ranked state in export performance. Its sub-Pillar "Access to Finance" provides a credible assessment of export credit ecosystem and compares states on different parameters mentioned in table 4.22 below.

Table 4.22 Parameters of comparison of states to assess export credit ecosystem

Indicator	Weightage	Performance of Gujarat (out of 100)
Banking Facilities	1/3 rd	27.81 (Under Performing)
Export credit to exporters	1/3 rd	19.77 (Under Performing)
Loan Schemes for Exporters	1/3 rd	100 (Over performing)

- Gujarat has scored cumulative score of 69.84 in this sub pillar as against national average of 35.52 & an average of 63.24 for 9 coastal states.
- In light of the above, it becomes imperative to provide customized banking touchpoints to exporter community from commercial, private & Multinational banks in the state. Another laggard is the relatively low export credit extended to exporters in the state despite presence of substantial number of schemes for exporters.

- The states performing best in credit off-take include Delhi, Tamil Nadu & West Bengal which provide export credit of 5.31%, 2%, and 1.08% of state GDP respectively and significantly higher than national average of 0.6 %. On the other hand, leading export states like Gujarat & Maharashtra, which are comparable to Tamil Nadu and West Bengal in terms of providing banking facilities, have lagged because of providing relatively low export credit.
- Hence, there is a crucial need to provide export focussed credit, especially for MSMEs, across most states in India. The leading states in this sub-pillar offer almost 5X to 9X times the average percentage of export credits in India to their exporters. State backed credits must to be explored in the short to medium term to boost MSMEs potential for exports under the current global economic slowdown where private investment will be tough to achieve.

4.5.3 Credit Potential Assessment for 2023-24

As indicated in NITI Aayog' Export Preparedness Index report, Delhi leads the pack with highest Export credit/GSDP ratio at 5.31%. States aspiring to increase their exports should undoubtedly focus on increasing the export credit flow to the manufacturers, exporters & logistics firms to the tune of 5-6% of GDP (comparable with leading state of Delhi, Germany offers credit to exports as high as 16% of its GDP).

Table 4.23 Comparison of Export credit to GSDP ratio between states

State	Export Credit Disbursement/GSDP (%)	State GDP (INR 000'crores)	Total Export Credit - INR 000'crores)	Potential Export Credit (INR 000'crores)
Tamil Nadu	2	1943	38.86	
West Bengal	1.08	1444	15.59	
Chandigarh	3.35	42.1	1.41	
Gujarat	1.0 <i>(interpolated value using linear equation)</i>	1649	16.49	87.519
Uttarakhand	0.43	253	1.08	
All India	0.6	20385	122.31	

(Source: Export Preparedness Index)

With industrialized & export dominated economies like Germany offering export credit to the tune of 16%, at a conservative estimate of 5.31 % (export credit/GDP ratio) it is reasonable to assess that potential of enhancing credit flow to export sector in Gujarat stands at close to **₹3029.25 crores** for the year 2023-24 recording a growth of **4.22%** over the previous year 2022-23 (assessed at **₹2906.52 crore**)

In addition, another major intervention required to increase credit to exports sector is by leveraging the export promotion schemes for enhanced flow of credit in the exports sector. Certain schemes like RoDTEP, MIES, SIES (discontinued) offered several duty credit scrips which can be leveraged to identify the potential exporters & offer them suitably customized financing products for meeting their requirements.

4.5.4 Suggestions for Increasing Credit Flow for Export Sector

1. Indian export industry and in particular Gujarat's exporting units can receive significant boost by utilising the IFSC platform at the GIFT City to enable various international financial services at competitive cost. Banking units & stock exchanges at IFSC, in coordination with other institutions (state Govt./Central Govt.), can play an important role towards this goal.

Some of the following measures can be taken to tap the potential of GIFT city in enhancing export credit :

- Permitting Indian exporters to avail rupee denominated External Commercial Borrowings (ECBs) from IFSC banking units (IBU).
 - Government should promote Indian exporters and importers to use IFSC exchanges for their fund-raising programme through issuance and listing of foreign currency bonds or any other offshore instrument.
 - In addition, export financing provided by IFSC banking units should be eligible under Priority Sector Lending (PSL).
 - Currently, Indian exporters are permitted to avail post-shipment financing from offshore as well as onshore lenders. However, pre-shipment financing can be availed only from onshore lenders. Also, it has been recommended to allow SEZ units to avail International financial services through IFSC banking units, which can provide competitive pricing and products for Indian exporters.
2. Additional functionality/component may be introduced in pspbloansin59minutes portal by including Pvt. Banks/Foreign Banks/Export financing NBFCs/ECGC to provide a dedicated channel for meeting the credit/financial services requirements of Exporters (in particular MSME's).
 3. **Export Promotion Initiative of Government of Gujarat** a dedicated organization “GARUD” has been conceptualized by the state government to ensure easy movement of goods (inter & intra) state and increase exports. The infrastructure created under this authority will support industries to incur less production costs and therefore will have a competitive edge against other developing economies. The export financing institutions like Banks/Financial Institutions can collaborate with this organisation for providing the export credit via customized state specific products. The State Government can also implement their export schemes easily and can tap the resources of export financing institutions by the use of common platform.
 4. Recently NABARD signed an MoU with APEDA to promote the export of agriculture commodities. There can be refinance facilities (even by NABARD) specific to agriculture export in future to support the vast agriculture sector of the country. Gujarat can also explore the idea of linking “One District One Product” and can promote the agriculture export of the commodities specific to particular area. Credit can be channeled to FPOs or other entities which are engaged in agriculture export at reasonable terms and rate. Storage and transportation of the agriculture commodities is a critical area where cold storage and processing facilities are needed to increase the viability of agriculture export.

Export Credit - District-wise / Activity-wise PLP Projections - 2023-24									
									(Rs. Lakh)
Sr.No.	District	Pre-Shipment Credit		Post-Shipment Credit		Others	Misc.*	Total Export Credit	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	1520	60800	1010	16160	0	0	2530	76960
2	Amreli	3	159	3	159	0	0	6	318
3	Anand	185	1480	150	1200	0	0	335	2680
4	Aravali	34	1648	34	4080	0	0	68	5728
5	Banaskantha	4	25200	2	6300	0	0	6	31500
6	Bharuch	1	900	0	0	0	0	1	900
7	Bhavnagar	85	15938	0	0	0	0	85	15938
8	Botad	4	750	4	750	0	0	8	1500
9	Chotaudepur	35	315	97	2185	0	0	132	2500
10	Dahod	1	179	0	0	0	0	1	179
11	Dang	0	0	0	0	0	0	0	0
12	Devbhoomi Dwarka	12	510	4	102	0	0	16	612
13	Gandhinagar	115	2156	115	2156	0	0	230	4313
14	Gir Somnath	112	896	73	584	0	0	185	1480
15	Jamnagar	56	2380	30	765	0	0	86	3145
16	Junagadh	150	1200	123	984	0	0	273	2184
17	Kheda	105	840	224	1792	0	0	329	2632
18	Kutch	15	2400	15	2400	0	0	30	4800
19	Mahisagar	2	96	2	56	0	0	4	152
20	Mehsana	150	1800	150	1800	0	0	300	3600
21	Morbi	31	4960	31	4960	0	0	62	9920
22	Narmada	1	900	0	0	0	0	1	900
23	Navsari	14	1312	14	1312	0	0	28	2624
24	Panchmahal	3	144	3	84	0	0	6	228
25	Patan	13	10400	12	4800	0	0	25	15200
26	Porbandar	11	880	11	880	0	0	22	1760
27	Rajkot	107	8560	103	8240	0	0	210	16800
28	Sabarkantha	28	2240	17	2040	0	0	45	4280
29	Surat	1772	42528	1787	28592	674	5392	4233	76512
30	Surendranagar	4	640	4	640	0	0	8	1280
31	Tapi	9	216	9	144	9	72	27	432
32	Vadodara	151	1360	385	8640	0	0	536	10000
33	Valsad	20	850	40	1020	0	0	60	1870
	District total	4753	194636	4452	102825	683	5464	9888	302925

4.6 Education

4.6.1 Introduction

Reserve Bank of India (RBI) has included education under Priority Sector Lending granting loans and advances to individuals for educational purposes, including vocational courses up to ₹10 lakh irrespective of the sanctioned amount for studying in India and upto ₹20 lakhs for studying abroad. Apart from this, there is ample scope for supporting education through institutional finance in the state.

4.6.2 Credit Potential Assessment for 2023-24

The Gross State Domestic Product (GSDP) of Gujarat for 2022-23 (at current prices) is projected to be ₹22,03,062 crore. This is a growth of 13.3% over the revised estimate of GSDP for 2021-22 (₹19,44,107 crore). Similarly, total budgeted net expenditure in 2022-23 is estimated to be ₹2,18,408 crore, which is 12% higher than the revised estimates of 2021-22. In line with the enhanced capital outlays as noted above, the combined head of education, sports, and arts and culture also saw an annualized increase of 5% to ₹30,537 crore. Notably, the Government of Gujarat has allocated ₹1,079 crore under Samagra Shiksha Abhiyan & ₹733 crore towards Mid-Day Meal Scheme.

The Government of Gujarat, acknowledging that education is a continuous process for growth, has allocated 14.1% of its total expenditure for education in 2022-23. This provision would be channelized to give a renewed thrust to imparting pre-primary education in mother tongue along with other constructive changes which have been proposed in the education system in National Education Policy, 2020. Additionally, the Government of Gujarat's Mission Schools of Excellence is an important step towards modernizing school education in the state. Taking into account the factors listed above and the potential available under this sector, the physical and financial projections for the year 2023-24 is assessed at 24013 units and **₹2331.69 crore** respectively.

4.6.3 Challenges faced by Banks

Banks are not aggressive in sanctioning education loans on account of rising NPA levels under this segment. As per RBI and IBA guidelines, education loans up to ₹4 lakhs is collateral free and most of the NPA is under this bracket. Banks have become choosy and prefer lending to requirements of ₹7.5 lakh and above, where they get collaterals as tangible security. Default rate in education loans is the highest in the retail loans segment; home loan default rates are between 0.5-1 per cent, for two-wheelers around 2-3 per cent and for commercial vehicle loans 3-4 per cent. Hence the risk-reward for the bank being small ticket-size loans and prone to default, prevent bankers to enlarge their portfolio under this segment. As mentioned above highest rate of default in the category of ₹4 lakh and below whereas higher ticket size between ₹7 lakh to ₹10 lakh normally has lower rate of default. Rising NPAs also has correlation with available job opportunities and state of economy in the country. Students in huge number pass out every year from colleges but if their skills are average, it is very difficult to get a decent job in present day scenario. Repayment capacity has direct relation with the job from where cash flow originates.

4.6.4 Issues, Constraints and Suggested Action Points

- Despite the potential, the achievement under the sector during 2021-22 was only 29.58% (₹598 crore) of the total ACP target (₹2020 crore) (Source: SLBC). Banks may get into the mode of bought-in business rather than walk-in business for increasing credit flow in the sector. Simplification of loan procedures/ on line processing of loan may be helpful.
- A credit guarantee scheme for educational loans would go a long way in pushing education loans to needy students. Govt. may consider interest subvention for Education loan.

- Government may include a policy intervention for bringing in a responsibility factor for the students in order to make repayments easy.
- Banks may use the CSR window for incentivizing the students opting for the education loan.
- There is a need to spread awareness on the Central Sector Interest Subsidy scheme for studies in India by students from the economically weaker sections with parental income of up to ₹4.50 lakh during the moratorium period through the colleges.
- Educational institutions could be rated by banks, based on their placement record, which would also help banks decide on the sanction of loans to students joining such institutions.

Education Credit - District-wise / Activity-wise PLP Projections - 2023-24									
									(Rs. Lakh)
Sr.No.	District	Inland Studies		Overseas Studies		Others / Misc.*		Total Education	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	4300	34400	1065	17040	0	0	5365	51440
2	Amreli	156	1248	45	720	0	0	201	1968
3	Anand	1160	9280	845	6760	0	0	2005	16040
4	Aravali	78	624	170	136	208	208	456	968
5	Banaskantha	500	4500	120	2160	0	0	620	6660
6	Bharuch	222	3996	282	5076	0	0	504	9072
7	Bhavnagar	105	1575	100	1500	0	0	205	3075
8	Botad	114	855	0	0	0	0	114	855
9	Chotaudepur	143	2574	22	396	0	0	165	2970
10	Dahod	340	2890	50	850	0	0	390	3740
11	Dang	28	119	0	0	0	0	28	119
12	Devbhoomi Dwarka	34	408	20	320	0	0	54	728
13	Gandhinagar	660	10560	170	2720	0	0	830	13280
14	Gir Somnath	391	7038	52	936	0	0	443	7974
15	Jamnagar	240	2880	36	576	0	0	276	3456
16	Junagadh	310	5580	67	1206	0	0	377	6786
17	Kheda	580	9280	220	3520	0	0	800	12800
18	Kutch	51	408	121	1936	54	216	226	2560
19	Mahisagar	71	639	195	1053	0	0	266	1692
20	Mehsana	1200	7200	90	2160	0	0	1290	9360
21	Morbi	45	720	55	880	0	0	100	1600
22	Narmada	21	378	5	90	0	0	26	468
23	Navsari	300	2550	0	0	0	0	300	2550
24	Panchmahal	101	909	223	1204	0	0	324	2113
25	Patan	600	5400	125	1125	0	0	725	6525
26	Porbandar	21	378	26	468	0	0	47	846
27	Rajkot	170	3060	170	3060	0	0	340	6120
28	Sabarkantha	79	632	30	480	104	333	213	1445
29	Surat	3409	21818	1465	11720	996	2390	5870	35928
30	Surendranagar	55	880	60	960	0	0	115	1840
31	Tapi	113	723	108	864	207	497	428	2084
32	Vadodara	370	6660	269	4840	0	0	639	11500
33	Valsad	210	3570	61	1037	0	0	271	4607
	District total	16177	153732	6267	75793	1569	3644	24013	233169

4.7 Housing

4.7.1 Introduction

The population of India is projected to 1.5 billion by mid-2030s and 1.64 billion by early 2050s. As per Ministry of Housing and Urban (MoHUA), Handbook of Urban Statistics 2016, the urban population is projected to grow to about 600 million by 2031 and 850 million by 2051. This translates to a huge demand for housing units in the urban areas alone. Add to it the demand from peri-urban areas and an aspirational rural population, the potential for growth multiplies. Even at current demand level, reports have estimated a shortage of as high as 50% housing units, especially in low income urban household category.

4.7.2 Housing Finance in Gujarat

An increase in demand for new homes has pushed up disbursements of housing finance among banks across Gujarat. According to the latest report of the State Level Bankers' Committee (SLBC), the disbursements of fresh loans stood at ₹11,378 crore for the quarter ending December 2021, as compared to ₹ 6,907 crore for the corresponding quarter of 2020.

According to bankers and developers, the demand for new homes has drastically increased over the past year and as a result, disbursements of housing finance loans have increased. Currently, banks are offering very low rate of interest on home loans. This coupled with the need for new homes has propelled demand in a big way because of which housing finance disbursements have grown. The disbursements have also increased due to progress in construction activity. Loans are disbursed as construction progresses. Last year, many sites were shut during the lockdown and therefore, loans were not disbursed. This year, not only did construction activity has picked up the pace but also there is a demand. According to the data of Gujarat Real Estate Regulatory Authority (GujRERA), about 17,444 new properties were registered in Gujarat in 2021-22 as against 18,949 properties last year. Estimates by developers indicates that there is at least a 15% surge in new home sales across affordable, premium and luxury residential schemes. The demand for residential real estate has remained phenomenally good. After the pandemic, people are looking to upgrade their homes and as a consequence, the overall demand is bullish. With a slew of multinational companies investing here, more professionals are migrating to Gujarat, so new homes will see further demand.

4.7.3 Major Reforms Announced for Housing Finance Sector

A. Government of India (GoI): Atma Nirbhar Bharat Abhiyan

- State Governments were advised to invoke the Force Majeure clause under RERA.
- Subsequent to the announcement of Scheme for Affordable Rental Housing Complexes for Migrant Workers and Urban Poor, Union Cabinet gave its approval for developing of Affordable Rental Housing Complexes (AHRCs) for urban migrants / poor as a subscheme under Pradhan Mantri Awas Yojana – Urban (PMAY-U).
- ₹70,000 crore boost to housing sector and middle income group through extension of Credit Linked Subsidy Scheme for MIG under PMAY(U) upto March 31, 2021
- Special Liquidity Scheme of ₹30,000 crore for NBFC/HFC.
- Partial credit guarantee Scheme 2.0 for Liabilities of NBFCs/MFIs was announced in which existing Partial Credit Guarantee scheme was revamped and was extended to cover the borrowings of lower rated NBFCs, HFCs and other Micro Finance Institutions (MFIs).

B. Reserve Bank of India (RBI)

- Reduction in policy rates.
- Targeted long-term repo operations (TLTRO) of up to three years tenor for a total amount of up to ₹1,00,000 crore at a floating rate linked to the policy repo rate.

- Targeted long-term repo operations (TLTRO 2.0) for an aggregate amount of ₹50,000 crore.
- Special refinance facilities of ₹10,000 crore to NHB for supporting housing finance companies (HFCs).
- Additional special liquidity facility of ₹10,000 crore provided at the policy repo rate.

C. Pradhan Manti Awas Yojana (PMAY):

The Housing for All [Urban] Mission is launched in compliance with the objective of National Mission Housing providing Housing for All by 2022. The Mission is being implemented through four verticals which inter alia included affordable Housing through Credit Linked Subsidy Scheme [CLSS]. Under CLSS, interest subsidy of 6.50% is available on the housing loans which may be availed of by beneficiaries belonging to EWS / LIG categories. The subsidy would be provided to the loan component to the extent of ₹6 Lacs.

D. Credit Linked Subsidy Scheme (CLSS) for EWS/LIG

- Affordable Housing through Credit Linked Subsidy: - Interest subvention subsidy for EWS and LIG for new house or incremental housing.
 - i. Economically Weaker Section (EWS): Annual household income up to ₹3 Lacs and house sizes up to 30 sq.m
 - ii. Low Income Group (LIG) : Annual household income between ₹3 to 6 lacs and house sizes up to 60 sq.m
- Beneficiaries of Economically Weaker Section (EWS) and Low Income Group (LIG) seeking housing loans from Banks, Housing Finance Companies and other such institutions would be eligible for an interest subsidy at the rate of 6.50 % for tenure of 20 years or during tenure of loan whichever is lower.

E. Credit Linked Subsidy Scheme (CLSS) for Middle Income Group (MIG).

Given the projected growth of urbanization in India and the consequent housing demands, Ministry of Housing and Urban Poverty Alleviation, Government of India has launched a new Credit Linked Subsidy Scheme to provide interest subsidy for Housing Loans of eligible beneficiaries belonging to Middle Income Group (CLSS for MIG).

F. Rural Housing Interest Subsidy Scheme (RHISS)

With an objective to provide a pucca house with basic amenities to all houseless and households living in Kutch houses by 2022. RHISS will be implemented and monitored by the Ministry of Rural Development, Government of India through Central Nodal Agency (CNA). National Housing Bank (NHB) has been identified as Central Nodal Agency (CNA) to channelize this subsidy.

4.7.4 Initiative by Government of Gujarat

Mukhyamantri Gruh Yojna

Mukhya Mantri GRUH Yojana where GRUH stands for “Gujarat Rural Urban Housing” is an affordable housing scheme especially designed for home seekers belonging to EWS and LIG category of the society. Mukhya Mantri (Gujarat Rural Urban Housing) GRUH Yojana was announced during 12th Five-year plan in consideration of growing need for affordable houses in urban areas.

Under the Mukhya Mantri GRUH Yojana, the Gujarat government will provide pucca house to every slum dwelling family and family belonging to economically weaker sections. The minimum carpet area of houses for economically weaker sections will be 25 sq. meters and maximum will be up to 30 sq. meters which will include two rooms, kitchen, bath room and toilet.

4.7.5 Demand and potential in Gujarat

Gujarat, known as the most industrialized state of India. State is betting on affordable homes. Gujarat Real Estate Regulatory Authority's one-third real estate projects fall under the category of affordable homes. 'Affordable Homes' has become the new buzzword for Gujarat's realty sector. With 502 residential affordable housing projects – both in residential and mixed-use – Ahmedabad ranks the highest by holding the most number of projects followed by Vadodara, Rajkot, Surat and Gandhinagar.

Efforts have to be made by Banks and other stakeholders as how to identify and finance to the most needy ones who are homeless and have no roof on their heads thus realising the dream of Housing for All by 2022. Banks can formulate their own schemes to finance EWS and LIG sector blended with subsidy and credit guarantee schemes of centre and state government to make the scheme more attractive. Further, the access to housing finance is also a key ingredient for reaching goals for housing for all. Instead of banks waiting to come such segment to banks, banks and other stakeholders should approach them to avail finance for homes, this will fulfil socio economic objectives of stakeholders.

4.7.6 Real Estate Regulatory Act (RERA)

The Real Estate (Regulation and Development) Act, 2016, (RERA) was passed by the Indian parliament to protect the interests of home buyers and also boost investments in the real estate sector.

4.7.7 Credit Potential assessed for 2023-24

Credit potential for 2023-24 has been assessed at **₹20,005.87 crore** for the State recording a growth of 14.3% over the previous year 2022-23 (assessed at **₹17,503.69 crore**).

Housing Credit - District-wise / Activity-wise PLP Projections - 2023-24									
(Rs. Lakh)									
Sr.No.	District	Purchase/Construction of House		Renovation of House		Others / Misc.*		Total Housing credit	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	15500	406000	9650	46320	0	0	25150	452320
2	Amreli	431	10344	720	1440	0	0	1151	11784
3	Anand	2660	22920	310	496	0	0	2970	23416
4	Aravali	1900	24320	911	1458	0	0	2811	25778
5	Banaskantha	1700	34000	750	1200	0	0	2450	35200
6	Bharuch	2900	49300	355	1811	0	0	3255	51111
7	Bhavnagar	2420	48400	460	2208	0	0	2880	50608
8	Botad	1830	13388	0	0	0	0	1830	13388
9	Chotaudepur	1469	13215	1103	1985	0	0	2572	15200
10	Dahod	770	16363	300	510	0	0	1070	16873
11	Dang	70	893	47	240	0	0	117	1132
12	Devbhoomi Dwarka	80	1440	60	240	0	0	140	1680
13	Gandhinagar	4075	82803	500	2400	0	0	4575	85203
14	Gir Somnath	1122	9954	1030	1854	0	0	2152	11808
15	Jamnagar	2100	37200	900	3600	0	0	3000	40800
16	Junagadh	1900	20687	1710	3078	0	0	3610	23765
17	Kheda	2030	16200	1580	2528	0	0	3610	18728
18	Kutch	3589	56344	825	3960	0	0	4414	60304
19	Mahisagar	186	2976	254	1016	0	0	440	3992
20	Mehsana	2250	62320	2350	11280	0	0	4600	73600
21	Morbi	1700	2720	2150	19680	0	0	3850	22400
22	Narmada	120	2040	16	82	0	0	136	2122
23	Navsari	2780	47260	530	2703	0	0	3310	49963
24	Panchmahal	461	7376	653	2612	0	0	1114	9988
25	Patan	3025	22900	675	1350	0	0	3700	24250
26	Porbandar	420	8400	600	2880	0	0	1020	11280
27	Rajkot	6230	196180	3393	18320	0	0	9623	214500
28	Sabarkantha	2550	32640	528	845	0	0	3078	33485
29	Surat	15578	288604	5430	10860	0	0	21008	299464
30	Surendranagar	2220	21120	600	960	0	0	2820	22080
31	Tapi	215	3772	180	360	0	0	395	4132
32	Vadodara	6202	223272	2136	6728	0	0	8338	230000
33	Valsad	2990	57418	663	2818	0	0	3653	60235
	District total	93473	1842767	41369	157820	0	0	134842	2000587

4.8 Social Infrastructure involving Bank Loan

4.8.1 Introduction

The key engines for India's growth are our social and physical infrastructure, which require continued investments to accelerate growth prospects. These do not directly produce goods and services but induce production in agriculture, industry and trade by generating external economies.

“Social Infrastructure” covering schools, health care facilities, drinking water and sanitation facilities in tier II to tier VI centers have now been brought under the ambit of PSL norms. Assessment of the potential for investments which can come up through private participation with bank credit has been attempted based on the demand felt in the State.

Increasing population and thereby urbanization throws challenges in the State including increasing slum population, acute shortage of affordable housing, shortage of potable drinking water supply, environmental problems like air, water and noise pollution, insanitation, increasing pressure on land, encroachments, haphazard urban growth and lack of mass transport.

As per PSL guidelines, bank loans up to a limit of ₹5 crore per borrower is available for building social infrastructure for activities namely schools, health care facilities, drinking water facilities and sanitation facilities in Tier II to Tier VI centres.

Standard of Living is an integral element of Human Development. The provision of drinking water, sanitation, education and health defines the quality of life of an individual. Accessibility to these services shape the day-to-day life of people and have long-term impact in terms of longevity, productivity and earning capacity of an individual.

Amidst a steady economic growth in last two decades, Government of India has come up with numerous schemes and programs to address the challenge of creating robust Social infrastructure. These include providing quality potable water to rural areas using piped drinking water supply, enhancing rural sanitation under the Swachh Bharat campaign, providing universal elementary education under Right to Education, nutrition & health facilities using Anganwadis and community Health Centres and training for gainful employment in Skill development centres. In order to counter the problem of lack of access to safe water, the Government has proposed the ‘Nal Se Jal’ scheme aimed at providing piped drinking water to every household by 2024.

Reckoning the importance of social infrastructure for development in its latest Priority Sector Lending Classification as on 04 September 2020, RBI has brought Bank loans up to a limit of ₹5 crore per borrower for setting up schools, drinking water facilities and sanitation facilities including construction/ refurbishment of household toilets and water improvements at household level, etc. and loans up to a limit of ₹10 crore per borrower for building health care facilities including under ‘Ayushman Bharat’ in Tier II to Tier VI centres (in case of UCBs, the above limits are applicable only in centres having a population of less than one lakh) under the ambit of PSL norms. Also, bank credit to Micro Finance Institutions (MFIs) extended for on-lending to individuals and members of SHGs/JLGs for water and sanitation facilities will be eligible for categorization as priority sector under ‘Social Infrastructure’.

During 2021-22, three Rural Drinking Water Supply projects namely, Budhel to Borda Bulk Pipeline for drinking water supply, Nawda to Chavand & Dhanki to Navda Bulk Pipeline for drinking water supply have been sanctioned under RIDF by NABARD under social sector which will ensure providing of potable water in 14775 villages. Besides, one Rural Drinking Water Supply Project has been sanctioned covering 23 schemes in 08 districts of Gujarat which aims to provide 'Functional Household Tap Connections' (FHTC) to 85.76 lakh rural population under “Jal Jeevan Mission” the flagship programme of Govt. of India.

The details of projects sanctioned and amount disbursed as on 31 March 2022 are given in the table 4.24 below

Table 4.24 Social Sector (Health, Education, Drinking Water) projects (₹ Crore)

No. of projects sanctioned	Loan Sanctioned	Loan Disbursed	% of Disb. to Sanction	Project Benefits
21473	7594	5780	76.11	14775 villages benefitted through rural drinking water supply projects 9134 Anganwadi centres and 7203 PHCs constructed.

4.8.2 Credit Potential Assessment for 2023-24

The credit potential for 2023-24 under this sector has been assessed at **₹629.22 crore**, which comprises of activities such as schools, healthcare, drinking water supply, sanitation facilities etc. Activity and district-wise data are provided at the end of the chapter.

4.8.3 Suggested Action Points

1. Under the Government of India's continuous efforts to provide "Education to All", in order to increase the quality, availability, and effectiveness of education, the District Education Department of the State Government needs to support private/ PPP mode investment for development of new educational institutions in the district.
2. With Swachh Bharat Abhiyan and 'Nal Se Jal' schemes announced by the Government, there is an increase in the level of awareness about rural sanitation, hygiene and importance and need of providing clean drinking water to all. Therefore, banks, being the main fulcrum in the wheel of infrastructure, have a greater responsibility to act as 'change agents' and 'catalysts' of progress by providing finance for social infrastructure activities to fulfil the Priority Sector obligations. Local Government institutions can promote number of innovative approaches to improve water supply and sanitation. These includes underground drainage system, demand-driven approaches in rural water supply, community-led total sanitation, a public-private partnership to improve the continuity of rural water supply and the use of micro-credits for water supply and sanitation in order to improve access to water and sanitation, thereby supplementing the Governments' initiatives to provide piped water connection to every household by 2024.

Social Infrastructure - District-wise / Activity-wise PLP Projections - 2023-24																	(Rs. Lakh)
Sr.No.	District	Schools		Health Care Centres		Drinking Water (RO Plant)		Sanitation		Solid Waste Management		Others / Misc.		Total Others			
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan		
1	Ahmedabad	16	320	11	880	15	120	0	0	14	112	0	0	56	1432		
2	Amreli	23	644	21	756	107	214	450	43	0	0	0	0	601	1657		
3	Anand	7	56	6	48	72	58	1040	42	0	0	0	0	1125	203		
4	Aravalli	22	352	9	360	36	173	310	30	0	0	0	0	377	915		
5	Banaskantha	16	3272	70	84	150	2400	14000	2240	0	0	0	0	14236	7996		
6	Bharuch	35	980	26	104	45	180	1026	181	13	31	0	0	1145	1476		
7	Bhavnagar	55	440	60	480	60	480	22200	888	0	0	0	0	22375	2288		
8	Botad	10	80	12	96	18	144	15600	624	0	0	0	0	15640	944		
9	Chotaudepur	12	96	7	28	27	216	2900	280	0	0	0	0	2946	620		
10	Dahod	6	204	7	119	7	36	460	59	0	0	0	0	480	417		
11	Dang	22	880	0	0	14	73	62	17	0	0	0	0	98	970		
12	Devbhoomi Dwarka	40	1200	8	320	210	1680	400	192	0	0	0	0	658	3392		
13	Gandhinagar	48	960	24	384	60	480	1650	264	0	0	1	800	1783	2888		
14	Gir Somnath	12	240	32	680	96	384	800	64	0	0	0	0	940	1368		
15	Jamnagar	12	360	15	600	30	240	600	288	0	0	0	0	657	1488		
16	Junagadh	6	120	14	440	145	580	955	76	0	0	0	0	1120	1216		
17	Kheda	5	40	7	56	50	40	400	16	0	0	0	0	462	152		
18	Kutch	23	368	54	1456	100	400	1100	194	0	0	0	0	1277	2418		
19	Mahisagar	5	136	1	100	180	720	1015	179	0	0	0	0	1201	1135		
20	Mehsana	3	120	40	480	120	1440	2000	192	0	0	0	0	2163	2232		
21	Morbi	6	96	9	144	17	58	330	58	0	0	0	0	362	356		
22	Narmada	20	580	22	88	20	80	322	57	10	24	0	0	394	829		
23	Navsari	18	720	0	0	19	99	34	10	0	0	0	0	71	828		
24	Panchmahal	11	364	5	500	88	352	546	96	0	0	0	0	650	1312		
25	Patan	14	280	15	600	48	384	2600	458	14	112	0	0	2691	1834		
26	Porbandar	2	160	3	144	3	36	540	130	0	0	0	0	548	470		
27	Rajkot	0	0	0	0	13	155	1350	270	0	0	9	430	1372	855		
28	Sabarkantha	63	1134	45	2025	235	1269	715	77	0	0	0	0	1058	4505		
29	Surat	320	6400	152	6080	820	525	2820	564	0	0	0	0	4112	13569		
30	Surendranagar	10	160	15	240	15	51	250	44	0	0	0	0	290	495		
31	Tapi	32	640	10	400	187	135	610	122	0	0	0	0	839	1297		
32	Vadodara	16	128	26	104	54	432	3500	336	0	0	0	0	3596	1000		
33	Valsad	6	96	4	64	12	96	230	110	0	0	0	0	252	366		
	District total	896	21626	730	17860	3073	13728	80815	8199	51	279	10	1230	85575	62922		

4.9 Renewable Energy

4.9.1 Introduction

In the era of Climate Change, it has been well established across the globe that Renewable and Clean energy is the “Need of the Hour” for development of a nation on a sustainable basis. As the world witnesses a growth in demand for clean energy, the generation of power through new and renewable energy has been the thrust area of the State and Central Government. The Government of Gujarat recognizes green energy as one of its focus sectors and has thus emerged as a leader of India’s future renewable energy programme.

The Government of Gujarat, realizing the importance of renewable energy in dealing with Global Warming and Climate Change, has taken a bold initiative to announce the Solar Power Policy 2009 and Solar Power Policy 2015. With the announcement of the Solar Power Policy in 2009, a new vista has been opened to chart the ‘Renewable Map’ of the Country.

4.9.2 Status of Renewable Energy in Gujarat

Gujarat is one State which has fully converted the challenges into opportunities. It ranks first in setting up of a separate Climate Change Department – the 4th province in Asia, which emphasizes the Government’s commitment to GO Clean & Green. Gujarat as a State has laid constant emphasis on mitigation initiatives, exploiting the clean and green energy potential, through the promotion of wind energy, solar energy and bio energy.

There are 6 major institutions / departments in Gujarat which are looking after the affairs related to Renewable Energy and Climate Change.

1. Gujarat Energy Development Agency (GEDA) a State Nodal Agency that rolled off the Renewable Energy Development in India also looks after Climate Change. GEDA is the first State Nodal Agency in the Country for promotion, popularization and development of Renewable Energy and Energy Conservation projects in the State of Gujarat. Bureau of Energy Efficiency (BEE), Government of India has notified GEDA as the State Designated Agency – SDA for implementation of EC Act 2001.
2. Gujarat Agro Industries Corporation (GAIC) has been established for popularization and implementation of National Programme on Biogas Development. This nodal agency has been involved in Biogas based development at family and farmers level.

The cost and subsidy details of family size Biogas are given in table 4.25 below.

Table 4.25 Cost and subsidy details of family size Biogas as per capacity

(In ₹)

S No.	Capacity of Biogas	Cost	Subsidy – Gen. (60%)	Subsidy – SC/ST/OBC (75%)
1	CuM/Day	13500	8100	10125
2	CuM/Day	20500	12300	15375
3	CuM/Day	23500	14100	17625
4	CuM/Day	26500	15900	19875

3. Surya Shakti Kisan Yojana (SKY) : Government of Gujarat has promoted a scheme called Surya Shakti Kisan Yojana (SKY) for providing Solar PV Pump Sets to individual farmers for generating power for their captive use of water pumping and surplus power if any may be sold to Gujarat Urja Vij Nigam Limited for earning extra income. Earlier, Gujarat Green Revolution Company had implemented Solar Photo Voltaic Pumping Systems for agriculture with assistance from Ministry of New & Renewable Energy, GOI.
4. Khadi & Village Industries (KVIC): This agency is involved in promotion of Biogas based scheme.

5. Climate Change Department (GoG): This department is involved in climate mitigation / adaptation through various government agencies.
6. National Bank for Agriculture & Rural Development (NABARD):

The organisation has been implementing MNRE, GOI scheme on Solar Energy as well as Water Pumping Schemes. NABARD has been implementing this subsidy scheme through Banks and subsidy is delivered as back ended through financing bank. The salient features of the schemes are available in the websites of NABARD and MNRE.

The State Government has adopted a two-pronged strategy to ensure energy security to generate renewable power and moot energy efficiency in all the sectors of the economy.

4.9.3 Promotion and Status of Solar Power Projects

Government of Gujarat took a bold initiative to announce Solar Power Policy -2009 and Solar Power Policy 2015, allowing investors to set up MW-scale Solar Power Projects. As a result, Solar Power Projects of 1584 MW have been commissioned till November 2017 in the State. In addition to this, 25MW solar Rooftop systems have been commissioned in the State. These Rooftop systems have been installed at various Government offices, Engineering colleges, Medical colleges, Court buildings, Hospitals, etc.

4.9.4 Solar Roof Top Scheme for Households

Government of Gujarat has taken a prompt initiative in extending the benefit of solar energy to individual household by promoting a subsidy scheme in assistance with GOI for installation of Solar Roof Top System for house hold, mainly for 1 KW and 2 KW. This initiative has added value at the level of all the stake holders. This has proved as one more step in generation of clean and renewable energy with people's participation.

4.9.5 Popularising Wind Energy

Wind Energy is clean and safe energy that emerged as a potential renewable power. On the wind energy front the State has also embarked upon an ambitious plan to tap the large wind power potential. In 2013, the Government of Gujarat announced the Wind Power Policy to tap the 35000 MW of Wind Power potential along the coastal areas – Saurashtra and Kachchh. Today, Gujarat has an installed capacity of 5481.95 MW wind power projects. During the year 2016-17, the total power generation from Wind Farms was 372.69 MUs and it earned revenue of ₹144.90 crore. During the year 2017-18 (upto September, 2017) the total power generation from Wind Farms was 253.36 MUs and it earned revenue of ₹100.40 crore.

4.9.6 Innovative approach to utilise Canal for solar power

A novel concept of canal based solar power generation has been implemented with first of its kind 1 MW grid connected solar power plant at Mehsana and later on 10 MW grid connected solar power plant at Vadodara. This serves triple purpose - generation of clean energy, avoiding evaporation of 90,000 litres of water per megawatt per annum, and avoiding use of precious land for the Solar Power Plant. The success of the 1 MW Canal based Solar Power Plant at village Chandrasan, Taluka: Kadi, District: Mehsana, is slated replicated on the hundreds of kilometres of canal network in the State of Gujarat.

A. Establishing 500 MW Solar Park - first in Asia

Gujarat has set the pace for Renewable Energy Development in the Country with the foundation of Asia's first Solar Park being laid by the then Hon'ble Chief Minister Shri Narendra Modi in December 2010. The Solar Park is established on 2,024 ha of arid land in Village Charanka, Taluka Santalpur of Patan District.

The concept of the Solar Park and its key features are as follows:

- Concentrated zone of development for Solar power related activities
- Solar Thermal/ PV Generation Based projects
- Solar Components' Manufacturing/ Assembling

- Research & Development
- Capacity Building
- Single window facility for Solar Power Project developers for providing common infrastructure facilities like
- Land
- Water
- Power evacuation system
- Road

B. Solar PV - Off Grid projects

Gujarat Energy Development Agency has installed several Solar PV off-grid systems on the roof top of Government bungalows, Private households, Institutes, Industries, Industrial Training Institutions, Milk Collection Centres, Civil Supply Godowns, and Primary Health Centres etc.

C. Solar Water Heating Systems

The Solar Water Heating System is now becoming very popular and widely acceptable renewable system and very useful for both industrial and domestic applications.

D. Gujarat-Bio Energy programmes

So far, total 15730 Cubic Meter per day capacity Biogas Plants have been installed based on animal dung/alternative feed stocks in the State. Industrial waste based Bio-methanation plants for captive use are also being encouraged in the State. A 14000 Cubic Meter per day capacity Bio-CNG plant has been installed in the State which supplies Bio-CNG for industrial application.

E. Energy Conservation and Energy Efficiency Initiatives

- Energy audit in the government, domestic, commercial and industrial sectors.
- Popularization of energy efficient devices.
- Upgrading energy efficiency levels in the industrial sector.
- Walk-through Energy Audit (WTEA) Mapping Energy use in the small- scale sector.
- Investment-grade Energy Audit (IGEA) – Demonstration Project in selected Buildings.
- First State to implement Energy efficiency in Agricultural Pumping Sector
- 60 MW load reduction through 11,000 energy efficient pumping sets.
- LED Village campaign
- LED light fixtures for indoor and outdoor application.

4.9.7 Credit Potential Assessment for 2023-24

Credit potential for 2023-24 has been assessed at **₹474.99 crore** for the State recording a growth of 4.26% over the previous year 2022-23 (assessed at **₹455.58 crore**).

4.9.8 Potential and Future Strategies

- To promote use of Solar Water Heaters in all sectors having hot water requirement and consider its mandatory use in new buildings/residences.
- To explore feasibility of using Solar Powered Pumps for Canal based irrigation.
- To harness the biomass power potential, necessary policy interventions are required.
- To exploit the potential of Geothermal, Tidal & Wave Energy.
- To launch major Energy Conservation schemes in Industries and Building sectors.
- To launch a Mega Campaign to promote Renewable Energy and Energy Conservation.
- To promote Waste to Energy Projects for Urban local bodies
- To promote Small Hydro Power projects

Renewable Energy - District-wise / Activity-wise PLP Projections - 2023-24

(Rs. Lakh)

Sr.No.	District	Bio Gas Units		Solar Pumpsets		Solar PV Lights		Solar / Wind Energy		Others / Misc.		Total Renewable Energy	
		No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan	No.	Bank loan
1	Ahmedabad	925	416	460	1725	1100	2888	0	0	0	0	2485	5028.75
2	Amreli	1065	256	60	264	93	51	565	158	1150	1863	2933	2592.14
3	Anand	230	55	520	1206	220	53	0	0	0	0	970	1314.40
4	Aravali	133	27	5	21	0	0	0	0	0	0	138	47.12
5	Banaskantha	700	399	750	2325	8400	4536	0	0	0	0	9850	7260.00
6	Bharuch	255	173	231	593	99	52	99	37	0	0	684	854.41
7	Bhavnagar	250	50	0	0	250	788	5	2250	0	0	505	3087.00
8	Botad	115	23	106	334	2	900	0	0	0	0	223	1256.67
9	Chotaudepur	120	27	33	103	0	0	0	0	0	0	153	130.00
10	Dahod	125	27	70	107	110	9	0	0	0	0	305	143.01
11	Dang	107	35	25	98	0	0	58	28	0	0	190	160.73
12	Devbhoomi Dwarka	4	1	8	39	22	14	0	0	0	0	34	53.82
13	Gandhinagar	300	48	250	810	90	97	0	0	850	680	1490	1635.20
14	Gir Somnath	380	71	36	101	897	20	0	0	1528	458	2841	649.96
15	Jamnagar	6	2	24	117	90	57	0	0	0	0	120	174.96
16	Junagadh	540	101	84	235	1205	27	0	0	2200	657	4029	1020.11
17	Kheda	195	47	197	457	190	46	0	0	0	0	582	549.44
18	Kutch	540	115	553	2538	565	840	0	0	0	0	1658	3493.46
19	Mahisagar	0	0	60	105	11	5	360	115	833	132	1264	357.42
20	Mehsana	1350	324	0	0	1050	4200	0	0	0	0	2400	4524.00
21	Morbi	125	25	75	103	140	19	0	0	700	213	1040	359.44
22	Narmada	83	78	6	15	15	8	80	30	0	0	184	130.98
23	Navsari	147	50	81	319	0	0	231	114	0	0	459	483.56
24	Panchmahal	0	0	84	147	0	0	467	161	1165	185	1716	492.76
25	Patan	200	40	235	1142	280	217	0	0	0	0	715	1398.98
26	Porbandar	60	26	40	180	0	0	0	0	15	4	115	209.97
27	Rajkot	130	55	384	1730	0	0	0	0	50	15	564	1800.00
28	Sabarkantha	181	18	135	277	0	0	63	15	0	0	379	310.24
29	Surat	1790	534	939	3869	0	0	0	0	0	0	2729	4402.68
30	Surendranagar	390	78	100	432	0	0	0	0	200	61	690	570.80
31	Tapi	404	113	167	688	0	0	0	0	0	0	571	801.24
32	Vadodara	0	0	160	502	1184	1598	0	0	0	0	1344	2100.00
33	Valsad	10	3	18	83	115	22	0	0	0	0	143	106.68
	District total	10860	3214	5896	20664	16128	16446	1928	2908	8691	4268	43503	47499.93

4.10 Informal Credit Delivery System

“SHGs, SAVING FOR THE PRESENT, SECURING THE FUTURE”

Rural credit, microfinance and poverty alleviation are inextricably interwoven. The search for delivering financial services to the rural poor in a sustainable manner led to two distinct approaches for extending microfinance in India i.e., a bank led approach called Self Help Group – Bank Linkage Programme (SHG-BLP) and Micro Finance Institution led approach.

NABARD had designed and spearheaded one of the most unique financial inclusion programme which has now metamorphosed into the world’s largest microfinance movement that changed the lives of more than 14.2 crore poor households involving 119 lakh SHGs (87% of which are women) with saving deposits of ₹47,240.88 crore and 67 lakh groups with collateral free loan outstanding of ₹1,51,051 crore as on 31 March 2022. The average loan outstanding is ₹2.25 lakh/SHG in FY 2021-22 as against ₹1.79 lakh/SHG in FY 2020-21. The credit gap has decreased to 43.33% in FY 2021-22 from 48.5% in FY 2020-21. SHG BLP has become a mass movement of the rural poor in their journey towards holistic empowerment.

SHG-Bank Linkage Programme has become more popular in India than elsewhere in the world primarily due to its widespread adoption by Scheduled Commercial Banks, Regional Rural Banks and Cooperative Banks. NABARD has continued to support more than 5000 partner agencies such as NGOs, RRBs. District Central Cooperative Banks and other SHPI partners for promoting and nurturing SHGs.

To achieve Financial Inclusion for empowering people to access social and economic justice through the various models, the SHG-Bank Linkage Programme (BLP) helped extensively to empower the poor especially rural women through providing savings and credit windows from banks.

In the State of Gujarat, Gujarat Livelihood Promotion Company (GLPC) is the executive arm of Mission Mangalam, the implementation agency for NRLM and responsible for all the activities related to SHGs in the State.

Micro Credit - Gujarat

(A) SHG – Bank Linkage programme-Status

Table 4.26 SHG – Bank Linkage programme– Agency wise position as on 30.06.2022- Cumulative

(Amt. in ₹lakh)

Savings linkage	Total No. of Savings Bank accounts as on 30 June 2022		
	No. of SHG accounts	No. of members	Savings Amt.
Total No. of SHG Savings A/c. (A)	309827	3212066	34006.99
Out of (A), Women SHGs	278002	2841382	29857.06

(Source: SLBC)

(B) SHGs- Grading and Sanction

Table 4.27 SHGs- Grading and Sanction status -(Position as on 30 June 2022)

(Amt. in ₹lakh)

Grading and Sanction	Total Cumulative Accounts Graded and Sanctioned during the Financial Year 2022-23		
	Total Accounts graded	Accounts Sanctioned	Sanctioned Amt.
Accounts Graded and Sanctioned (A)	5776	5265	4464.35
Out of (A) Women SHG	NA	4870	4322.96

(Source: SLBC)

(C) SHGs - Disbursement details**Table 4.28 SHGs – Details of Disbursement**

(Amt. in ₹lakh)

Disbursement of Loans	Total loans disbursed during the year 2022-23(as on 30.06.2022)				Total Loan Outstanding (as on 30.06.2022)	
	No. of SHGs	Amt. Disb.	Of which new SHGs (Nos.)	Amt. disb. to new SHG a/c	No. of accounts	amount
Total loan disbursed to SHGs	6941	5194.41	3055	2656.30	44806	22107.30
Out of (A) Women SHG	6230	4952.23	2695	2571.33	36948	20602.88

*(Source: SLBC)***Efforts of NABARD for upscaling the SHG movement**

- **Target for 2022-23** - Based on the potential assessed, NABARD has prepared a plan for Saving linkage of 18500 SHGs, credit linkage of 36400 SHGs and financing of 1,85,000 JLGs. The same has been allocated among the banks / districts based on the potential available, gap between SHGs savings and credit linked.
- **Sensitization and Capacity Building Programmes** - To sensitize the stake holders, NABARD organizes district level training and capacity building programmes for various stakeholders like bankers, NGO, SHG leaders through its District Development Managers.
- **NPA in Bank lending to SHGs in Gujarat** – The growing NPA among the SHGs is a cause of concern for all the stakeholders and has attracted their attention to address the issue. Though there is considerable reduction in NPA in respect of RRBs and Cooperatives, the overall reduction is minimal as mentioned below.

Table 4.29 Status of NPA as percentage to Loan Outstanding in Bank lending to SHGs in Gujarat

(Figures in %)

Public Sector Commercial Banks		Private Sector Commercial Banks		Regional Rural Banks		Cooperative Banks		Total	
2020-21	2021-22	2020-21	2021-22	2020-21	2021-22	2020-21	2021-22	2020-21	2021-22
6.95	7.15	0.41	3.79	8.45	7.01	24.77	16.63	7.26	7.23

Source: Status of Microfinance in India 2021-22

Banks may adopt the following measures to improve recovery of SHG loans and further reduction of NPAs:

- Extensive use of Community Based recovery mechanism to improve recovery
 - SHG Federations may be used for recovery of loans/defaults
 - Village Level Programme (VLP) forum sponsored by NABARD may be used for recovery of loans
 - Services of Bank Sakhis may be utilized for recovery.
- **Micro Entrepreneurship Development Programme (MEDP)** – With a view to develop entrepreneurship among the SHG members and supplement their skill on livelihood activities, NABARD has been providing support vide its programme named MEDP. An assistance of ₹14.86 lakh was sanctioned during the year 2021-22 for conducting 15 MEDPs, under which 450 members of matured SHGs were provided enterprise/ skill development training in various non-farm sector activities.
 - **Livelihood and Enterprise Development Programme (LEDP)** – A cluster based

approach to livelihood activities with training and hand-holding support has been introduced by NABARD. An assistance of ₹81.88 lakh was sanctioned for conducting 12 LEDPs under which about 1290 members of matured SHGs were provided enterprise/skill development training during the year 2021-22 in activities like Jute bag, Handicrafts & stationery, Processing of milk & milk products, tailoring, Apparel Designing, Cotton wick, Dhoop cup & Agarbatti training, Goat rearing for milk and meat, Masala making (spice processing), handicraft and embroidery. etc.

- **Village Level Programmes for SHGs - NABARD, Gujarat**, as a part of an All India Action Plan, conducts Village Level Programmes on the lines of credit camp/ linkage meets, so as to increase the credit linkages and advocacy of credit discipline in the State. During the year 2021-22, 509 VLPs had been conducted in the different districts of the State.
- **Committee to review SHG-BLP grading norms for bank finance-** In view of feedback received from banks on need for bringing uniformity in SHG grading norms, a Committee was set up during 2021-22 to review the existing two sets of SHG grading norms (NABARD norms & NRLM norms) for credit linkage and suggest revised norms for fresh credit linkage and repeat linkage of SHGs. The Committee was headed by CGM, MCID, NABARD and members drawn from Commercial Banks, RRBs, DCCBs and Sa-Dhan. The Committee submitted its report to the Chairman, NABARD on 14 March 2022 and suggested following recommendations :
 - Adoption of NRLM norms universally for SHGs
 - Review of grading norms after six months of operation of the National Loan Portal for inclusion of additional parameters by NRLM
 - RBI may be requested to review their guidelines on credit reporting to CICs
 - Development of common technology platform for the banks for collection of SHG member level data to ensure uniformity
 - Use of Central KYC registry for capturing KYC details of SHG members for reporting to CICs.

Chapter 5

Infrastructure Support

5.1 Role of Rural Infrastructure and need to address critical infrastructure issues

5.1.1 Introduction

Infrastructure is a broad term encompassing investments which create the base for direct economic activities and generation of incremental income. Infrastructure development plays a significant role in the economic development. The findings of various empirical studies clearly indicate the positive impact of infrastructure development on economic growth, poverty alleviation and human development.

A. Rural Infrastructure

Rural Infrastructure directly impacts the growth of agriculture and allied sectors, creates better diversified opportunities for livelihoods, improvement in quality of life, greater financial inclusion and employment of rural people which in turn fuels the growth and development of economy and rise in GDP. Provision of adequate and quality infrastructure in rural areas is necessary for increasing the productivity and efficiency of agriculture in the form of improving the credit absorption capacity, enhancing the productivity of crops and livestock, generating employment and increasing the income of farmers etc. and in the process, minimises the incidence of rural poverty. Rural infrastructure broadly includes

- irrigation structures for agriculture,
- rural roads & bridges
- drinking water supply & sanitation
- energy
- education
- health
- communication

Investment in rural infrastructure creates new economic opportunities and generates additional employment and income, facilitates and improves delivery of other rural services and enhances democratic processes and skills among the rural poor.

Adequate and appropriate infrastructure is essential to exploit full developmental potential of the State. Gujarat has performed well on major development fronts due to the initiatives of the State Government, other stakeholders and the entrepreneurial nature of its inhabitants and people's participation in development efforts.

The third edition of the SDG India Index has been released by NITI Aayog, GoI. Gujarat's overall SDG Index score improved by five points, from 64 in 2019 to 69 in 2020-21, across all sustainable development targets. Gujarat is the best performing State in terms of Good Health and Well-being (Goal 3) and Industry, Innovation and Infrastructure (Goal 9).

"Mission School of Excellence" is the largest social sector project undertaken by Gujarat as it being the only State in the country to be funded by World Bank and Asian Infrastructure Investment Bank (AIIB) for such mission. Gujarat has been in the forefront among the seven best performer states of the country in "Jal Jeevan Mission".

Hon'ble Prime Minister announced on 13th October-2021, the ambitious ₹100 trillion PM Gati Shakti National Master Plan, setting in motion an enterprising project to propel India towards infrastructural Aatmanirbharta. Under Gati Shakti Gujarat, different departments will be brought together on an online platform to provide integrated planning and coordination for implementing infrastructure projects across departments. It will improve multi-modal connectivity to reduce logistics costs and strengthen last-mile connectivity to Gujarat's hinterland. It will help the

departments in inter-departmental coordination, integrated planning approach and time bound implementation of projects.

B. Infrastructure Development in Gujarat

Gujarat has been in the forefront in implementing various infrastructure schemes in rural areas viz. harnessing Narmada water for improving irrigation and drinking water, Jyoti Gram Yojana for supplying uninterrupted power supply to villages, Rurbanisation, development of solar parks, etc. Another major project under implementation is Saurashtra Narmada Avataram Irrigation (SAUNI) Yojana aims to effectively utilise the excess flood water of Narmada River by water transmission through underground pipelines from Narmada Main Canal to Saurashtra region. By filling the existing reservoirs of the drought prone Saurashtra region, the irrigation potential will be firmed up and also improve availability of drinking water in the region. The State has also given emphasis for production of renewable energy with more focus on solar energy. Government of Gujarat has launched Suryashakti Kisan Yojana (SKY) to benefit the farmers through installation of grid connected Solar PV Systems. The solar PV systems will provide day-time power to the farmers to meet their irrigation requirements. The excess energy would be transmitted to the grid for which compensation to the farmers will be made by the power distribution companies.

Government of Gujarat has a well-established planning mechanism to identify and address the infrastructure issues. However, there are certain areas requiring further interventions. Gujarat is affected by soil erosion and salinity ingress in large areas, especially in Kutch region wherein large tracts of land are uncultivable. It is necessary to take steps to arrest further damage and restore the lands for cultivation purpose. The available quota of surface water is also not distributed properly. North, South and Central regions, Saurashtra and Kutch have water resources of 82%, 16% and 2% respectively. Against this, the total geographical area of these regions is 45%, 31% and 24% respectively.

The Government has accorded high priority to the development and expansion of irrigation potential due to low, uneven and highly variable rainfall and high irrigation needs of State's large cultivable area. The ultimate irrigation potential through the surface water is assessed at 48.45 lakh hectares which includes 17.93 lakh hectares through Sardar Sarovar (Narmada) Project. Similarly, in respect of ground water resources, it is estimated that about 22.59 lakh hectares can be irrigated. Thus, total ultimate irrigation potential through surface & ground water is estimated to be 71.04 lakh hectares. The total irrigation potential of surface water created up to June-2020 works out to 97.29% of ultimate irrigation potential whereas maximum utilization works out to 88.22% of the irrigation potential created. (Source: Socio-Economic –Review, 2021-22)

In agriculture and allied sectors, Gujarat has been taking the lead in creation of infrastructure - either through public investment or private investment. However, setting up of more market yards by APMCs, creation of godown space for small farmers through PACS by availing assistance under Agriculture Infrastructure Fund will help the farmers in getting more storage facilities. Similarly, in Fisheries sector, the State of Gujarat has the longest coastline in the Country, with huge potential remaining untapped. Creation of proper infrastructure will enable the sector to earn huge foreign exchange and realize its full potential through financial assistance under Fisheries & Aquaculture Infrastructure Development Fund (FIDF).

5.1.2 Critical Infrastructure

An attempt has been made in the PLP of each district, to identify the critical infrastructure requirement for agriculture and allied sectors. The criticality of such infrastructure is seen from the angle of its relevance in enhancing production, productivity and price realization of the produce. The assessment of nature of investment required for such infrastructure has been estimated through district level consultations with the officials of line departments and farmers/stakeholders.

As per the infrastructure requirement in the districts, some of the major areas identified for improvement in irrigation infrastructure are modernisation of canals, distributaries and minors, construction of check dams, lift irrigation, de-silting and deepening of tanks and providing irrigation facilities in villages having less source of surface and ground water. The need for sprinkler and drip irrigation for improving the water usage efficiency has also been emphasised in many districts. In addition to this, setting up of nurseries, hi-tech tissue culture labs, poly houses, setting up forest based cottage industries, common service centres for collection, grading and sorting, improvement in food processing infrastructure and storage facilities through construction of godowns, APMCs and cold storages are identified which will help in price realisation of produce leading to increase in income of farmers.

Enhancing infrastructure facilities for allied sectors by improving veterinary services through artificial insemination centres, veterinary clinics for poultry and milch animals as well as setting up of animal hostels are identified in many districts. For improvement in the Fisheries sector, strengthening of marketing arrangements and drying units are priority areas of investment. The critical infrastructure, if made available, is expected to lead to enhanced agricultural production, productivity and hence, increased credit flow leading to overall development of rural areas.

5.1.3 Sectoral Priorities for Infrastructure

The critical infrastructure gaps under important sectors for agricultural development identified by NABARD are as under:

A. Irrigation

Projects for modernisation of canals, distributaries and minors, lift irrigation, construction of check dams, de-silting and deepening of tanks, completion works of distribution system to convey water to tail-end areas of projects, providing irrigation facilities in villages having less source of surface and ground water and micro irrigation in the command areas of the existing irrigation projects are the priority areas.

B. Agriculture, Land Development & Soil Conservation

Government of Gujarat has taken up the programme for providing Soil Health Cards to all farmers. This also requires additional infrastructure facilities in the form of soil testing centres. A minimum of one soil testing centre for each taluka will be required. In addition to Government investment in this regard, private investment also should be encouraged as an agri-business activity. Further, prevention of erosion/salinity ingress is one of the important areas requiring urgent investments in South Gujarat, Saurashtra and coastal regions of Kutch.

The other agriculture and horticulture infrastructure activities that are identified are establishment of plantation and horticultural nurseries, hi-tech tissue culture labs, seed production units, facilities for production of organic agri-inputs, vermi composting units, establishment of research station for off seasonal cultivation, strengthening of soil testing laboratories/ Multi Facility Testing Laboratories at district level, strengthening of training infrastructure facilities at Farmers Training Centre (district level). Encouraging area-based land development activities such as command area development, watershed development, soil conservation will enable the small and marginal farmers for taking up crops that would result in realization of more income. Also, credit facilities for Agri-clinics and Agri-Business Centres as well as PACS will enable them to cater to the requirements of farmers for undertaking agricultural and allied activities.

C. Warehousing

Modernization of APMCs with soil testing laboratories, adequate storage, cleaning, grading, sorting and packaging facilities need to be taken up by the Government on a priority basis. Construction of storage houses for onion, construction/modernisation/expansion of cold storage units and marketing facilities for farmers are also required to avoid post-harvest losses.

D. Animal husbandry /Dairy development/Fisheries

The main infrastructure facilities required for allied sectors are improvement in veterinary services through artificial insemination centres, cattle breeding farms, poultry farms, dairy units, veterinary clinics for poultry and milch animals as well as setting up of animal hostels. For improvement in the Fisheries sector, strengthening of marketing arrangements, multi storage cold chains, drying units and renovation of old fish ponds and additional infrastructural requirements for aquaculture farms such as supply of potable water, electricity and road connectivity are priority areas of investment. While some of the investments can be taken up by the Government through budgetary support, some may require private investment or PPP mode.

Many of the infrastructure activities identified above need to be taken up on a priority basis by the State Government which can be funded by NABARD under RIDF. Further, some of the projects can be taken up by State owned corporations which can be financed by NABARD under NABARD Infrastructure Development Assistance (NIDA) outside the borrowing powers of the State Government under Article 293(3). In addition to the above-mentioned projects, NABARD considers various rural infrastructure projects, prioritized by the State Government.

5.1.4 Infrastructure supported under RIDF in Gujarat

In Gujarat, under RIDF, apart from the traditional Rural Road & Irrigation projects, NABARD has sanctioned many diversified projects like construction of Salinity Ingress Prevention Projects, Check Dams, canal construction/modernisation, piped irrigation projects like SAUNI Yojana, support for rural connectivity through construction of approach/internal village roads under Gokul Gram Yojana, Suryashakti Kisan Yojana, Rural Drinking Water Supply projects, construction of Anganwadi Centres, Primary/Community Health Centres, construction of classrooms in primary schools, underground drainages, etc. in the Social Sector. Total number of projects sanctioned under RIDF is 63172 (excluding projects withdrawn, closed due to various reasons).

To solve the water problem of Saurashtra permanently, some of the major projects under implementation are SAUNI (Saurashtra Narmada Avataram Irrigation Yojana) Link I, Link II, Link III and Link IV (sanctioned under RIDF XXI, XXII, XXIII, XXIV, XXV, XXVII & XXVIII) water of Narmada dam is planned to be conveyed through Narmada main canal and Saurashtra branch canal through 4 links of total 1371 km length to various dams and 115 reservoirs of 11 districts of Saurashtra area. SAUNI projects sanctioned under RIDF are expected to benefit over 4.09 lakh ha in the water scarce regions of Saurashtra. Other RIDF projects viz., Solarisation of 137 feeders under Suryashakti Kisan Yojana, Lift irrigation project from Kadana reservoir, drinking water projects like Navda to Chavand, Budhel to Borda and Dhanki to Navda, construction of classrooms and health centres, construction of various sub-projects of Sardar Sarovar Project, viz. various branch canals under Narmada Main Canal, Saurashtra Branch Canal and its sub-branch canals, Kutch branch canals and its distributaries, various projects of Narmada Water Resource, Water Supply and Kalpasar Deptt (irrigation deptt.), Sardar Sarovar based rural drinking water supply project, check dams, etc. are being implemented in various districts of the State. One Rural Drinking Water Supply Project has been sanctioned covering 23 schemes in 08 districts of Gujarat which aims to provide 'Functional Household Tap Connections' (FHTC) to 85.76 lakh rural population under "Jal Jeevan Mission" the flagship programme of Govt. of India

So far, an amount of ₹35225 crore has been sanctioned under RIDF I to XXVII against which the total disbursement stands at ₹29877 crore.

Rural Infrastructure Development Fund (RIDF) has been found to be a well-accepted mechanism for channelizing the financial resources for creation of rural infrastructure involving State Governments and other State Government owned agencies. State Government gives utmost thrust for irrigation projects (71%), followed by Social Sector (22%) and Rural Roads (7%) in availing RIDF assistance. There is a felt need to encourage Participatory Irrigation Management (PIM)

with effective role of Water Users' Association (WUA) in order to take full advantage of irrigation potential created in the State so far. The Government of India is committed to accord high priority to water security. The GOI has conceived the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) with the objective of extending the coverage of irrigation in a focused manner, with end-to-end solution on source creation, distribution, management, field application and extension activities. It is in this backdrop that the State Government policies intended at helping farming led activities need to be planned more holistically, closely linking different departments and helping in complementarities to improve rural lives and livelihoods.

The broad sector wise details of projects sanctioned and amount disbursed as on 31 March 2022 are given in the table 5.1 below

Table 5.1 Broad sector wise details of projects sanctioned and amount disbursed (as on 31 March 2022)

(₹ Crore)				
Sector	No. of projects sanctioned	Loan Sanctioned	Loan Disbursed	% of Disb. to Sanction
Agriculture Related	30056	25009	21865	87.42
Social Sector	21473	7594	5780	76.11
Rural Connectivity	11643	2622	2232	85.13
Total	63172	35225	29877	
All India		455129	338554	
Gujarat % to All India		7.74	8.82	

Project Benefits:

- Irrigation Potential envisaged to be created: 33 lakh Ha.
- Dry Warehouse Storage for Grass in 14 districts: 1.10 Lakh MT storage to be created on completion of projects
- Dry Warehouse Storage for Seed and Agri Inputs in 10 districts: 1.85 Lakh MT storage capacity to be created on completion of projects
- 93 solar feeders have been commissioned benefitting 4445 farmers and generating 101.7 MW of electricity under the SKY project.
- 14775 villages benefitted through rural drinking water supply projects
- 9134 Anganwadi centres and 7203 PHCs constructed.
- 21076 Km rural road constructed

5.1.5 Associated benefits of RIDF Projects

- Improved quality of life through increase in income due to improvement in production and productivity
- Increase in ground water recharge
- Employment generation
- Improved rural connectivity
- Improved health facilities

5.1.6 Constraints and issues in implementation of RIDF Projects

Issues of land acquisition for a few projects, particularly under health and education sector.

5.1.7 Eligible activities under RIDF

Loan assistance under RIDF is available to State Government for 39 eligible activities. The activities are classified under three broad sectors namely Agriculture, Social Sector and Rural Connectivity.

The eligible activities are given below:

A. Agriculture and related sectors (RIDF loan: 95% of Eligible Project Cost)

Minor Irrigation Projects/ Micro Irrigation, Soil Conservation, Flood Protection, Watershed Development/Reclamation of waterlogged areas, Drainage, Forest Development, Market Yard, Godown, Mandi, Rural Haat, marketing infrastructure, Cold storage, Public/ Joint sector cold storage at various exit points, Seed/ Agriculture/ Horticulture Farms, Plantation and Horticulture, Grading/ certifying mechanisms, testing/ certifying laboratories, Community irrigation wells for the village as a whole, Fishing harbour/ jetties, Riverine Fisheries, Animal Husbandry, Modern Abattoir, Medium Irrigation Projects, Mini Hydel Projects/ Small Hydel Projects (upto 25 MW), Major Irrigation Projects (already sanctioned and under execution), Village Knowledge Centres, Desalination plants in coastal areas, infrastructure for Information Technology in rural areas, infrastructure works related with alternate sources of energy viz. solar, wind, etc and energy conservation, separate feeder lines and establishment of Dedicated Rural Industrial Estates, Mechanization of Farm Operations & Related Services.

B. Social Sector (RIDF loan: 85% of Eligible Project Cost)

Drinking Water, infrastructure for Rural Education Institutions, Public Health Institutions, construction of toilet blocks in existing schools, especially for girls, "Pay & use" toilets in rural areas, construction of Anganwadi Centres, setting up of KVIC industrial estates/ centres, solid waste management and infrastructure works related with sanitation in rural areas.

C. Rural Connectivity (RIDF loan: 80% of Eligible Project Cost)

Rural Roads, Rural Bridges, Road over Bridge on Railway Crossings and Ropeways - State-specific infrastructure projects can be covered under any of these broad categories, or a combination thereof. Fresh suggestions are welcome for inclusion of more activities/ areas/ sectors/ innovative categories of agriculture and rural infrastructure.

5.2 Infrastructure supported under Warehouse Infrastructure Fund (WIF)

During 2013-14, NABARD launched a dedicated fund viz. Warehouse Infrastructure Fund for providing direct loans to Public and Private sector for meeting the growing demand for storage capacity for agricultural commodities in the entire country and also in the wake of enactment of National Food Security Act 2013.

A cumulative loan of ₹469.56 crore under WIF has been sanctioned to Government of Gujarat in respect of 10 projects for construction of warehouses with total capacity of 8.3 lakh MT. Out of the 10 projects, 9 projects are already completed and remaining one project is ongoing under WIF. As on date, an additional storage capacity of 6.51 lakh MT has been created in the state with WIF assistance. With the implementation of projects picking up momentum, further acceleration in addition of storage capacity is expected.

5.3 Infrastructure supported under Food Processing Fund (FPF) in Gujarat

A special fund with a corpus of ₹2000 crore in NABARD was announced in the Union Budget of 2014-15, for providing affordable credit for infrastructure works in food parks and mega food parks promoted by MoFPI, food parks/exclusive food processing industrial estates promoted by State Government, Food processing/ agro processing/ multi-product Special Economic Zones (SEZs), including de-notified areas of these SEZs, designated by MoFPI or any other area having developed enabling infrastructure and designated as Food Park by MoFPI. The type of projects supported are for development/establishment of all infrastructure required in designated food parks, augmentation/ modernization/ creation of additional infrastructure in the designated Food Park, Setting up of individual food processing units or any other unit that is established for supporting the operations of the food processing units within the designated Food Parks and Modernization of existing processing units in the designated Food Parks, resulting in process

technology upgradation, automation, increased efficiency, improvement in product quality, reduction in cost, etc.

In Gujarat, MoFPI has approved Mega Food Parks to be established by M/s Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd. in Surat District and M/s Fanidhar Mega Food Park Pvt. Ltd in Mehsana District. Out of the two MFPs, NABARD has sanctioned Term Loan of ₹37.91 cr. to SPV Gujarat Agro Infrastructure Mega Food Park Ltd. (GAIMFPL) in Surat. In this MFP, NABARD has supported establishment of individual Food Processing Units through sanctioning Term Loan to 03 processing units, for activities ranging from cashew processing to pulp making.

5.4 Infrastructure support under Long Term Irrigation Fund in Gujarat

A special fund with a corpus of ₹20,000 crore was announced in the Union Budget 2016-17 to accelerate the implementation of incomplete major & medium irrigation projects. In the Union Budget 2017-18, an additional corpus of ₹20,000 crore was allotted. Under the scheme, 106 projects across the country were identified for funding through LTIF instituted in NABARD under Pradhan Mantri Krishi Sinchai Yojana (PMKSY).

In Gujarat, an amount of ₹3611.03 crore has been sanctioned under the Long Term Irrigation Fund for the Sardar Sarovar. The works include AIBP works (i.e. works from main canal up to the minor level of the Sardar Sarovar Project). The State Government has already availed the entire amount of the State share of ₹3611.03 crore under LTIF. The completed projects under LTIF will provide 17.92 lakh ha annual irrigation, drinking water facility to 2.75 lakh population in 3112 villages and generate 1450 MW of Hydro-electricity.

Table 5.2 Progress of SSNNL project (as on 25 June 2022)

Sardar Sarovar Narmada Nigam Limited					
Progress as on 25 June 2022					
(Length in KM)					
Sr. No.	Particulars	Total Estimated Length	Upto 31 March 2022	Cumulative upto 25 June 2022	% Completion
(I) Canal System					
1	Main Canal	458	458	458	100.00
2	Branch Canal	2680	2677	2679	99.96
3	Distributary	4619	4441	4447	96.28
4	Minor	15583	14466	14506	93.09
5	Sub-Minor	46157	40912	41377	89.64
	Total	69497	62954	63467	
(II) Irrigation Potential					
1	Up to Minor (in Ha)	1792328	1693225	1699334	94.81
2	Up to Sub-Minor (in Ha)	1792328	1521521	1537463	85.78

(Source: SSNNL site - [https://sardarsarovardam.org/document/pagecontent/06-2022\(1\).pdf](https://sardarsarovardam.org/document/pagecontent/06-2022(1).pdf))

5.5 Infrastructure support under Micro Irrigation Fund (MIF)

With a view to providing impetus to micro irrigation, the Union Finance Minister, in his Budget Speech 2017-18, announced a dedicated Micro Irrigation Fund (MIF) to be instituted with NABARD with an initial corpus of ₹5000 crore for encouraging public and private investments in modern irrigation methods such as sprinkler and drip irrigation as also water use enhancing practices to realize the objective of per drop more crop. The corpus under MIF has been doubled to ₹10,000 crore.

The main objective of MIF shall be to facilitate the States in mobilizing the resources for expanding coverage of micro irrigation by taking up innovative integrated projects/ proposals,

including projects in the Public Private Partnership (PPP) mode and also for incentivizing micro irrigation through an additional (top-up) subsidy over and above the one available under PMKSY-PDMC Guidelines and for covering additional areas.

Under Micro Irrigation Fund, an amount of ₹764.13 crore has been sanctioned to the State Government for expanding coverage of micro irrigation to 4.24 lakh ha. benefitting total 2.66 lakh beneficiaries. Against the sanctioned loan, an amount of ₹374.04 crore has been availed by the State Government. So far, 2.63 lakh ha. area has been covered under the MIF project.

5.6 Infrastructure Support under Fisheries and Aquaculture Infrastructure Development Fund (FIDF)

In the Union Budget 2018, the Hon'ble Finance Minister had announced to set aside a corpus of ₹10,000 crores for setting up of a Fisheries and Aquaculture Infrastructure Development Fund (FIDF) for fisheries sector. The proposed Fisheries and Aquaculture Infrastructure Development Fund entails an estimated fund size of ₹ 7522.48 Crore.

- **Eligible Investment Activities**

Establishment of Fishing Harbours, Establishment of Fish Landing Centres, Infrastructure for Mariculture and Advanced Inland Fisheries (Ocean farming, Cage Culture etc.), Construction of Ice Plants (both for marine and inland fisheries), Development of Cold Storages (both for marine and inland fisheries), Fish Transport and Cold Chain Network Infrastructure, Development of Modern Fish Markets, Setting up of Brood Banks, Development of Hatcheries, Development of Aquaculture, Modernization of State Fish Seed Farms, Establishment of state of art Fisheries Training Centres, Fish Processing Units, Fish Feed Mills/Plants, Establishment of Cage culture in Reservoirs, Introduction of Deep Sea Fishing Vessels, Establishment of Disease Diagnostic Laboratories, Development of Mariculture, Establishment of Aquatic Quarantine Facilities, Any other innovative projects/activities designed to enhance fish production/productivity/value.

- The Nodal Implementing Agency is National Fisheries Development Board, Hyderabad
- Nodal Loaning Entities (NLEs) to be involved are NABARD, National Cooperatives Development Corporation and all scheduled Banks.
- Quantum of loan and margin money: Projects under FIDF shall be eligible for loan upto 80% of the estimated/actual project cost. Beneficiaries are required to contribute at least 20% of the project cost as margin money.

For operationalising the FIDF fund in Gujarat a tripartite Memorandum of Agreement has been signed between NABARD, Government of Gujarat and Government of India. Subsequently, a loan of ₹600 crore has been sanctioned by NABARD to develop 4 Fishing Harbours at Navabandar, Veraval, Sutrapada and Madhwad in Gujarat.

5.7 Agri Market Infrastructure Fund (AMIF)

Government of India in the Union Budget 2018-19 announced setting up of Agri- Market Infrastructure Fund (AMIF) with a corpus of ₹2000 crore with NABARD for developing and upgrading agricultural marketing infrastructure in 22000 Gramin Agriculture Markets (GrAMs) and 585 APMCs.

Objective

- To provide low cost funds to the State Government
- To enable farmers to get remunerative prices
- To facilitate the farmers for aggregation and marketing of their produce
- To provide better farmer-consumer interface

A Tri-partite Memorandum of Agreement dated 31 March 2021 has been signed by Government of Gujarat, NABARD and Ministry of Agriculture and Farmer Welfare, Government of India for operationalizing the fund.

Chapter 6

Important Policies and Developments

6.1 Policy Initiatives - Government of India**6.1.1 Union Budget of India- 2022-23****Agriculture and Food Processing**

- The year 2023 has been announced as the 'International Year of Millets'. Support will be provided for post-harvest value addition, enhancing domestic consumption, and for branding millet products nationally and internationally.
- To reduce the dependence on import of oilseeds, a rationalized and comprehensive scheme to increase domestic production of oilseeds will be implemented.
- For delivery of digital and hi-tech services to farmers with involvement of public sector research and extension institutions along with private agri-tech players and stakeholders of agri-value chain, a scheme in PPP mode will be launched.
- Chemical-free Natural Farming will be promoted throughout the country, with a focus on farmers' lands in 5-km wide corridors along river Ganga, at the first stage.
- Use of 'Kisan Drones' will be promoted for crop assessment, digitization of land records, spraying of insecticides, and nutrients.
- A fund with blended capital, raised under the co-investment model, will be facilitated through NABARD to finance startups for agriculture & rural enterprise, relevant for farm produce value chain. The activities for these startups will include, inter alia, support for FPOs, machinery for farmers on rental basis at farm level, and technology including IT-based support.
- Implementation of the Ken-Betwa Link Project with an estimated cost of Rs.44,605 crore to provide irrigation benefits to 9.08 lakh hectare of farmers' lands, drinking water supply for 62 lakh people, 103 MW of Hydro, and 27 MW of solar power will be taken up.

MSME

- Udyam, e-Shram, NCS, and ASEEM portals will be interlinked for credit facilitation, skilling, and recruitment with an aim to further formalize the economy and enhance entrepreneurial opportunities for all.
- Emergency Credit Line Guarantee Scheme (ECLGS) will be extended up to March 2023 and its guarantee cover will be expanded by Rs. 50,000 crore to total cover of Rs. 5 lakh crore, with the additional amount being earmarked exclusively for the hospitality and related enterprises.
- Credit Guarantee Trust for Micro and Small Enterprises (CGTMSE) scheme will be revamped with required infusion of funds. This will facilitate additional credit of Rs.2 lakh crore for Micro and Small Enterprises and expand employment opportunities.
- Raising and Accelerating MSME Performance (RAMP) programme with an outlay of Rs.6,000 crore over 5 years will be rolled out. This will help the MSME sector become more resilient, competitive and efficient.

Skill Development

- Digital Ecosystem for Skilling and Livelihood (DESH-Stack) e-portal will be launched to empower citizens to skill, reskill or upskill through on-line training.
- Startups will be promoted to facilitate 'Drone Shakti' through varied applications and for Drone-As-A-Service (DrAAS). In select ITIs, in all states, the required courses for skilling, will be started.

Inclusive Welfare Focus

- A new scheme, Prime Minister's Development Initiative for North-East (PM-DevINE), will be implemented through the North-Eastern Council to fund infrastructure, in the spirit of PM

- Gati Shakti, and social development projects based on felt needs of the North-East.
- Border villages with sparse population, limited connectivity and infrastructure will be covered under the new Vibrant Villages Programme for construction of village infrastructure, housing, tourist centres, road connectivity, provisioning of decentralized renewable energy, direct to home access for Doordarshan and educational channels, and support for livelihood generation, etc.
- To mark 75 years of our independence, it is proposed to set up 75 Digital Banking Units (DBUs) in 75 districts of the country by Scheduled Commercial Banks.

Productivity enhancement and Investment

- Launching of Ease of Doing Business 2.0 and Ease of Living
- Expanding scope of Green Clearance portal PARIVESH
- Unique Land Parcel Identification Number for IT based management of land records

Sunrise opportunities and climate action

- Introducing Supportive policies, light-touch regulations, facilitative actions to build domestic capacities, and promotion of research & development in the field of Sunrise sector such as Artificial Intelligence, Geospatial Systems and Drones, Semiconductor and its eco-system, Space Economy, Genomics and Pharmaceuticals, Green Energy, and Clean Mobility Systems Opportunities, Energy Transition, and Climate Action, etc.
- Prioritizing transition to Carbon Neutral Economy, augmenting solar power generation to be given utmost importance.

Financing Public Investment

- Issue of sovereign Green Bonds for mobilizing resources for green infrastructure
- Promotion of thematic funds for blended finance for encouraging important sunrise sectors such as Climate Action, Deep-Tech, Digital Economy, Pharma and Agri-Tech, enhancing financial viability of projects including PPP, with technical and knowledge assistance from multi-lateral agencies.
- Introduction of Digital Rupee by RBI starting 2022-23.

6.1.2 Strengthening of Cooperative Sector

A cooperative is defined as ‘an autonomous association of persons united voluntarily to meet their common social, economic and cultural needs as well as their aspirations through a jointly owned and democratically controlled enterprise’.

A cooperative is governed by seven major principles, i.e. voluntary and open membership; principle of democratic member control; principle of member economic participation; principle of autonomy and independence; principle of education, training and information; principle of cooperation and, principle of concern for community.

Cooperative enterprises help their members to collectively solve shared socio-economic problems. They strengthen bargaining powers of their members, help them get access to competitive markets and to capitalise on new market opportunities. As such, they improve income opportunities, reduce costs and manage risks of the members.

Sector-wise/ Activity-wise distribution Co-operatives is given in the table 6.1 below.

Table 6.1 Sector-wise/ Activity-wise distribution of Co-operatives

Sr. No	Type	Number of Societies
A	Non Credit Cooperative Societies	
1	AH Sector (Milk/Fishery/ Poultry etc.)	185660
2	Consumer Stores	25207
3	Housing Societies	134798
4	Weavers	11521
5	Marketing	8875

Sr. No	Type	Number of Societies
6	Labour Societies	46692
7	Industrial Societies	19385
8	Agro Processing and Sugar	5872
9	All others	301572
	Total	739582
B	Credit Cooperative Societies	
10	Primary Agriculture Credit Societies	93978
C	Multi State Cooperative Societies (MSCs)	
11	MSCs	1469

Source: NCUI 2018

In addition, there are about 2,705 District Level Federations, 390 State Level Federations and 20 National Level Federations in the country.

Govt. of India has set up a separate Ministry for Cooperation on 06 July 2021, which will provide a separate administrative legal and policy framework for strengthening the cooperative movement in the country, to help deepen the presence of cooperatives, to streamline processes for 'Ease of doing business' for co-operatives and enable development of Multi-State Co-operatives (MSCs). In the words of the Hon'ble Prime Minister, "The Cooperative movement is such a model which can provide a successful alternative to socialism and capitalism"

In this direction, the Ministry of Cooperation (MoC) has, in consultation, coordination and partnership with State Governments, NABARD, National Level Federations, Training

Establishments at State and National level and other stakeholders, initiated work on five major fronts:

- a. Cooperative Credit Guarantee Fund:** This is a new scheme being created for providing credit guarantee on loans of Primary Agriculture Cooperative Societies and other primary cooperative societies.
- b. Co-operative Education:** This scheme aims at introduction of cooperative education as a course curriculum and also as independent degree / diploma courses in Schools and Universities. This will also take care of research in the field of cooperation.
- c. Cooperative Training:** This scheme aims at revamping strengthening existing cooperative training structure in the country and modernize the training methods through a revamped scheme.
- d. Computerization of Primary Agriculture Cooperative Societies:** This scheme aims at computerization of 63,000 functional PACS leading to increase in efficiency, profitability, transparency and accountability in the working of PACS
- e. Sahkar se Samriddhi:** This scheme is an umbrella scheme with a number of sub-components as mentioned below with the aim of all round development of cooperatives in the country by providing them necessary support in terms of finance, technology and infrastructure and transform them into successful economic entities: (a) Recapitalization of PACS; (b) Seed money for new PACS; (c) Revival of defunct PACS; (d) Transformation of PACS into multi-role cooperatives on the lines of FPOs; (e) Assistance to cooperative societies in branding, marketing and trade; (f) Capital subsidy for creation of basic infrastructure.

All these initiatives will create immense business potential for the Cooperatives from **grassroots upward in times to come.**

6.1.3 Enhancing Credit Flow: Credit Guarantee Schemes

Credit Guarantees are risk sharing instruments for lenders and are aimed to improve flow of credit in borrowers' segment which are normally perceived to be risky by lenders. For the promotion of

Agriculture and Allied Sector, GoI has announced two Credit Guarantee Schemes which are being managed by NABSanrakshan Trustee Private Limited, a wholly owned subsidiary of NABARD.

Table 6.2 Comparison of Credit Guarantee Schemes for FPOs and Animal Husbandry and Dairying

Item	Credit Guarantee Scheme for FPOs Financing	Credit Guarantee Scheme for Animal Husbandry and Dairying
Credit Limit	Max. ₹2 crore (Working Capital/ Term Loan)	Within the MSME defined ceilings (Term Loan)
Guarantee Cover	85% of the sanctioned amount, upto ₹1 crore 75% of the sanctioned amount above ₹1 cr (with max ceiling of ₹1.5 crore)	25% of the credit facility
Annual Guarantee Fee	0.75% upto ₹1 crore 0.85% upto ₹1.5 crore (AGF ceiling 1.70 lakh)	1% of the sanctioned amount
Eligible Lending Institutions	Scheduled Commercial Banks, Co-operative Banks, NEDFi, RRB etc.	Scheduled Banks
Eligible Borrower	FPOs (Agri based)	FPO, Pvt Company, Sec. 8 Company, Individual Entrepreneur, MSME

6.2 Policy Initiatives – Reserve Bank of India

The following important initiatives have been taken by the RBI in Agriculture and Rural Sector:

- i. Master circular on Lead Bank Scheme consolidating the relevant guidelines/ instructions issued by Reserve Bank of India on Lead Bank Scheme up to March 31, 2022, was issued vide circular FIDD.CO.LBS.BC.No.02/02.01.001/2022-23 dated 01 April 2022. It reemphasizes the focus of the Lead Bank scheme to inclusive growth and financial inclusion.
- ii. Master circular on SHG- Bank Linkage Programme consolidating the relevant guidelines/ instructions issued by Reserve Bank of India up to March 31, 2022, was issued vide circular FIDD.CO.FID.BC.No.1/12.01.033/2022-23 dated 01 April 2022. As per the circular, utmost priority should be given by banks in lending to SHGs and the same should also form an integral part of the bank's corporate credit plan.
- iii. **Kisan Credit Card Scheme - Eligibility criteria for farmers engaged in fisheries/ aquaculture**
RBI has issued modified instructions to all Commercial Banks including Small Finance Banks and excluding Regional Rural Banks, with regard to the eligibility criteria for inland fisheries and aquaculture. As per the modified instructions, the beneficiaries must own or lease any fisheries related assets such as ponds, tanks, open water bodies, raceways, hatcheries, rearing units, boats, nets and such other fishing gear as the case may be and possess necessary authorisation/certification as may be applicable in respective states for fish farming and fishing related activities and for any other state specific fisheries and allied activities. The detailed instructions were issued by RBI vide circular FIDD.CO.FSD.BC.No.6/05.05.010/2022-23 dated 18 May 2022.
- iv. **Lending by Commercial Banks to NBFCs and Small Finance Banks (SFBs) to NBFC-MFIs, for the purpose of on-lending to priority sector**
To ensure continuation of the synergies that have been developed between banks and NBFCs in

delivering credit to the specified priority sector, RBI issued instructions to all Scheduled Commercial Banks including Small Finance Banks that Bank credit to NBFCs (including HFCs) for on-lending will be allowed up to an overall limit of 5 percent of an individual bank's total priority sector lending in case of commercial banks. In case of SFBs, credit to NBFC-MFIs and other MFIs (Societies, Trusts, etc.) which are members of RBI recognized 'Self-Regulatory Organisation' of the sector, will be allowed up to an overall limit of 10 percent of an individual bank's total priority sector lending. These limits shall be computed by averaging across four quarters of the financial year, to determine adherence to the prescribed cap.

SFBs are allowed to lend to registered NBFC-MFIs and other MFIs which have a 'gross loan portfolio' (GLP) of up to Rs.500 crore as on March 31 of the previous financial year, for the purpose of on-lending to priority sector. In case the GLP of the NBFC-MFIs/other MFIs exceeds the stipulated limit at a later date, all priority sector loans created prior to exceeding the GLP limit will continue to be classified by the SFBs as PSL till repayment/maturity, whichever is earlier. The detailed instructions were issued by RBI vide circular FIDD.CO.Plan.BC.No.5/04.09.01/2022-23 dated 13 May 2022.

v. **Modified Interest Subvention Scheme for Short Term Loans for Agriculture and Allied Activities availed through Kisan Credit Card (KCC) during the financial year 2021-22**

Modified instructions on Interest Subvention Scheme for Short Term Loans for Agriculture and Allied Activities availed through Kisan Credit Card (KCC) during the financial year 2021-22 were issued by RBI to all Public Sector Banks, Private Sector banks and Small Finance Banks to extend the benefit of Interest Subvention vide circular FIDD.CO.FSD.BC.No.3/ 05.02.001/ 2022-23 dated 28 April 2022. As per the scheme, banks to submit their additional claim pertaining to the disbursement made during the year 2021-22 which is (i) not included in the claim as on 31 March 2022; and (ii) repaid promptly during 2022-23, latest by 30 June 2023.

6.3 Policy Initiatives – NABARD

6.3.1 Long-Term Refinance

To ensure increased and uninterrupted credit flow to farmers, as also to give a boost to capital formation in agriculture sector, NABARD provides refinance to the cooperative banks and RRBs out of Long Term Rural Credit Fund, at a reasonable rate of interest. An amount of Rs.1,20,000.00 crore was allocated for the year 2021-22.

6.3.2 Short-Term Refinance

NABARD provides Short Term refinance to Cooperatives & RRBs for their crop loan lending. The allocation for the year 2021-22 was Rs.1,20,727.66 crore.

6.3.3 Other Initiatives

(i) Special Refinance scheme for financing under Agriculture Infrastructure Fund (AIF) for RRBs, Cooperative Banks and subsidiaries of NABARD with a view to address the existing infrastructure gaps and to provide a fillip to the rural financial institutions for funding projects of other than PACS under AIF and also funding to eligible beneficiaries being covered under AIF. The scheme envisages investment in viable projects relating to post harvest management infrastructure and community farming assets.

(ii) Special Liquidity Facility-2

NABARD, under Atmanirbhar Bharat Abhiyan, disbursed Rs. 24,399.43 crore to Cooperative Banks, RRBs, SCARDBs, and NBFC-MFIs as special liquidity facility (SLF-2) during the pandemic. Out of which, Rs.15053.30 crore was disbursed to Cooperative Banks, Rs. 7746.13 crore to RRBs for the purpose of ASAO and ST-Others and Rs. 1600 crore to SCARDBs &NBFCs/NBFC-MFIs. Under Additional Special Liquidity Facility (ASLF) an amount of Rs.

150.00 crore was disbursed during the year 2021-22 to NBFCs/NBFC-MFIs with asset size of less than Rs.500.00 crore.

- (iii) To improve the flow of credit to priority sector by banks 25% of the corpus of the STRRB Fund and LTRCF, allocated for the RRBs in the credit starved districts.
- (iv) Extension of both the Short Term and Long Term refinance to all RRBs, based on internal Risk Rating category of NABARD viz. NBD1 to NBD7.
- (v) NABARD has devised a new scheme for providing repayable financial assistance to State Governments for share capital contribution to RRBs under Section 38 read with section 39 of the NABARD Act, 1981 to facilitate release of proportionate share of the State Govt. to RRBs and to ensure uninterrupted credit flow to rural sector.
- (vi) Keeping in view the requirements of Cooperatives and RRBs under Short Term Refinance Scheme under ST(SAO) and ST(Others), NABARD has issued guidelines for the State Cooperatives and RRBs, wherein the banks have the option of choosing between fixed and floating rates for short term refinance sanction availed under ST(SAO) and ST(Others) limits.

6.3.4 Government Sponsored Programmes with Bank Credit

- Department of Food and Public Distribution (DFPD), Government of India has notified the "Scheme for extending financial assistance to project proponents for enhancement of their ethanol distillation capacity or to set up distilleries for producing 1st Generation (1G) ethanol from feed stocks such as cereals (rice, wheat, barley, corn & sorghum), sugarcane, sugar beet, etc." NABARD has been appointed as the Nodal Bank for interacting with DFPD and managing interest subvention under the Scheme. The operational guidelines have been issued to Cooperative Banks, RRBs, NCDC, PSBs, Commercial Banks, etc. for implementation of the scheme.
- Administrative approval conveying continuation of the following subsidy schemes for 2021-2022 (till 30 September 2022) has been received from the GoI :
 - Agri Clinics and Agri Business Centres (ACABC)
 - Agri Marketing Infrastructure (AMI) sub scheme of Integrated Scheme for Agricultural Marketing (ISAM)

6.3.5 Rural Infrastructure Development Fund (RIDF)

- The corpus under Rural Infrastructure Development Fund (RIDF) was Rs. 40,000 crores during FY 2021-22.
- During 2021-22, the total sanctions were to the tune of Rs. 46,072.70 crore and disbursements were to the extent of Rs. 33,883.18 crore to various State/UTs.
- Based on the requests received from State Governments, two new activities viz. Road Over Bridges on railway crossings and Ropeway were added in the list of eligible activities under RIDF.

Other Important Funds

i) Long Term Irrigation Fund (LTIF)

Under LTIF, NABARD has sanctioned a loan amount to the tune of Rs.800.78 crore and Rs.3196.97 crore was released during 2021-22. As on 31 March 2022, the cumulative loan sanctioned and disbursed under LTIF stood at Rs.85, 127.38 crore and Rs.55, 676.68 crore, respectively.

ii) Micro irrigation Fund (MIF)

Under MIF, an amount of Rs.256.25 crore was released during 2021-22. As on 31 March 2022, the cumulative loan sanctioned and released stood at Rs. 3970.17 crore and Rs.2083.72 crore, respectively. The sanctions made by NABARD till date under MIF envisages expansion of micro

irrigation coverage by an area of 12.83 lakh Ha. Total area of 4.23 lakh Ha has been covered by the States up to 31 March 2021. (Source: MoA&FW, GoI)

iii) Pradhan Mantri Awas Yojana-Grameen (PMAY-G)

As on 31 March 2022, the cumulative loan sanctioned and released under PMAY-G stood at Rs.61,975.00 crore and Rs.48,819.03 crore, respectively. This has facilitated construction of 1.77 crore houses as on 31 March 2022 (Source-MoRD, GoI website).

6.3.6 Micro Credit Intervention

1. Committee to review the SHG-BLP grading norms for credit linkage

In order to bring about uniformity in SHG grading norms, a Committee was set up to review the existing sets of SHG grading norms for credit linkage and suggest revised norms for fresh credit linkage and repeat linkage of SHGs. The Committee recommended (a) adoption of NRLM norms universally for SHGs; (b) review of grading norms after six months of operation of the National Loan Portal for inclusion of additional parameters by NRLM; (c) RBI to review their guidelines on credit reporting to Credit Information Companies (CICs) ; (d) development of common technology platform for the banks for collection of the SHG member level data to ensure uniformity; and (e) use of Central KYC Registry for capturing the KYC details of members of SHGs for reporting to CICs.

2. Enhancement of collateral free loans to Self Help Groups (SHGs) under DAY-NRLM from Rs.10 lakh to Rs.20 lakh

Credit Guarantee Fund for Micro Units (CGFMU) is the Trust Fund set up by Government of India, managed by NCGTC as a Trustee, with the purpose of guaranteeing payment against default in Micro Loans extended to eligible borrowers by Banks/ NBFCs/ MFIs/ Other Financial Intermediaries. Consequent to the amendment in the CGFMU scheme, the collateral free loans to SHGs under DAY-NRLM were enhanced from Rs. 10 lakh to Rs.20 lakh and categorised as under.

- i. Loans up to Rs. 10 lakh -No collateral and no margin to be charged
- ii. Loans above Rs. 10 lakh and up to Rs. 20 lakh - No collateral and no lien to be marked against savings bank accounts of SHGs.

However, the entire loan (irrespective of the loan outstanding, even if it subsequently goes below Rs. 10 lakh) would be eligible for coverage under Credit Guarantee Fund for Micro Units (CGFMU).

6.3.7 Financial Inclusion

- **Positive Pay System:** In order to enhance the safety of cheque based transactions of Rs.50,000/- and above, the new scheme with maximum support of Rs. 5.00 lakh for implementation of Positive Pay System (PPS) by Rural Cooperative Banks (RCBs) has been introduced under FIF in September 2021. This enables an additional security layer to the cheque clearing process. As on 31 March 2022, out of 384 banks, more than 100 banks have already availed sanction under FIF for the scheme and during the year 2021-22 an amount of Rs.520.71 lakh has been sanctioned and Rs.241.03 lakh is disbursed under the scheme.
- A scheme under FIF for implementation of Green PIN facility at ATMs and/or micro ATMs for RuPay Kisan Card activation was launched under which maximum Rs.4.00 lakh one-time implementation and application development cost for enabling Green PIN facility is reimbursed. In order to bring digital financial literacy in the remote areas and to give further thrust to effective financial inclusion, the scheme for providing support for mobile vans was modified to support a maximum of five demo vans per district on a select basis. This has greatly helped in delivering banking services during the pandemic.
- Scaling up of the Centre for Financial Literacy (CFL) Project was launched in 2021-22. The pilot project of RBI being implemented in 80 blocks of the country is now up scaled to 200 CFLs. The scaled up project envisages that one CFL will cater to 3 blocks.

- A scheme under FIF for supporting onboarding to Bharat Bill Payment System (BBPS) is granted to encourage banks to provide facility of online utility payment services to their customers to enable rural customers to experience the benefits of online bill payments. Maximum Rs.2.00 lakh one time integration cost of the Bank with the Bharat Bill Payment Operating Unit (BBPOU) is reimbursed under the scheme.
- Support extended to RCBs in addition to CBs and RRBs for opening Kiosk outlets in unbanked villages of North Eastern States in order to augment the banking outlets through BCs for providing comprehensive financial services in unbanked villages with population less than 500.

6.3.8 Farm Sector Development – Important Initiatives

I. Sustainable livelihood & NRM- Watershed and Tribal development Project

- JIVA: An agro ecological transformation programme, aimed at achieving long-term sustainability of interventions made in the completed NRM projects and promotion of sustainable farming was launched.
- Indo-German Technical Cooperation Project on Capacity enhancement for Sustainable Agriculture and Sustainable Aquaculture (C-SASA) was signed during the FY 2021-22.
- Nationwide exercise of Geo tagging of Wadis was initiated.

II. FPO Promotion

- NABARD, in collaboration with GiZ, developed a mobile application for conduct of baseline survey of FPOs and an automated rating tool for FPOs (FPO Manak tool).
- BIRD, Lucknow as the Nodal Training Institute for Central Sector Scheme of 10,000 FPOs developed five Basic training modules and eight advanced training modules for FPOs and other stakeholders.
- 417 FPOs were promoted under Central Sector Scheme on 10,000 FPOs during 2021-22. With this, the Cumulative number of FPOs promoted is 1096, of which 774 are registered.

III. IOT and ICT Interventions

- Deployment of IOT systems in the watershed for delivering advisories on improved agricultural practices (Himachal Pradesh).
- End-to-End ICT and IOT based solutions for farmers (Gujarat & Jharkhand)
- IOT based Soil & Weather Stations through Farmers Producer Company (Tamil Nadu).
- Application of IOT and Machine Learning for cultivation of Chillies (Telangana).
- Development of drone-based package of practices in direct seeded rice (Telangana) and demonstration of spraying pesticides and foliar application of nutrients using Drone (Tamil Nadu).
- Implementation of IOT in vegetable cultivation (Uttar Pradesh).
- Pilot project on encouraging rural youth in agriculture for agri-entrepreneurship development sanctioned in Rajasthan and Jharkhand.
- Agriculture Export Facilitation Centre (AEFC) to function as a 'One Stop Centre' for agri export services and capacity building of farmers in traceability, Good Agriculture Practices, etc. in Maharashtra (various export commodities) and Rajasthan (spices) was set up.

IV. Climate Action

- Under climate change initiatives, NABARD has released an amount of Rs.97.30 crore under various funding mechanisms viz. Adaptation Fund (AF), Green Climate Fund (GCF) and National Adaptation Fund for Climate Change (NAFCC).

6.3.9 Off Farm Sector Initiatives

- A total of 58 OFPOs, covering around 18,000 beneficiaries have been supported with grant assistance of ₹28.93 crore across 24 states. Of these, 45 OFPOs have been registered under Companies Act while 5 have been registered under the Societies Act and are undertaking

business activities of aggregation, marketing and input distribution. Of the 58 OFPOs, 16 OFPOs are all-women OFPOs and are expected to empower 10,000 women weavers and artisans directly.

- Relaxations in norms for skill training providers in the NER, LWE affected states and islands.
- NABARD is the Connect Centre for Stand Up India Scheme for organizing pre and post disbursement handholding events at district level, to share best practices, review the programme, problem solving and guiding the potential borrowers.
- New scheme to support off-farm sector development projects in DPR Mode has been formulated to provide more flexibility to development project partners in designing and implementing projects cater to the vast off-farm sector development landscape that is differentiated by region, material, product, artisan, and a whole host of other factors.
- A scheme to extend assistance for formation and nurturing of mini-OFPs comprising of less than 200 members was introduced to achieve wider regional spread particularly in North Eastern states, hilly and difficult areas, bring in sustainable development for the unreached and excluded sections, help reduce distress migration of artisans, increase incomes of the artisans, provide a market for products, help revive dying arts, crafts and weaves etc.
- 'Stall in Mall' scheme has been introduced to provide support for hiring and/ or setting up of temporary stalls for a period of between one to three months in a year in reputed malls, stores, market complexes, reputed hotels, and prominent premises (Govt. or private), places with good footfall.

6.3.10 Agriculture Credit Target during 2022-23

For the FY 2021-22, the ground level agricultural credit achievement was Rs.17.10 lakh crore, as against the target of Rs 16.50 lakh crore.

Agriculture credit target for the year 2022-23 has been fixed at Rs.18.50 lakh crore. In order to provide special focus to allied activities, separate sub targets of Rs. 37,800 crore for working capital and Rs. 88,200 crore for term loan towards allied activities under GLC targets have been fixed.

6.4 Policy Initiatives – State Government

The Gross State Domestic Product (GSDP) of Gujarat for 2022-23 (at current prices) is projected to be ₹22,03,062 crore expecting a growth of 13.3% over the revised estimate of GSDP for 2021-22 (Rs 19,44,107 crore).

6.4.1 Budget Initiatives

State Government has presented a budget of ₹2,18,408 crores for the year 2022-23. The overall surplus as per budget estimates for the year 2022-23 is ₹1,006 crores. The government has declared that there may be no increase in the existing tax rates and it would not impose any new taxes. The budget allotted to the education sector at ₹34,884 crores is highest amongst all sectors.

Major highlights of the budget are:

Agriculture, Farmers' Welfare and Cooperation Department

- A. Total provision of ₹7737 crores has been earmarked for various activities of Agriculture, farmers' welfare and Cooperation Department. Some components of the allocation are as under-
- i. To clear out the pending applications for agricultural power connection, a subsidy of ₹8300 crores is provided in the budget. This will expedite the access of subsidized power connection to farmers
 - ii. A provision of ₹260 crores has been made to provide subvention in purchasing tractors and various farm machineries for mechanization of agriculture activities/ agriculture operations.
 - iii. Provision of ₹231 crores for various projects related to agriculture and allied sectors under Rashtriya Krishi Vikas Yojana.

- iv. A provision of ₹213 crores for maintenance of cows for the farmers who are engaged in organic farming with dependence entirely on cows rearing.
 - v. A provision of ₹142 crores for constructing small godowns at farms under Mukhyamantri Pak Sangrah Yojana.
 - vi. Gujarat Prakrutik Krushi Vikas Board has been formed to provide a boost to organic farming. The board will work towards enhancing agricultural production by integrating farmers with this campaign. A provision of ₹100 crores has been made exclusively for this purpose.
 - vii. A provision of ₹100 crores to provide subvention to Agro and Food Processing Units under Sarvagrahi Krishi Vyavasay Niti.
 - viii. A provision of ₹81 crores under Khedut Khatedar Akasmat Bima Yojana for crop insurance in the State covering crop failure due to emergent reasons.
 - ix. A provision of ₹54 crores to provide one drum and two plastic baskets free of cost to farmers of the state to carry out multipurpose activities.
 - x. A provision of ₹35 crores for increasing agricultural production by application of fertilizers and insecticides with the help of drone and thereby decreasing the cost of agricultural inputs.
 - xi. A provision of ₹32 crores to encourage farmers engaged in organic farming in the Dangs district, for entirely chemical free cultivation.
 - xii. A provision of ₹20 crores for erecting solar power fencing around farms to prevent the crop being damaged by wild animals.
 - xiii. A provision of ₹17 crores for storage of fertilizers in order to ensure timely supply of fertilizer to the farmers in adequate quantity.
 - xiv. A provision of ₹15 crores to provide subvention on the purchase of goods carrying vehicles for transportation of agricultural products.
 - xv. A provision of ₹10 crores to promote "Sanedo", an agricultural implement, developed by local manufacturers of the State.
- B. For the development of Horticulture, total provision of ₹369 crores was made under various schemes of the Directorate of Horticulture as below.
- i. A provision of ₹10 crores to increase the area under cultivation of Kamalam (dragon fruit).
 - ii. A provision of ₹10 crores to engage 10,000 farmers of the state in honey production to provide a boost to the Honey Revolution.
 - iii. A provision of ₹7 crores under Comprehensive Horticulture Development Program.
 - iv. A provision of ₹7 crores to establish 3 centers of excellence for horticulture crops, one each at Ahmedabad, Jamnagar and Kheda districts.
- Apart from this, a provision of ₹757 crores has also been made to intensify Agricultural Research and Education Programmes under Agricultural Universities.
- C. For activities related to the Animal Husbandry division, the following provisions have been made:
- i. A provision of ₹500 crores to Gaushala, Panjrapole and Trust managed institutions for preservation of cow and infrastructural facilities in Mukhyamantri Gaumata Poshan Yojana.
 - ii. A provision of ₹300 crores for interest relief to Animal keepers on short term loan.
 - iii. A provision of ₹80 crores to provide subvention for setting up dairy farm and animal unit at rural level for self-employment.
 - iv. A provision of ₹44 crores to provide benefit of cattle feed through 'Pashu Khandan Sahay Yojana' to animal keepers during pre and post deliveries of their animals.

- v. A provision of ₹12 crores for construction of milk house/godowns for rural milk producing cooperative societies.
- D. Total provision of ₹880 crores is provided in the budget for following major activities of Fisheries Division.
 - i. A provision of ₹264 crores for maintenance of the existing ports, strengthening the infrastructural facilities and to provide facility of floating jetty at Chorwad and Umarsadi.
 - ii. A provision of ₹230 crores for the scheme to exempt VAT on high speed diesel oil for the fishermen.
 - iii. A provision of ₹201 crores to construct 5 new all-weather fishing ports at Nava Bandar, Veraval, Madhvad, Porbandar and Sutrapada.
 - iv. A provision of ₹75 crores to provide interest relief on short term loans to fishermen.
 - v. A provision of ₹40 crores to provide modern equipment to fishermen and thereby increase their security and productivity.
 - vi. A provision of ₹30 crores for Pradhanmantri Matsya Sampada Yojana.
 - vii. A provision of ₹25 crores to provide subvention for equipment to the beneficiaries engaged in inland fisheries.
 - viii. A provision of ₹5 crores for various schemes for providing infrastructural facilities to prawn fishing farms for development of brackish water fisheries.
- E. Co-operative Sector: There is an increased budgetary allocation in this sector with following major details:
 - i. A provision of ₹1250 crore for this scheme to provide interest relief to farmers for Kharif and Rabi crops.
 - ii. A provision of ₹50 crores for the management and strengthening of Agricultural Marketing System.
 - iii. A provision of ₹13 crores for interest relief on short and long term credit to Sugar Cooperative Societies.
 - iv. A provision of ₹10 crores for reviving of Co-operative sugar mills.
 - v. A provision of ₹2 crores to provide trollies to porters in agriculture produce marketing committees for transporting goods.
- F. **Water Resource:** Total provision of ₹5,339 crore is made under the budget for different activities of Water Resources sector with following details:
 - i. With majority works of **Sardar Sarovar Project** - the lifeline of the state - completed, the entire state has been bestowed with water security cover with irrigation facility of 69 lakh ha. of land in the State. Construction of Sardar Sarovar Dam has been completed in the year 2017. Keeping in view the principle of "Per Drop More Crop", State Government is making efforts to use water resources effectively.
Provision of ₹6090 crore has been made for the **Narmada Project**. The water stored in Sardar Sarovar reservoir is used for irrigation, generating hydraulic power, drinking and industrial purposes. It has been planned to complete the works of Kutch branch canal and its ancillary network to take Narmada water to Mandvi taluka. Besides, special planning has been made for strengthening the existing canals of Narmada Project in north Gujarat and complete the missing link in Saurashtra.
 - ii. **Micro Irrigation:** By taking an initiative in micro irrigation, Gujarat has made remarkable progress. In the last two decades, 13 lakh farmers have been benefitted by putting in place micro irrigation in approximately 21 lakh ha. area. A provision of ₹500 crore for expanding the scope of this scheme in further 1 lakh ha. in the next year.

- iii. **Bhadbhut Barrage project:** Work has started for the ambitious Bhadbhut Barrage to construct a sweet water reservoir on river Narmada at a cost of ₹5322 crore and a provision of ₹1240 crore has been made for this scheme.

G. Social Justice and Empowerment

- i. A provision of ₹75 crores to provide assistance for individual/community irrigation wells with 3 HP solar pumps to tribal farmers.
- i. A provision of ₹38 crores under the new scheme of assistance to farmers in tribal areas to use power tillers for cultivation.
- ii. A provision of ₹27 crores for tribal beneficiaries under integrated dairy development scheme in tribal areas.
- iii. A provision of ₹30 crores for tribal beneficiaries under the scheme of agricultural diversification for tribal beneficiaries.
- iv. A provision of ₹3 crores for marketing support to tribal beneficiaries for their production cum sale.
- v. A provision of ₹3 crores for assistance in construction of milk societies in tribal districts.

H. Panchayat, Rural Housing & Rural Development

- i. Provision of ₹9048 crores for Panchayat, Rural Housing & Rural Development
- ii. As per 15th Finance Commission recommendations, Panchayats would get ₹15650 crore for development of Infrastructure facilities. Of this, provision of ₹2446 crore is made for next year.
- iii. The Mukhyamantri Gram Asmita Yojana is being implemented for improving the living standard of the village people by developing infrastructural facilities in Gram Panchayats.
- iv. Provision of ₹35 crore for strengthening e- Gram Centers to provide approximately 200 services.

I. Rural Development

- i. Provision of ₹933 crores for constructing 4 lakh new houses in the next two years under Pradhanmantri Awas Yojana (Gramin) to achieve the goal of "a house for all" by 2024.
- ii. Provision of ₹900 crores under Mahatma Gandhi Rashtriya Gramin Rojgar Yojana
- iii. Provision of ₹500 crores to create anganwadi, classrooms, mid-day meal sheds, forest nursery, community wells, cattle sheds through Mahatma Gandhi Rashtriya Gramin Rojgar Yojana.
- iv. Provision of ₹467 crores for improving cleanliness standards at the rural level under Swachchh Bharat Mission (Gramin).
- v. Provision of ₹231 crores for economic development and women empowerment under National Rural Livelihood Mission (Aajivika).
- vi. Provision of ₹91 crores to promote basic services for economic upliftment at rural level under Shyama Prasad Mukherjee Urban Mission.
- vii. Provision of ₹38 crores for providing bathroom facility in newly approved houses under Pradhanmantri Awas Yojana (Gramin).
- viii. Provision of ₹18 crores to provide interest relief to ensure that women Self-Help Groups can avail interest free loans.

6.4.2 Recent Developments/Initiatives taken by State Government in strengthening of outreach and activities of Cooperatives

Government of Gujarat is implementing a number of schemes through RCS for strengthening of the cooperatives in the State. A list policy is as under:

- 1. Progress Under the Centrally Sponsored Scheme of PACS Computerization:** It has been agreed to shortlist PACS based on a several agreed-upon criteria including completion of

audit of PACS as on 31 March 2022, a good audit score (A or B) etc. State PMU for PACS Computerization has already been formed in Gujarat and State Government is constituting SLIMC and DLIMC committees.

- 2. Kisan Kalpvriksha Yojna:** The scheme is aimed at development of basic infrastructure like auction shed, parking sheds, RCC roads, Weigh over bridge, cold storage, ripening chambers in the 'A' and 'B' category APMCs with 50% capital subsidy. The scheme was formulated in the year 2018-19 with a total outlay of ₹32.6 crore. A provision of ₹25 crore has been made during the budget 2022-23.
- 3. Capital subsidy to PACSs, APMCs, and Cooperative institutions for the construction of new godown and interest subsidy on loan for construction of new godown** – A provision of ₹5.01 crore has been made under the scheme for this year and is expect to benefit 150 PACS and 500 farmers.
- 4. Under the scheme for “Providing Navigational Aids and other Infrastructural facilities”,** assistance is being provided to Fisheries Cooperative societies to establish new processing plant. Provision for development of one such unit has been made in the Budget 2022-23

6.5 State Government sponsored programmes with Bank Credit:

Aatma Nirbhar Gujarat Sahay Yojana

Government of Gujarat had announced 'Atmanirbhar Gujarat Sahay Yojana' to enable the middle class working group to overcome the challenges posed by the disruptive impact of COVID-19 pandemic. Main beneficiaries include small businessmen, skilled workers, auto rickshaw owners, electricians & others.

Under the scheme, unsecured collateral free loan of ₹1,00,000/- at effective interest rate of 2% with a moratorium of 6 months, will be provided by Cooperative Banks, Credit Societies and RRBs. Although the total interest rate is 8%, eligible borrowers need to pay only 2% as remaining 6% will be paid by the State government.

The period of loan is 3 years and the Quantum of Assistance from the State Government is ₹5000 Crore.

6.5.1 Other developments in the State

a. Mukhya Mantri Kisan Sahay Yojana

Mukhyamantri Kisan Sahay Yojana was launched in 2021 to bring agriculture under the Insurance. The scheme covers over 53 lakh farmers against crop losses occurred due to drought, excess rain or unseasonal rain, without collecting any premium. Tribal farmers registered under the Forest Rights Act are also eligible for this scheme.

A compensation of ₹20,000/- will be given per hectare, in case of 33% to 60% damage of Kharif Crops, within an overall limit of 4 hectares. In case of over 60 percent damage to crops, per hectare ₹25000/- assistance will be given in 4-hectare limit. Benefits will be transferred to the beneficiaries account directly via Direct Benefit Transfer.

b. Agricultural Diversification Scheme 2021

State Government in June 2021 launched the Agricultural Diversification Scheme-2021 for benefitting Vanbandhu-farmers in the tribal areas of State. This scheme will benefit more than 1.26 lakh Vanbandhu farmers of 14 tribal districts from Ambaji to Umargam in Gujarat. Under this scheme tribal farmers will get fertilizer-seed assistance of ₹31 crores in which 45 kg of urea, 50 kg of NPK and 50 kg of Ammonium Sulphate will be provided.

An assistance of ₹250 crores has been provided to 10 lakh tribal farmers under this scheme in the last ten years. Seeds of crops like maize, Bitter gourd, Sponge gourd, tomato, millet, etc. are provided under this scheme.

c. Kisan Suryodaya Yojana

Gujarat Government launched Kisan Suryodaya Yojana in October 2020 for providing 16 hours of power supply to farmers. Under the Kisan Suryodaya Yojana farmers will get 3 phase power supply from 5 AM to 9 PM. Provision of electricity during the day would facilitate irrigation of crops during day time, thereby reducing the difficulties of farmers. Uninterrupted daytime supply of electricity will encourage the farmers in setting up micro irrigation system thereby achieving the objective of Per Drop More Crop and also contributes towards doubling of farmers' income in the State

Annexure- I District-wise, Sector-wise, Sub Sector-wise Credit Potential for 2023-24

S No.	District	Credit Potential for Agriculture							MSME	Export	Education	Housing	Renewable Energy	Others (SHGs/JLGs etc.)	Social Infrastructure	Total Priority Sector	Rs. Crore
		Crop Loan	Total Farm credit other than Crop Loan	Total Farm Credit (A)	Total Agri Infrastructure (B)	Total Ancillary (C)	Total WC - AH&F (D)	Total Agri (A+B+C+D)									
1	Ahmedabad	3474.18	1552.40	5026.58	2382.90	1599.15	170.01	9178.63	49367.50	769.60	514.40	4523.20	50.29	262.48	14.32	64680.41	
2	Amreli	3757.83	895.85	4653.67	483.31	641.64	316.00	6094.62	564.05	3.18	19.68	117.84	25.92	68.05	16.57	6909.91	
3	Anand	2710.93	879.45	3590.37	168.93	144.65	345.86	4249.82	1619.63	26.80	160.40	234.16	13.14	74.95	2.03	6380.93	
4	Aravali	1630.85	733.03	2363.88	260.11	146.55	582.15	3352.68	260.52	57.28	9.68	257.78	0.47	62.52	9.15	4010.07	
5	Banaskantha	5767.13	2011.87	7778.99	1605.87	368.76	791.45	10545.07	1884.76	315.00	66.60	352.00	72.60	30.24	79.96	13346.23	
6	Bharuch	2160.70	1163.35	3324.05	227.36	110.09	131.19	3792.69	2306.84	9.00	90.72	511.11	8.54	134.56	14.76	6868.22	
7	Bhavnagar	3179.96	536.35	3716.31	954.86	693.75	164.58	5529.50	7006.25	159.38	30.75	506.08	30.87	142.15	22.88	13427.85	
8	Botad	2041.88	382.56	2424.44	255.67	389.25	87.42	3156.78	476.63	15.00	8.55	133.88	12.57	72.10	9.44	3884.94	
9	Chotaudepur	722.00	248.00	970.00	57.00	83.70	8.30	1119.00	200.00	25.00	29.70	152.00	1.30	26.80	6.20	1560.00	
10	Dahod	905.35	244.38	1149.72	50.23	29.87	13.69	1243.52	89.21	1.79	37.40	168.73	1.43	35.94	4.17	1582.18	
11	Dang	57.79	50.95	108.74	12.93	13.71	8.13	143.52	48.18	0.00	1.19	11.32	1.61	8.30	9.70	223.82	
12	Devbhoomi Dwarka	1084.66	323.00	1407.65	135.23	124.96	78.37	1746.22	242.00	6.12	7.28	16.80	0.54	33.00	33.92	2085.88	
13	Gandhinagar	1756.91	616.05	2372.96	161.99	76.76	91.15	2702.85	1757.94	43.13	132.80	852.03	16.35	89.98	28.88	5623.95	
14	Gir Somnath	2053.49	663.97	2717.45	449.14	81.18	219.06	3466.84	671.93	14.80	79.74	118.08	6.50	43.85	13.68	4415.42	
15	Jamnagar	2902.69	499.43	3402.12	694.61	380.88	63.18	4540.79	1818.50	31.45	34.56	408.00	1.75	37.80	14.88	6887.73	
16	Junagadh	4397.87	1114.48	5512.35	1163.03	177.02	266.97	7119.37	943.00	21.84	67.86	237.65	10.20	69.94	12.16	8482.03	
17	Kheda	1809.72	634.39	2444.11	194.81	235.59	400.83	3275.33	848.93	26.32	128.00	187.28	5.49	51.94	1.52	4524.81	
18	Kutch	3573.42	813.85	4387.27	164.39	46.40	79.47	4677.54	3433.30	48.00	25.60	603.04	34.93	89.18	24.18	8935.77	
19	Mahisagar	671.72	230.81	902.53	71.13	36.15	102.45	1112.26	54.72	1.52	16.92	39.92	3.57	14.17	11.35	1254.43	
20	Mehsana	2987.17	829.47	3816.64	306.06	2023.52	277.06	6423.28	3215.00	36.00	93.60	736.00	45.24	86.57	22.32	10658.00	
21	Morbi	2245.84	688.64	2934.48	452.56	46.14	38.95	3472.13	8048.95	99.20	16.00	224.00	3.59	15.56	3.56	11883.00	
22	Narmada	515.95	194.23	710.18	95.27	18.43	81.19	905.06	155.28	9.00	4.68	21.22	1.31	27.87	8.29	1132.69	
23	Navsari	803.07	311.49	1114.56	219.00	170.09	94.03	1597.69	732.39	26.24	25.50	499.63	4.84	60.60	8.28	2955.16	
24	Panchmahal	649.96	371.37	1021.33	79.99	40.07	113.38	1254.77	266.00	2.28	21.13	99.88	4.93	18.13	13.12	1680.24	
25	Patan	2230.13	677.99	2908.12	214.21	420.80	190.00	3733.13	427.00	152.00	65.25	242.50	13.99	74.36	18.34	4726.57	
26	Porbandar	1483.14	243.69	1726.83	77.08	73.23	0.00	1877.14	644.85	17.60	8.46	112.80	2.10	12.52	4.70	2680.16	
27	Rajkot	4880.00	1574.06	6454.06	1367.85	1371.25	3.18	9196.34	14740.15	168.00	61.20	2145.00	18.00	59.10	8.55	26396.34	
28	Sabarkantha	1825.12	3122.56	4947.68	325.70	100.93	410.92	5785.23	1398.55	42.80	14.45	334.85	3.10	120.54	45.05	7744.57	
29	Surat	3614.37	1357.34	4971.70	251.60	483.80	128.83	5835.93	19198.40	765.12	359.28	2994.64	44.03	162.97	135.69	29496.06	
30	Surendranagar	3274.04	1101.54	4375.58	445.35	77.80	67.10	4965.82	1795.05	12.80	18.40	220.80	5.71	19.40	4.95	7042.93	
31	Tapi	1181.86	403.45	1585.31	157.72	88.46	80.28	1911.77	380.20	4.32	20.84	41.32	8.01	43.85	12.97	2423.28	
32	Vadodara	1550.00	638.00	2188.00	150.00	514.70	11.30	2864.00	11040.00	100.00	115.00	2300.00	21.00	300.00	10.00	16750.00	
33	Valsad	327.35	314.03	641.38	183.29	35.71	13.02	873.40	5846.50	18.70	46.07	602.35	1.07	52.23	3.66	7443.98	
		72227.05	25422.02	97649.06	13819.17	10844.97	5429.50	127742.71	141482.17	3029.25	2331.69	20005.87	475.00	2401.61	629.22	298097.52	

Annexure II - Agency wise , broad sector wise flow of ground level credit - Targets, achievements and percentage of achievement for last three years and targets for 2022-23											Rs in Lakh
Sr. No	Particulars Agency /Type of Loans	2019-20			2020-21			2021-22			2022-23
		Target	Achmnt.	%	Target	Achmnt.	%	Target	Achmnt.	%	Target
1	Crop Loan										
	CBs	3199006	2623351.25	82.01	3492192	3445001	98.6%	4004201	3240094	80.9%	4248603
	SCB/CCBs	1445659	1329261	91.95	1524690	1466005	96.2%	1773145	1570091	88.5%	1970796
	SCARDB	25522	0	0.00	29594	0	0.0%	23877		0.0%	
	RRBs	534642	505418	94.53	638986	585411	91.6%	686976	650038	94.6%	663811
	Other Agencies	2908	0	0.00	3620	0	0.0%	3799	7	0.2%	8183
	Sub - Total	5207737	4458029.88	85.60	5689082	5496417	97%	6491997	5460230	84.1%	6891393
2	Term Loan (MT+LT)										
	CBs	2050477	2089135	101.89	2207968	2609905	118.2%	2572022	2781207	108.1%	2651238
	SCB/CCBs	358523	214121	59.72	368926	247844	67.2%	374714	241946	64.6%	580034
	SCARDB	42934	12200	28.42	95599	10324	10.8%	47587		0.0%	
	RRBs	173930	19615	11.28	207626	11321	5.5%	203514	14185	7.0%	234771
	Other Agencies	9816	139446	1420.60	14568	102970	706.8%	25456	95856	376.6%	31132
	Sub - Total	2635680	2474517.26	93.89	2894687	2982364	103.0%	3223295	3133194	97.2%	1489818
3	Total Agricultural Credit (1+2)										
	CBs	5249483	4712486.17	89.77	5700160	6054906	106.2%	6576223	6021296	91.6%	6899923
	SCB/CCBs	1804182	1543382	85.54	1893616	1713849	90.5%	2147859	1812038	84.4%	2550830
	SCARDB	68456	12200.35	17.82	125193	10324	8.2%	71464		0.0%	
	RRBs	708572	525032.62	74.10	846612	596732	70.5%	890490	664222	74.6%	898582
	Other Agencies	12724	139446	1095.93	18188	102970	566.1%	29255	95863	327.7%	68924
	Total Agricultural Credit (1+2)	7843417	6932547.14	88.39	8583769	8478781	98.8%	9715292	8593419	88.5%	10418259
4	Non Farm Sector										
	CBs	5385857	9113204.23	169.21	7559740	9451099	125.0	9027455	14424390	159.8%	12066012
	SCB/CCBs	123113	46494	37.77	103509	39698	38.4	112931	25319	22.4%	185860
	SCARDB	17035	0	0.00	9853	0	0.0	11983		0.0%	
	RRBs	133092	60965.48	45.81	161544	84013	52.0	176943	115604	65.3%	261468
	Other Agencies	73212	164116	224.17	85425	57744	67.6	107257	183082	170.7%	113006
	Sub - Total	5732309	9384780.209	163.72	7920071	9632554	121.6	9436569	14748395	156.3%	12626346
5	Other Priority Sector										
	CBs	2086308	1879635.85	90.09	2451574	1661493	67.8	8917193	340212	3.8%	635921
	SCB/CCBs	104182	87809	84.28	91287	138354	151.6	68777	162627	236.5%	47249
	SCARDB	8014	0	0.00	3664	0	0.0	6026		0.0%	
	RRBs	95501	23371.93	24.47	90065	32755	36.4	102540	3781	3.7%	31414
	Other Agencies	8220	113100.5	1375.92	36903	154424	418.5	37002	68543	185.2%	15803
	Sub - Total	2302225	2103917.28	91.39	2673494	1987026	74.3	2676104	575193	21.5%	731387
6	Agency-wise Summary										
	CBs	12721648.00	15705326.25	123.45	15711474	17167498	109.3	18065438	26807199	148.4%	26501697
	SCB/CCBs	2031477.00	1677685.00	82.58	2088412	1891901	90.6	2329567	3812021	163.6%	5334769
	SCARDB	93505.00	12200.35	13.05	138710	10324	7.4	89473		0.0%	
	RRBs	937165.00	609370.03	65.02	1098221	713500	65.0	1169973	1447830	123.7%	2090046
	Other Agencies	94156.00	416663.00	442.52	140516	315138	224.3	173514	443351	255.5%	237048
	GRAND TOTAL (3+4+5)	15877951.00	18421244.63	116.02	19177334	20098361	104.8	21827965	23917002	109.6%	23775995

Annexure – III Critical Infrastructure Support to be provided for Various Districts - 2023-24

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
I	Agriculture		
1	Crop Production, Maintenance and Marketing	Dangs, Mahisagar, Chhotaudepur, Vadodara, Morbi, Panchmahal, Navsari, Rajkot, Amreli, Anand, Banaskantha, Bhavnagar, Bharuch, Jamnagar, Junagadh, Kutch, Mehsana, Patan, Mahisagar, Sabarkantha, Surat	Soil testing laboratories may be established in all the blocks to ensure adoption of corrective measures based on soil test report by the farmers
		Mehsana, Valsad, Morbi, Panchmahal, Surendranagar, Rajkot, Vadodara, Dahod, Mahisagar, Chhotaudepur, Amreli, Banaskantha, Bhavnagar, Bharuch, Jamnagar, Kutch, Navsari, Patan, Mahisagar, Surat	Vital infrastructure facilities like warehouse, marketing infrastructure, etc. needs improvement
		Porbandar, Mahisagar, Panchmahal,	Need to establish extension services for emerging areas of Biotechnology, Organic Farming, Poly Houses, Agro Processing, Packaging and Export
		Vadodara, Anand, Chhotaudepur	Need to create awareness about KCC, Government Schemes
		Morbi	Need to establish research centre.
2	Water Resources	Amreli	This District is subject to recurrent droughts and irrigation facilities cover only around 21% of total area. Under these circumstances, bank finance needs to be increased for Minor Irrigation Systems (Drip & Sprinkler) so as to encourage water saving devices and water conservation.
		Aravalli, Sabarkantha, Vadodara	As far as underground water resources are concerned, maximum of the total water of the district is utilized, thus making the use of underground water for crop production is risky. Therefore, check-dams are necessary for the recharging of underground water and also for minimizing run-off water.
		Dahod	There is a need to popularize Drip irrigation system in the district through arrangement of various seminars and sensitization workshops. There is 85% subsidy available for SC/ST category and 70% subsidy for other category through GGRC under DRIP irrigation system, still the awareness of the scheme is required to reach upto the small and marginal farmers.
			the area under tube well irrigation is increasing at a faster pace than the increase in area by other sources like canal over past years, however, there remains the problems of irregular and insufficient water supply by canals.
		Dang	Promotion of drip irrigation in horticulture crops is required. Application forms of GGRC for Drip Irrigation may be made available at Panchayat levels.
			Periodic updation and monitoring of ground water by Ground Water Department will enable systematic exploitation of ground water by farmers.
			Application forms of GGRC for Drip Irrigation may be made available at Panchayat levels.
		Devbhumi Dwarka	Artificial recharge measures through construction of rain water harvesting structures like rain water storage tanks, percolation tanks, farm ponds, check dams etc. should form an integral part of the minor irrigation development in days to come.
		Gandhinagar	The net ground water availability for future use in the district is almost negligible. No major artificial recharge measures have been implemented.
		Gir Somnath, Jamnagar	The availability of continuous power supply is the backbone of irrigation. Electric connection should be provided to farmers on urgent basis. The use of solar pump sets should be encouraged.
		Gir Somnath	Artificial recharge measures through construction of rainwater harvesting structures like rainwater storage tanks, percolation tanks, farm ponds, check dams etc., should form an integral part of the minor irrigation development schemes.
		Gir Somnath, Junagadh	Solar power operated pump sets may be popularized for irrigation.

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Jamnagar	Artificial recharge measures through construction of rain water harvesting structures like rain water storage tanks, percolation tanks, farm ponds, check dams etc. should form an integral part of the minor irrigation development schemes.
			Many times banks do not extend finance for dug wells. It is necessary to support the construction of wells with bank finance within regulations fixed by the appropriate authority.
		Junagadh	The availability of continuous power supply is the back bone of irrigation. Electric connection should be provided to farmers on urgent basis. The use of solar pump sets should be encouraged.
		Narmada	The data on water resource availability at micro level in different talukas, quality of water, trends in water level fluctuations, etc., needs to be regularly updated and made available to the banks / farmers for planning.
		Rajkot	There is a need for encouraging the farmers to invest in solar pumps, both as an eco-friendly measure and for tapping the immense renewable source available to them, as also to undertake the agricultural operations during the daytime and reduce wastage of power and water.
			Around 3000 check-dams in the district are in a state of disrepair, wanting repairs and/ or de-silting.
		Surendranagar	Department of Agriculture & Horticulture is implementing/ monitoring Drip and Sprinklers subsidy schemes and also extending necessary technical advice to the borrowers/ beneficiaries. Although the scheme has been in implementation for years, areas covered by Drip and Sprinkler irrigation are yet to reach its desired potential.
3	Farm Mechanisation	Valsad	The coastal villages of Valsad, Pardi and Umargam are facing problem of salinity. Efforts may be made by the Agriculture Department and Irrigation Department to take proper measures to protect the land from further damage. · Solar power operated pump sets need to be popularized for irrigation. 2.1.2.3 Assessment of potential for the financial year 2023-24 (in b
		Valsad, Porbandar, Ahmedabad	Setting up of Agri-business Centers under the ACABC Scheme wherein rotavator, seed drill and post-harvest machinery like combined harvester, grader cum packer etc can be financed in addition to the conventional tractors and power tillers.
		Chottaudepur, Dang, Junagadh, Morbi, Surendranagar, Kutch	Need to set up centres for repair and shops for spare parts of combine harvesters
		Bhavnagar	Service units and mobile service units should be encouraged
		Bhavnagar	There is a need of start up industries in development and production of innovative agriculture machinery and equipments.
		Dahod	Agriculture machines like paddy transplanter, paddy reaper, power operated weeder and manual are needed more in areas of labour shortage during harvest season.
		Bhavnagar, Chottaudepur, Jamnagar, Mahisagar, Valsad, Vadodara, Tapi, Panchmahal, Rajkot, Surat, Ahmedabad, Banaskantha, Navsari, Amreli, Bharuch, Patan, Sabarkantha	Custom hiring centre needs to be established in each Gram panchayat
4	Plantation and Horticulture	Dang, Mahisagar, Mehsana, Tapi, Panchmahal, Porbandar, Rajkot, Surat, Ahmedabad, Aravalli, Bharuch, Kutch	Need to establish more cold storages in blocks predominately with horticulture produce
		Chottaudepur, Jamnagar, Morbi, Tapi, Porbandar, Rajkot, Surendranagar, Surat, Ahmedabad, Aravalli	To Establish modern & recognized nurseries for fruits and vegetable seedlings
		Mehsana, Morbi, Surendranagar, Ahmedabad, Banaskantha	Need to provide Inputs, including supply of quality planting material
		Amreli, Chottaudepur, Dang, Morbi, Surendranagar, Patan	Establishment of Common Service Centres for collection grading and packing for value addition
		Mahisagar, Vadodara, Morbi, Tapi, Panchmahal, Surendranagar, Ahmedabad	There is a need to develop nurseries for fruits crops as well as for spices so that good quality & improved variety plants are available locally

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Dahod, Aravalli	Need to establish collection centre for 'Medicinal and Aromatic products so that small and marginal farmers may also get encouraged to take up the activity.
		Dahod	There is need to develop an export cluster for the fruits and vegetable crops.
		Tapi, Porbandar, Surat, Ahmedabad, Aravalli, Banaskantha, Bharuch, Junagadh	Need for an organized marketing, storage, processing infrastructure for horticulture produce in the district.
		Ahmedabad	There is need to establish organized marketing, storage and processing infrastructure for horticulture produce in the district
		Kutch	Training regarding Post-Harvest Technology for fruits and vegetable crops and promotion of Integrated Pest Management (IPM) in horticulture is grossly inadequate.
5	Forestry	Valsad, Chhotaudepur, Vadodara, Morbi, Panchmahal, Surendranagar	Due to definite shift in cultivation to Date Palm and other horticulture crops cultivation, availability of good quality tissue culture plants is also coming up as a big challenge in the district. To meet the demands for tissue culture plants in the district, huge capital investments are required in creating infrastructure for the same.
		Amreli, Valsad, Chhotaudepur, Vadodara, Morbi, Surendranagar, Surat, Bharuch	Setting up of forest based cottage industries viz., Gum processing unit, Charcoal manufacturing unit, Furniture making, Bamboo basket making, Tendu leaf processing, medicinal plant processing, processing of Mahua plants and seeds.
		Valsad	De-silting & excavation of all village and Panchayat ponds, Integrated development of tanks, deepening of tanks including de-silting of tanks may be undertaken on priority basis.
		Amreli, Junagadh, Navsari	Forest Department may undertake construction of check dams in blocks which will increase the ground water table and involve in promotion of forestry species
		Anand, Aravalli, Navsari	Value Addition to forest-based products need to be increased and facilitate training and other infrastructural support could be provided.
		Mehsana, Aravalli	Forest department may promote, on an experimental basis, protection trenches to reduce wild animal menace causing harm to crops cultivated in farm lands, adjoining the forest areas.
		Ahmedabad, Banaskantha	Non-availability of good quality planting material is one of the constraints
6	Animal Husbandry	Ahmedabad, Junagadh, Aravalli, Banaskantha	There is need to create awareness about the economic value of various plant species for using wastelands for the purpose development of forests, especially on wastelands of the district. Besides plantation, grass (fodder) can also be grown on wastelands. .
		Anand, Bhavnagar, Vadodara, Tapi	Setting up of modern slaughterhouses or skin / leather-processing units
		Mahisagar	Setting up of Animal Hostels/Veterinary Institute/Hospitals
		Bhavnagar, Botad, Vadodara, Chhotaudepur, Dahod, Jamnagar, Sabarkantha, Surat, Valsad, Dang, Junagadh, Kutch, Mehsana, Morbi, Tapi, Rajkot, Surendranagar, Bharuch, Patan, Sabarkantha	The Panchmahal Dairy is conducting Breeding Improvement Program and Calf Rearing Program aimed at nurturing the young ones. Improvement of animal health and reduce infertility. This program may be scaled up for creating greater awareness of producing quality animals.
		Valsad, Rajkot, Kutch	Setting up of Breeding Farm/AI Centres and Veterinary Centres.
		Rajkot	There is need of organized markets as farmers have to depend upon intermediaries and traders.
		Kutch	There is scope for poultry feed unit in the district.
7	Fisheries	Amreli, Anand, Morbi, Surendranagar	As against the actual requirement of 136 veterinary institutes, total 32 institutes are available with a gap of almost 104 institutes. Similarly, as against the requirement of 400 Artificial Insemination (AI) units, there are only 50 AI units available in the district which needs to be increased.
		Bhavnagar, Jamnagar, Bharuch, Surat, Amreli	Brackish water aquaculture farms are located in marshy remote areas. A well connected road, potable water; electricity lines to be provided to strengthen these activities
			Strengthening of marketing arrangements and for setting up modern fish market, multi storage cold chain, auction halls and landing places to keep fish in hygienic condition till it reaches consumers

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Jamnagar, Dahod, Tapi, Valsad, Junagadh	To ensure regular supply of quality seeds of fresh water fishes and fresh water prawns and to establish organized market centers with storage facilities in potential areas for assisting fish farmers in realizing remunerative prices
		Jamnagar, Junagadh, Gir Somnath, Kutch	Fishermen are not taking benefit of insurance scheme due to high insurance premium and delay in settlement of claims.
		Devbhumi Dwarka	MPEDA may have to do survey in the district for brackish water aquaculture, as no unit is established.
		Morbi, Surendranagar	Need to develop low lying/ waterlogged lands and brick kiln areas under private ownership which can be developed into fish ponds with comparatively less investments for scientific fish culture
		Ahmedabad	Need to train SHGs on the potential native ornamental fishes and methods of catching, packaging and transporting without damage and injury.
		Banaskantha	There is need to establish fish clinic, soil and water testing laboratory and feed mill in the district.
		Valsad	There is need of Fish Pulverisers with Fish Meal Plants, no net making plants in the district. Need to establish seed farm for brackish water shrimp culture which is pending due to lack of identification of suitable site for establishment of shrimp hatchery in the district.
II	Agriculture - Farm Credit Others		
1	Agriculture - Farm Credit Others - Bullocks etc	Ahmedabad, Gandhinagar, Junagadh, Morbi, Surat, Surendranagar, Tapi	With increasing urbanization, there is a rapidly growing potential for bank finance for financing of two wheelers. Banks may prepare attractive schemes with tie up arrangement with the production companies to get business under this sector.
		Amreli, Junagadh	Financing of tilting carts may be preferred which would help boosting the credit flow as also would enable the farmers to move more load and transport large quantities of agricultural produce.
		Kutch	The conventional carts would be of use in the areas having bad road conditions while pneumatic carts are replacing them due to their advantages of easy maintenance and speedy transportation.
		Mahisagar, Panchmahal, Valsad	The district is having more tribal population. Majority of the population is very poor. They do not even have animals for ploughing their land. Therefore, Government Department may bring about a suitable subsidy scheme to provide draught animals at reasonable cost.
		Valsad	Need to organise Cattle Fairs and Rural Haats to increase availability of good quality draught animals may be made available for agriculture purpose.
2	Agri Infra Storage etc.	Amreli	Prices of onion fluctuate widely and farmers can derive benefits by storing dehydrated/ processed onions till the time the prices improve. There is good demand of onion meda (onion storage house) in the district.
		Amreli, Anand, Kheda, Banaskantha, Bharuch, Gandhinagar, Gir Somnath, Junagadh, Panchmahal, Mahisagar, Mehsana, Patan, Rajkot	All godowns above 250 MT capacity need to be registered with Warehousing Development & Regulatory Authority after due accreditation. Legal provisions have been made. There is need for creation of awareness.
		Anand, Kheda Banaskantha, Chhotaudepur, Vadodara, Gandhinagar, Gir Somnath, Junagadh, Kutch, Amreli, Botad, Jamnagar, Navsari, Rajkot, Sabarkantha	Negotiable warehouse receipt system may be encouraged, as this will reduce distress sale immediately after harvest.
		Aravalli	APMCs and market yards could be constructed in Vijaynagar and Poshina taluka.
		Aravalli	Agricultural Marketing facility(AMF) (Nos.) - Approx. 02 more AMF required in the District
		Junagadh	In view of the expected increase in agriculture & horticulture produce in the district, there is a huge potential for creation of storage capacity. Government may initiate a remedial & revival action plan for sick market yards in the district.
		Junagadh	Install electronic ticker board in every APMC and other private markets which displays the daily rates of commodity Markets.
		Surat, Tapi	Establishment of the Mega Food Park in Mangrol taluka, Surat district is approved by the MOFPI to the M/s Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd. The Scheme of Mega Food Park aims at providing state-of-the art infrastructural facilities such as cold storages, warehouses, common facilities centres etc for food processing along the value chain from the farm to market.
		Rajkot	Mega Food Park scheme may promote food processing, warehousing and better access to the markets.
		Amreli, Anand, Rajkot	e-NAM portal facility may be implemented.

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Valsad	There is one cold storage under Integrated Tribal Development Programme (ITDP), however, due to lack of awareness farmers are not taking benefit of this.
		Banaskantha, Valsad	Coming up of Mega Food Parks on hub and spoke model in the state seek to integrate value chains. Backward linkage necessitates development of storage and warehousing infrastructure.
3	Agri Infra - Land Dev	Ahmedabad	Credit potential exists for reclamation of medium black soils, sandy and saline soils through application of tank silt given that around 3379 tanks exist in Ahmedabad District
		Ahmedabad, Banaskantha	Credit potential exists for farm ponds as water harvesting structures in overexploited, critical and critical talukas
		Ahmedabad, Banaskantha, Rajkot	Credit potential exists for on farm Development Activity like land levelling for uniform distribution of irrigation water under well command
		Ahmedabad	Credit potential exists for barbed wire fencing in farmers fields, which are in the proximity of dense scrub and open scrub wastelands to prevent intrusion of wild boars and neel gais.
		Amreli	There is a need for establishing certifying laboratories / agencies for the benefit of organic farmers in the district.
		Amreli, Navsari, Banaskantha, Valsad, Rajkot	It is necessary to educate farmers on the benefit of silt application. Silt application is necessary to increase the fertility of land, improve the ground water table and water storing capacity of the land. Bankers should come forward to finance such activity.
		Anand, Kheda, Aravalli, Sabarkantha, Narmada, Chhotaudepur, Vadodara, Gandhinagar, Morbi, Surendranagar, Valsad	Encouraging Land Development on community lands, wastelands for appropriate land use patterns like pastures, farm-forestry etc. is required.
		Aravalli, Bhavnagar	A minimum of one soil testing centre for each taluka needs to be placed. In addition to Government investment, private investment also should be encouraged as an agri business activity.
		Dangs, Mehsana	Arrangement of marketing facilities for organic farming products needs to be developed so as to motivate more farmers for adoption of organic farming.
		Dangs	There is a need to popularize rain water harvesting systems
		Devbhumi Dwarka, Jamnagar	Establishment of model farms to demonstrate water conservation and cropping system management for sustainable agriculture in the dry lands of the district is required.
		Navsari	Project to halt salinity ingress should be taken up on a larger scale in coastal areas of the district.
			Need to popularize rain water harvesting systems.
		Tapi	As per the land use classification, about 48523 ha. of land was classified as culturable wasteland offering scope for further development and 8908 ha as pasture and grazing lands.
		Amreli	Creation of awareness among the farmers about land development activities by extension service agencies like ATMA and KVK.
		Valsad	Watershed Development Department is implementing watershed projects in hilly area of Dharampur and Kaprada, more area should be covered under such schemes which will help in controlling further soil erosion.
			Need to construct of farm pond as it is a promising activity in coastal alluvium areas of Valsad district
			Need to utilise the immense potential existing for land reclamation
		Dahod	Credit potential exists for post watershed treatment activities in areas where watershed has been implemented .
4	Agriculture - Infrastructure - Others (Tissue culture / Agri culture / Biotech.)	Amreli, Ahmedabad	Given that 43% of cultivable area is under Lift Irrigation, potentials exists for On Farm development Activity like Land levelling
		Anand	Potential for land reclamation of hilly light soils through tank silt application can be tapped in Dahod district given that there are around 466 tanks managed by Water Resources Department
		Banaskantha	Awareness is required to be created by KVK, Agri Department, University and other stake holders for popularising concept of Bio-pesticides and Bio-fertilisers for the benefit of farmers.
		Dahod, Ahmedabad	Farmers need to be encouraged to go for organic farming certification to get better price of their produces.
			There are many villages where tribal farmers are producing traditional varieties of crop without the use of chemical fertilizers and pesticides. Such areas need to be tapped for organic farming and proper guidance and demonstration may help in increasing the area under organic farming.
			There is a need for seed production unit in the district for addressing the issue of quality of seeds and better returns from seed production to the farmers.

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Dahod	Commercial Production of Organic inputs viz. Biofertilizer, Vermi compost/vermi hatcheries & Compost from vegetable and fruits, etc., may be taken up by farmer aggregates like PACS, Producer Societies etc.
		Dangs	Govt. may consider establishing facilities for certification of organic produce and their direct marketing by the farmers.
		Dangs, Ahmedabad	Farmers need to be educated in proper use of organic fertilizers.
		Devbhumi Dwarka	Demand for seeds of Cumin, Green Gram and Cotton is huge. Hence, scope is available for financing of seed production units of these seeds by banks in the district.
		Morbi	There is no tissue culture lab, seed production unit in the district.
		Kutch, Jamnagar	There is a need for seed production unit in the district for addressing the issue of quality of seeds and better returns from seed production to the farmers.
		Mahisagar, Morbi	There exists one seed production unit in the neighbouring Panchmahal district, which supplies improved variety of seeds to Seed Corporation directly. Due to this, farmers are totally dependent on private sources for purchase of seeds.
		Morbi	The expertise of KVKs may be leveraged for encouraging tissue culture.
		Panchmahal, Patan	More tissue culture laboratories, Seed certification centres and vermicompost units are required in the District.
		Panchmahal	Banana plantation has been practiced by few farmers in Halol and Gogumba block of the district. Necessary support for Tissue culture plantlets and other guidance needs to be provided so that area under this activity will expand.
		Panchmahal	There exists one seed production unit in the district, which supplies improved variety of seeds to Seed Corporation directly. Due to this, farmers are totally dependent on private sources for purchase of seeds. Establishment of block-wise Seed production units may give better returns to the farmers.
		Porbandar	The District has got APMC in 2 blocks. These APMCs can be utilized as sale points of organic manure/ pesticides.
		Surendranagar	There is lack of awareness among the farmers about importance of quality seed in increasing production
		Surendranagar	Setting up of research institute in district is required to promote biotechnology
		Valsad	Farmers need to be encouraged to go for organic farming certification to get better price of their produces.
5	Agriculture Ancillary- Food & AgroProcessing	Amreli	Farmers Producer Organizations (FPOs) need to be promoted with main objective to facilitate value addition to agriculture and horticulture produce. In Amreli, four FPOs have been promoted by different NGOs with the financial assistance from PRODUCE Fund maintained by NABARD.
		Banaskantha	Cluster approach may be adopted for specific commodities like potato grown exclusive in and around Deesa, cumin in and around dry lands of Tharad, to enable value addition.
		Chhotaudepur, Vadodara	The District has potential to capitalize on the production of Banana, Mango, Papaya, Maize, Pulses, etc., wherein appropriate food processing clusters may be promoted.
		Dahod	District administration has to set up common facilities center and to create food processing cluster in the district.
		Dahod	Taking into consideration the potential of agro processing sector, in view of employment generation and also export, pro-active role of State government in respect of infrastructure creation is required.
		Devbhumi Dwarka, Jamnagar	Agro industries and food processing industries can be developed by creating awareness about the industry and the scope it offers in view of the potential for activities like cotton ginning and pressing, dehydration of garlic and onion, cattle feed, poultry feed, spices, dhana dal, roller flour mill, edible oil mill, solvent plant, edible oil refinery plant,
		Panchmahal	Post-harvest infrastructure needs to be improved in the district on a cluster basis.
		Panchmahal	There exists a good scope for Agro-processing of Food grains, Oilseeds, Pulses, Fruits & vegetables, spices & condiments and Medicinal & Aromatic crops.
		Morbi, Surendranagar	District has potential to capitalise on the production of Pomegranate, Mango, Anola, Citrus, Sapota, Papaya, Guava, Date Palm, Ber, etc., where appropriate Agro and Food processing clusters may be promoted. As these fruit crops are highly perishable and seasonal in nature there is a strong need for leading to strong need for increasing processing facilities.
		Morbi	The district, because of its traditional and diversified agriculture, offers investment opportunities to industries producing dehydrated garlic flakes and powder, flour, essential oils and oleoresins, flavoured mineral water, flavoured salt, herbal toothpaste, dehydrated onions / garlic, and other spices, packaged fruit and vegetable concentrates, wheat germ oil, etc.
		Narmada	Government Departments may facilitate a single window clearance to the promoters.
		Panchmahal	Post-harvest infrastructure needs to be improved in the district on a cluster basis.

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
		Panchmahal	There exists a good scope for Agro-processing of Food grains, Oilseeds, Pulses, Fruits & vegetables, spices & condiments and Medicinal & Aromatic crops.
		Porbandar	The post-harvest activities are mainly confined to processing of Cotton and Groundnut. Ginning and oil mills in the district have demand for raw material.
		Rajkot	APMCs need to be encouraged to set up vegetable-cum-fruit waste compost production unit under capital investment subsidy scheme for commercial production of organic inputs under National Project on Organic Farming.
		Surat	Delhi Mumbai Industrial Corridor (DMIC) is intended to be the manufacturing hub serviced with world class infrastructure. Surat Hazira Industrial node is identified across the DMIC for scientific infrastructure and technological development in Phase II, which would give boost to food and Agro Processing Industry.
		Surat	Establishment of the Mega Food Park in Mangrol taluka, Surat district is approved by the MOFPI to the M/s Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd. The Scheme of Mega Food Park aims at providing state-of-the art infrastructural facilities for food processing along with the value chain from the farm to market.
		Surat	Continuous power and water supply to the units and further strengthening of rail & road network will further boost the sector in the district.
		Surat, Tapi	Under RKVY subsidy is available for Technology Upgradation /Establishment/ Modernisation of Agriculture and Horticulture Produce Processing Units with 25% grant on P&M and technical civil works subject to maximum limit of Rs 50 lakh.
		Tapi	Processing of mango may be taken up for making pulp, juice, pickle, nectar, jam, etc. with recent technologies where every part of the fruit is processed into commercial products.
		Tapi	The entrepreneurs from district may take advantages of the Mega Food Park operational in Mangrol taluka the Surat district (approved by the MOFPI) set up by M/s Gujarat Agro Infrastructure Mega Food Park Pvt. Ltd.
		Valsad	Marketing tie up should be done with the Taluka Bagayat Sahkari Mandalis at taluka levels for better returns to the horticulturists, especially mango /Chikoo growers. Better commercial linkages between cold storages and big orchards for optimum utilization of capacities.
		Dahod	There is potential in infrastructure for quality testing labs
6	Agri Ancil - Others-Coop/ACABC/PACS/MFIs	Ahmedabad, Dahod, Dangs, Jamnagar, Devbhoomi Dwarka, Anand, Kutch, Navsari, Patan, Porbandar, Rajkot, Sabarkantha, Aravalli, Surat, Tapi, Amreli, Sabarkantha	The ACABC Scheme may be given larger publicity for encouraging educated youngsters with agriculture background to come forward for their contribution to the farming community. The Scheme may be deliberated in BLBC / DLCC meetings for wider acceptance by banks and also for sorting out operational issues, if any.
		Ahmedabad, Banaskantha, Dahod, Jamnagar, Devbhoomi Dwarka, Anand, Kutch, Panchmahal, Mahisagar, Surendranagar, Morbi, Patan, Porbandar, Rajkot, Sabarkantha, Aravalli, Surat, Tapi, Valsad, Amreli, Bharuch, Navsari	PACS may function as 'One Stop Shop' for meeting all the credit requirements of farming community, thereby also enhancing their own business operations and financial viability.
		Jamnagar, Devbhoomi Dwarka, Anand, Kheda, Porbandar, Rajkot, Aravalli, Surat, Tapi	Dissemination of knowledge and information of various schemes benefitting the rural community may be given wide publicity by banks.
		Kutch	Kutch district has established 03 FPOs covering approximately 700 farmers supported by NABARD. More such formal entities of small and marginal farmers need to be promoted.
		Valsad	There are more than 100 PACS and few Bagayat Mandalis (FPOs) in Dharampur and Kaprada having good business. Banks can finance such co-operatives/FPOs.
		Valsad	There is one Navsari Agriculture University in neighbouring Navsari District, Agriculture Research Station in Valsad and one Agriculture Institute in Dang district, Agriculture graduates/diploma holders from these institutions can be financed under ACABC by Banks.
		Rajkot	There is no College of Agriculture in Rajkot district, which is a big deterrent for aspiring youngsters wanting to opt for study of agriculture.

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
II	Credit Potential for others	Banaskantha	Co-operative banks have wide reach, up to the last mile villages, through their Primary Agriculture Cooperative Societies and these may be utilized for PMJDY. NRLM has a good network with valuable data bank-wise, branch-wise, even village-wise, SHGs savings-linked and credit-linked. The banks can make use of the same for linkage.
III	MSME	Amreli	The development of Ambardi safari park at Dhari has opened a door for Hospitality Sector/ Rural Tourism in Amreli district. There is an urgent need to create suitable environment and infrastructure by district authority for development of rural tourism sector
		Aravalli	There is no SEZ, Export Promotion center, Food Park and common facility center in the district.
		Chotaudepur, Morbi, Rajkot, Vadodara	High cost of plots is also a constraint in industrial development & High cost of plots in case of transfer is also a constraint in industrial development
		Gir Somnath, Kutch, Mehsana, Morbi	The major constraints for the industries is availability of water & shortage of potable water
		Dahod, Dangs, Gir Somnath, Navsari	Major hurdle in the development of Non-Farm Sector has been lack of marketing avenue
		Rajkot	Shortage of adequate power supply to some industrially backward areas like Jamkandorna. Major constraint faced by the units in GIDC Estates is scarcity of water. High cost of plots in case of transfer is also a constraint in industrial development
IV	Export Credit	Anand, Gandhinagar, Vadodara, Valsad, Panchmahal	Availability of infrastructure such as packing and transportation facilities for export needs to be addressed.
		Patan, Porbanadar, Rajkot, Vadodara, Banaskantha	Need for forex branches in the district
		Dahod, Dang, Surendranagar	Need for new export units to be set up in the district
		Jamnagar, Mehsana, Navsari, Rajkot	Exporters may be encouraged to avail the export credit insurance facilities extended by ECGC.
		Ahmedabad	Quality control infrastructure of international level for grading/sorting/packaging.
		Ahmedabad	Creation of Godowns/ Cold storages
		Sabarkantha	Infrastructure for export of starch less potato wafers needed.
		Dahod	The export-oriented banks and bank branches are not available in the district.
V	Education	Panchmahal, Mahisagar, Dang	Primary school for all villages
		Panchmahal, Mahisagar, Dahod	Opening new education institutes in rural/semi urban areas.
		Bharuch	Banks are comfortable in giving loans to students from Top Institutes, but reluctant when students opt for course conducted by smaller Institutes.
		Aravalli, Dang	Immense need for Degree and Professional colleges in the district.
		Rajkot	There is need to make education in agriculture affordable, and hence it is necessary to set up an institution with State support.
VI	Housing	Botad, Dahod	Renovation/ strengthening of houses in rural areas
VII	Infrastructure - Public Investment	Dang, Gandhinagar	Lack of Market Yard / Modernization required
		Gandhinagar	Seed farms of the district need to be strengthened.
		Junagadh, Surat, Kutch	Salinity ingress and erosion
		Kheda, Panchmahal, Aravalli	Modernization of canals needed /canal lining / canal repair
		Banaskantha, Bharuch, Narmada, Vadodara, Valsad, Ahmedabad, Panchmahal, Mahisagar,	More check dams, farm ponds and rain harvesting systems
		Rajkot	Many farmers still do not have electrical connection for agriculture purposes. Adequate and stable power supply is required to improve the efficiency of irrigation. There is no formal cattle market in the district. The animals are being procured through private dealers. there is no hatchery located in the district. Day old chicks are brought from neighbouring Jamnagar district. Setting up of a hatchery by the State Government is likely to have a favourable impact on the sector There is no tissue culture labs recognized by the Department of Biotechnology of the GoI in Gujarat in Rajkot

Sr.No.	Purpose	District	Critical Infrastructure Gaps Identified
VIII	Social infrastructure involving bank credit	Sabarkantha, Aravalli, Anand, Chhotaudepur, Vadodara, Banaskantha	Community/ Village level RO water purifier plants
		Chottaudepur, Vadodara, Ahmedabad, Panchmahal	Need for solid waste management and sewage treatment plants
		Chottaudepur, Vadodara, Mahisagar, Kutch	Infrastructure facilities, drinking water & toilet facilities in the schools
		Chottaudepur	Strengthening the transport services
		Dang, Surendranagar, Valsad, Ahmedabad, Panchmahal, Mahisagar, Junagadh	Drinking water problem in district
		Porbandar, Rajkot, Sabarkantha, Mahisagar	Sanitation - large no. of households not having toilet
		Vadodara,	Development of Garden / Public Park along the Narmada Canal
		Valsad, Panchmahal, Sabarkantha, Mahisagar	Secondary schools and hospitals are required in remote areas & tribal blocks
		Ahmedabad	With fast urbanization and increase in population of the district, a perceptible gap has arisen in social infrastructure like hospital, schools, solid waste management plants and drinking water plants.
IX	Renewal Energy	All districts	Bio gas units along with dairy activities
		Amreli	Other sources of energy - Wind/Solar/Geo-thermal energy with locations, mini hydro project sites, Bio-Diesel from Jetrophia, Karanja, Sugarcane etc. can be developed and credit in this sector need to be increased.
		All districts	After sale services of RE equipments

Annexure IV: Critical interventions required in various Sectors/ Sub-Sectors - 2023-24

S No .	Sub-Sector	Critical Interventions Identified
1	Crop Production Maintenance and Marketing	Banks may devise policies to cover loans to FPOs, both working capital and term-loan.
		State Government and KVKs should make efforts for channelling the millet production, and turn it from consumption to market surplus increasing their income from millet cultivation and promote the nutritional aspects of millet consumption.
		The banks need to play a vital role in creating awareness about various schemes like Agri clinics-Agri business centres, KCC scheme, promoting farmers clubs, Joint Liability Groups, establishment of greenhouses and also to encourage the farmers to take up new and high value crops.
		Qualitative soil-testing, adequate use of organic fertilizer, adopting scientific approach for cultivation etc. are few issues to be addressed by the line department for increasing production while maintaining productivity
		Banks may encourage marketing credit on the basis of Negotiable Warehouse Receipt issued by accredited godowns
		Banks should explore the possibility of financing JLG among landless labourers
		State Government should take appropriate measures to strengthen all the APMCs in the district with Soil Testing Laboratory, adequate storage, Cleaning, Grading and Packaging facility, cotton sheds, office building and rest house for the farmers
		The State Government may establish Taluka seed farm in all the talukas.
		KVK may motivate paddy farmers to go for SRI cultivation to save water and increase productivity
2	Water Resources	State Government and line departments may promote water harvest management on a cooperative basis for use of surface water through lift irrigation from water bodies in saline areas .
		Extension officials and bankers may also monitor and keep in view the changes in cropping patterns while providing MI loans.
		Government may provide support for construction of artificial recharge structures such as check-dams, percolation tanks, sub-surface dykes, weirs, etc., to augment groundwater potential. De-silting & excavation of all village and panchayat ponds can be taken up under MNREGA. Special efforts to be taken in the areas where depletion of water table has been reported and the wells dry out in the summer season.
		Suryashakti Kisan Yojna (SKY) of Govt of Gujarat provides good opportunity to farmers to avail loans for Bore wells with solar-driven pump sets. Banks should come forward to popularize loans for this purpose.
		Proper and regular maintenance of water courses / channels by irrigation department will result in better irrigation efficiency. Construction of more check dams / water harvesting and recharge structures may be encouraged with active participation of farmers.
		State government and line departments may promote 'Solar irrigation pumps', as they can be very useful for farmers who are still waiting for agriculture electricity. Banks may consider financing solar energy pumpsets, having Central govt. subsidy component, in such areas.
		Awareness on rainwater harvesting structures may be created and cost-effective location specific designs developed at the District level for bank finance.
		Banks may encourage the farmers to take up installation of drip and sprinkler irrigation systems with necessary credit support
		Agri. & other Departments to educate the farmers on optimum utilisation of water resource and adopting appropriate cropping pattern.
		Community based farm pond should be encouraged. The de-silting of farm ponds/dams should be covered in the schemes like MNREGA
		Proposals under micro irrigation credit linked subsidy scheme under Gujarat Green Revolution Company have to be expeditiously sanctioned by the banks
		Educate farmers to restrict the diameter and depths of the wells to the prescribed dimensions and avoid use of higher HP pump sets than necessary

S No.	Sub-Sector	Critical Interventions Identified
3	Farm Mechanisation	KVK, ATMA, Agri. Research Institute, FPO, Agri. graduates may take lead and initiate drone services to the farmers. KVK / Agri. Extension services may guide the interested FPOs and individuals to start the drone services business.
		Agriculture Department may give training to women SHGs regarding drudgery reducing technology and equipment such as hand operated chaff cutter, wheel barrow and paddy winnower etc.
		DCCB may take Initiative to convert primary agriculture credit cooperative societies into multipurpose service centers which may take up custom-hiring of costly farm equipment like combined harvesters, high-power tractors, threshers, etc., in order to reduce the cost of cultivation and also increase the income of the farmers
		Agri Department should create awareness among the farmers about choice of farm machinery, its operation and maintenance as the lack of the same leads to non-utilization of the costly machinery
		Banks may come forward to finance power tillers as it is affordable and very useful for small and marginal farmers, on Joint Liability Group basis
		Financing of individuals, preferably unemployed educated youths, to set up Farm Equipment and Machinery Service Centers.
		Banks should come forward to finance various farm mechanization equipment other than Mini Tractors/Tractors i.e. Rotavator, Cotton Shredder, Power Thresher, Plant Protection equipment, Seed cum Fertilizer Drill, Cultivator, Groundnut Decorticator and Combine Harvester tractor operated
		Demonstration of farm machineries may be organized by Agri Engineering/Agri Departments at block level to popularize farm equipments among farmers
		Training to district rural youths to be arranged in association with other training establishments on operation, repair and maintenance, to enable these youths to get gainful employment during crop harvesting season.
4	Plantation and Horticulture	Need to strengthen the dealer network for combine harvesters of paddy and wheat.
		Banks may finance farmers to develop their wastelands for cultivation of horticultural crops especially Kesar Mango, Pomegranate, Dragon Fruit and Date Palm for which subsidy is provided by District Horticulture Department.
		Awareness Programmes by Agriculture and horticulture departments should be conducted to inform the farmers about the benefits of Producers' Organisations to facilitate marketing and value addition in areas where production is available in clusters.
		Setting up of Agri-Clinics & Agri-Business Centres may be promoted by banks to encourage adoption of modern agri-technologies by the Horti-farmers.
		Horticulture Dept and banks may make available to the farmers the promotional schemes of both Central and State Governments, especially those implemented by APEDA, NHB, MOFPI & GAIC and information regarding incentives offered by them.
		Weather data, market information, crop production related information etc. as well as commodity future market knowledge are the areas where suitable exposure need to be given to the farmers to make them move with the time.
		Absence of appropriate risk mitigation interventions including insurance products for various horticulture crops is to be addressed
		To ensure good price for the organic produce, it needs certification from the approved agency. There is need to provide package of practice, input as well as certification at reasonable cost with regular supervision by State Government to promote organic farming on a large scale.
5	Forestry	To boost exports, farmers need to be trained on post-harvest management, packaging and orchard management, export-oriented production practices through KVK, Horticulture Department and ATMA.
		State Government may facilitate cultivation of jatropha on wastelands, setting up of analytical and research laboratories and recommend to the GoI to allow bio-fuel to realise the objective of creating 'Energy Villages'.

S No	Sub-Sector	Critical Interventions Identified
		<p>Credit linked subsidy needs to be provided as incentive to involve farmers/Corporates/NGOs and other interested entities to encourage large scale cultivation of forestry species.</p> <p>Banks may actively come forward to finance individuals / groups of farmers / SHGs in the development of degraded lands through planting of multi-dimensional tree species of fodder, timber, fuel wood, fruits etc.</p> <p>Value-addition to forest-based products need to be encouraged and facilitated, training and other infrastructural support could be provided by line departments.</p> <p>Convergence between MGNREGA and the National Afforestation Programme is required which may help in increasing the vegetative cover to check soil erosion and to give a boost to afforestation</p> <p>Low level of awareness among the farmers about bankability and viability of Farm/ Social forestry schemes needs to be addressed by the forestry department</p> <p>SHGs may be encouraged to take up forest-based activities like collection of honey, medicinal leaves and growing of nurseries with institutional credit</p> <p>Training and extension services to the local women for collection of minor forest produce and in promoting good collection practices is needed so as to ensure steady supply and fair price of minor forest produce</p> <p>There is wide scope for growing bamboo both in the forest and non-forest areas, which can be tapped, thereby generating additional income for the farmers besides regenerating the soil health.</p> <p>Afforestation projects need to be implemented by government/NGOs/PRIs through support from Green Climate Fund/Adaptation Fund/National Adaptation Fund for climate change</p>
6	Animal Husbandry - Dairy	<p>Bankers need to implement KCC Scheme for dairy farmers as per the guidelines issued by RBI/NABARD as well as sensitize the Branch Managers with awareness programmes/ workshop for proper implementation of the scheme at ground level</p> <p>Special attention is required for linking of women SHG members with the village milk societies as many of the SHG members have availed of loan under the Mission Mangalam Livelihood Programme for purchase of dairy animals.</p> <p>Banks may finance veterinary graduates for setting up of private clinics.</p> <p>Milk federation/ processing unit working in the district can play an important role in spreading awareness about various schemes launched by State and Central government for the benefit of farmers/milk producers.</p> <p>The Department of Agriculture may raise fodder in the Government and Panchayat wastelands available within the district by promoting suitable cropping systems</p> <p>There is a need for strengthening the relationship between Banks, Cooperative Dairy sector and members of the dairy cooperatives, to enable members to obtain maximum bank finance to buy good quality animals, with repayment guarantee of cooperative dairies</p>
7	Animal Husbandry - Poultry	<p>Government may provide subsidy for poultry feed for development of this sector.</p> <p>SHGs may be imparted training by line departments to set up poultry feed units as also Backyard poultry units.</p> <p>Banks should come forward to provide required finance for setting up of commercial broiler and layer units.</p> <p>Department of Animal Husbandry may provide appropriate support to this sector in the form of genetic stocks and improved technologies, scientific advice, extension/awareness, particularly on bio-security measures such as spacing between the sheds, system of housing, vaccination schedule, etc. to check cross contamination and prevent disease incidences</p> <p>Veterinary extension services should be upgraded through mobile services besides setting up of diagnostic labs.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>The feed prices of poultry are vulnerable to many factors. A dedicated system of price strategy may be developed and implemented</p> <p>Training may be provided to the beneficiaries on poultry activity to enable them to avail of financial assistance from banks for broiler units under contract farming, especially under Government sponsored schemes</p>
8	Animal Husbandry - Sheep, Goat, Piggery etc.	<p>Banks have to ensure that the animals are insured and also bring about awareness among the farmers to claim insurance in case of death of sheep/goat.</p> <p>Banks may provide loans to SHGs for taking up the activity after ensuring backward and forward linkages. Banks could later facilitate transformation of these SHGs into micro enterprises.</p> <p>Department of Animal Husbandry should undertake work of ram certification, flock registration, promote indigenous quality breeds and vaccination and also provide training to the shepherds.</p> <p>Gujarat Sheep and Wool Development Corporation should consider setting up a unit for grading and marketing of wool in one of the sheep concentrated blocks.</p>
9	Fisheries	<p>Fish farming can be encouraged in shallow ponds wherein it is feasible and viable to convert them in perennial water bodies under the schemes of NFDB by the Fisheries Deptt. involving bank finance.</p> <p>The Schemes of the Department of Fisheries, Govt. of Gujarat and National Fisheries Development Board (NFDB) need to be popularized amongst Bankers & Farmers and implemented under the supervision of Fisheries Deptt.</p> <p>To popularise the fisheries activity workshop may be organised by FFDA to create awareness among Bankers and interested fishermen.</p> <p>Establishment of units for net making/mending, fish processing, fish meal, feed mixing, etc. as also for cold storages/refrigerated vans.</p> <p>State Government may familiarize the benefits of insurance amongst the fishing community or subsidize the insurance premium for fisheries.</p> <p>The system of providing the Satellite information regarding movement of fish shoals amongst the fishermen may be strengthened by Government Institutions to ensure better return to fishermen</p> <p>Appropriate risk mitigation measures are needed to encourage the banks to finance the sector. There is a need to integrate credit and insurance on the line of Pradhan Mantri Fasal Bima Yojana under fisheries sector also for the safety of the farmers as well as the banking institutions</p> <p>The department may ensure regular supply of quality seeds of fresh water fish and fresh water prawns</p> <p>Establish organized market centers with storage facilities in potential centers for assisting the fish farmers in realizing remunerative prices.</p> <p>Specific training programme for upgradation of skills of SF/MF, SHGs/ JLGs on Brackishwater Aquaculture, Ornamental fish rearing, culture-cum-capture fishery in small and medium reservoirs and lakes</p> <p>FFDA/BFDA may plan hatchery units and small inland Fish Feed Mills in close coordination with the Directorate of Fisheries to make available the financial assistance to fisher community under NFDB Scheme</p>
10	Agriculture - Farm Credit Others - Bullocks etc	<p>Modernization of bullock / camel carts by providing improved rubberized tyres, smartly designed carts/advanced tilting carts, etc can reduce drudgery of the farmer & to carry more load with less strain as well as provide scope for bank finance to this sector.</p> <p>Agri. Dept. and Zilla Panchayat may, through its extension services, spread awareness about improved bullock carts.</p> <p>The DIC may also encourage units in the rural and semi-urban areas to take up cart manufacturing activity so that the carts would be available locally.</p> <p>Banks may finance good quality bullocks in the district.</p> <p>The Department of AH should take up breed improvement programme as well as male calf rearing.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>Providing two wheelers to farmers for transporting agricultural produce between homes, farm & market is now considered a bankable proposition. Banks may prepare attractive schemes through tie up arrangement with the production companies for financing tractor, two wheelers, etc.</p> <p>Bankers may be sensitised to report the activities under correct code of LBR to get clearer picture of financing of activities under this sub-sector & the activities covered in this sector may be financed by the banks in order to help the rural people to get the gainful employment in their respective areas.</p> <p>Banks need to explore a possibility of financing agricultural graduates trained under programmes for agri clinics and agri business. Purchase of Agriculture Land by small farmers may also be financed by banks as per the RBI guidelines under the Agri. Misc. activities.</p> <p>Most of the activities under this sector are financed under govt. sponsored and poverty alleviation programmes for economically weaker sections (EWS) and hence the nodal departments may maintain close liaison with the banks for prompt disposal of the loan applications. The credit gap could be filled by increasing financing under SGSY / Schemes of Animal Husbandry Department and Tribal Sub Plan.</p> <p>Applications for purchase of bullocks, drought animals, carts, etc., may be sponsored by DRDA, Gujarat Scheduled Caste Development Corporation, Gujarat Backward Class Development Corporation, etc.</p>
11	Agriculture Infra-Construction & Storage	<p>The Government may announce an appropriate policy of regularization and governance of market yards to encourage private participation for the activity.</p> <p>Setting up of Agricultural Economic Zones (AEZs) on the lines of Special Economic Zones (SEZs) may be allowed by the Government</p> <p>The profitable PACS may involve in work of construction of godowns.</p> <p>The Banks need to vigorously follow this activity and provide adequate financial assistance to the entrepreneurs for construction / modernization of godowns.</p> <p>Banks may encourage marketing credit on the basis of Negotiable Warehouse Receipt issued by accredited godowns, as this will reduce distress sale immediately after harvest. Under the revised Priority Sector guideline of RBI, farmers may be financed up to ₹50 lakh against Pledge/hypothecation of agricultural produce (including warehouse receipts) for a period not exceeding 12 months.</p> <p>The Banks, in general, need to augment their technical skill and manpower for appraisal of rural godown/infrastructure projects.</p> <p>Technical guidance should be provided for constructing rural godowns, cold storage, chilling plants, etc.</p> <p>Accreditation of warehouses to Warehousing Development and Regulatory Authority (WDRA) for issuing Negotiable Warehouse Receipts may be ensured. NABARD Consultancy Services (NABCONS) is also facilitating the same as an accreditation agency.</p> <p>The Government may announce an appropriate policy of regularization and governance of market yards to encourage private participation for the activity. Department of Horticulture may identify potential centres for establishment of post-harvest facilities, especially commercial cold storage units by private entrepreneurs.</p> <p>Small-size godowns of less than 100 MT capacities are also covered under the subsidy scheme. This may facilitate small farmers to store their produce locally during the intervening period.</p> <p>All godowns above 1000 MT capacity need to be registered with Warehousing Authority after due accreditation. Legal provisions have been made. There is need for creation of awareness.</p> <p>GLPC Agriculture wing can educate the farmers on the benefit of subsidy and advantages of storage.</p> <p>NGOs may sensitise farmers through Farmer Clubs regarding techniques for mitigating distress sale and the benefit of interest subvention.</p> <p>Creation of Storage infrastructure through FPO mode and Bank financing for the same may be promoted. DCCBs of the State may take a lead in the matter.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>Farmers may form Producer Groups to aggregate their products/produce and deal with organised buyers for selling and sellers for availing benefits of bulk purchases. Cooperative Dept may explore the possibilities for establishing regulated markets to facilitate competitive prices.</p> <p>Farmers Producer Organizations (FPOs) have been promoted by different NGOs with the financial assistance from PRODUCE Fund maintained by NABARD. FPOs may be encouraged to participate in Forward Markets Commission, as it facilitates marketing and price discovery of many agricultural produce to reduce uncertainty in prices. They can also use an 'Option' for hedging risks against price fluctuations under Commodity Future Market.</p> <p>There is a need to connect all the APMCs with electronic trading portal of National Agriculture Market (NAM). Secondly, APMCs need to be strengthened with Soil Testing Laboratory, Storage, Cleaning, Grading and Packaging. Need for installation of electronic ticker board in every APMC and other private markets which displays the daily rates of commodity Markets.</p>
		<p>There is a need for creation of new agri. markets, certification/ standardization centres and other post-harvest facilities near the major production centres. There is need for development of Cold Chains, Refrigerator vans, cold storages, Private Wholesale Markets, Low - Energy Cold Chambers for on-farm storage, Godowns, Silos etc.</p> <p>APMC reforms should be undertaken and concept of private APMC should be encouraged.</p> <p>Horticulture Department/Agriculture Universities may increase efforts to popularise suitable post-harvest technology and value-addition techniques.</p> <p>Rural Haat or e-Chaupal on the lines of ITC e-Chaupals could be set up in rural pockets that could be regulated in the interest of the local farmers.</p> <p>The interest subvention scheme of GoG for taking up of agricultural infrastructure may be popularized among the farmers. Agencies /institutions/ NGOs are to be specified who would implement the actions suggested especially those are integral to achieving the potentials so mapped.</p>
12	Agriculture - Infrastructure Land Development	<p>There is need of focused research on integrated farming system for sustainable land use and income security for farmers</p> <p>Motivation of farmers to adopt tank silt application, particularly in black soils and coastal alluvium for improvement of soil structure and hydraulic conductivity, besides leading to increased water storage in the tanks maintained by Water Resources Department.</p> <p>Creation of Awareness among farmers by line departments about utility of organic inputs and its impact on soil structure and fertility and hazards of excessive use of chemical fertilizers. Motivation of farmers to get soil tested once in 2 years to adopt balanced use of fertilizers</p> <p>The activities that can be financed by the Banks are improvement of cultivable & uncultivable land, soil conservation, land levelling, contour trench, land shaping, loose boulder structure, land terracing, water harvesting, contour bunding, farm ponds, gully control measures, nala plugging, watershed development, gabion structure, fencing/bunding, water harvesting, vermicomposting, barbed fencing, etc. Banks may play proactive role in encouraging reclamation activities through credit on priority basis.</p> <p>Banks may consider providing more credit for purchase of equipments for land development works.</p> <p>Even though Soil Health Cards have been issued by the Government of Gujarat, awareness about the concept and understanding of the SHCs and their utility for adopting corrective measures is low among the farmers. One Soil Testing Laboratory/Mobile Soil Testing Laboratory may be set up in all the blocks to sensitize farmers.</p> <p>Information dissemination may be undertaken for the subsidy / assistance available for various land development activities through portal, i-Khedut. Arrangement of marketing facilities for organic farming products needs to be ensured, so as to motivate more number of farmers for adoption of organic farming. GSLDC can initiate action for the activity. Creation of awareness amongst farmers on harmful effects of excessive use of chemical fertilizers is the need of the hour. KVK, Farmers Training Centre and DAO need to initiate necessary action for the same. Formation of organic farmers' clusters may be facilitated through State Agriculture Universities. Necessary steps to ensure remunerative price for organic produce may be taken up.</p>

S No .	Sub-Sector	Critical Interventions Identified
		Popularize activities like vermi-composting, NADEP method of compost, use of bio fertilizer by Agriculture / Horticulture Department.
		Under SAUNI and other irrigation schemes, new areas are being brought under irrigation network in the State. This requires land levelling, reclamation and laying down pipelines, etc., for which banks may finance under Area Based Development Plans.
		A scheme should be planned for immediate reclamation of problematic soil in coastal areas. Sea water ingress is to be addressed immediately through creating trenches and bandhara and deep recharge canal.
		Famers should be encouraged to construct Rain Water Harvesting structures in their fields on large scale with plastic lining if possible to avoid heavy percolation and seepage losses to facilitate second crop viz., horse gram, other pulses, etc. Technical knowledge in this regard may be made available by Agriculture Department. Farmers may be continuously trained on improved technology package / farm practices and value addition activities.
		There is an urgent need of implementing subsidy scheme for protection wall for stopping soil erosion by water runoff.
		In order to control soil erosion and to improve land productivity on sustainable basis, awareness on improved irrigation practices like drip irrigation, sprinkler irrigation, etc may be popularised. GGRC and banks may facilitate the same.
		Farmers may use fertigation technique which ensures that essential nutrients are supplied precisely at the area of most intensive root activity according to the specific requirements of crop.
		Krishi Vigyan Kendra should prepare Farm Models for different crops using wells, Micro Irrigation and Ponds.
		Extension agencies may have to put in intensive efforts to create awareness among the farmers about land development and benefits accruing therefrom. Coordination between banks and government agencies about providing technical and credit support to individual farmers for land development and water management activities needs to be increased. Interface may be mooted between banks and government agencies for enabling better coordination.
		Under various programmes of the GoI and GoG, several command areas and watersheds have been developed. This calls for investments on individual farm lands for augmenting agricultural production. In order to achieve this, comprehensive plan development involving PRIs, Farmers' Clubs, Govt. Depts. and Banks is necessary. The Department may consider involving the PACS in watershed development since the societies are present at grass root level. Micro watershed projects may be identified and implemented in all blocks.
		Considering increasing tendency of conversion of agricultural land into non-agricultural land due to urbanisation, more and more wasteland is required to be brought under agriculture by way of land levelling. The land thus converted into agricultural land may be given on lease to landless farmers or tenant farmers and weaker sections of society through gram panchayat.
		The farm pond/check dams/ bunds, etc. should be popularized in less irrigated areas of the State to tide over likely drought conditions in the event of failure of monsoon.
13	Agriculture Infrastructure - Others - Tissue Culture etc.	There is an urgent need of implementing subsidy scheme for recharging of bore well/dug well by government authority. Financing of farm ponds is required to facilitate water storage and recharge of groundwater.
		Banks may consider adopting group approach for financing through JLGs, SHGs, etc. with intensive drive in Watersheds / TDF Wadi project areas.
		National Project on Organic Farming a Capital Investment Subsidy Scheme for Commercial Production Units for Organic/ biological Inputs needs to be popularized among banker and farmers through holding of camps/capacity building/brochures and media etc.
		APMC needs to be encouraged to set up Vegetable cum Fruit Waste Compost Production Unit under Capital Investment Subsidy Scheme for Commercial Production of Organic Inputs under National Project on Organic Farming.
		KVKs and Agriculture Universities may carry out the research in pest and disease-resistant crop varieties which are more suitable for organic farming

S No.	Sub-Sector	Critical Interventions Identified
		<p>Farmers needs to be encouraged to go for organic farming certification to get better price of their produces. Farmers' producer companies/cooperatives/PACS can avail the opportunity to develop niche market for organic produce.</p> <p>Arrangement of marketing facilities for organic farming products needs to be done so as to motivate more number of farmers for adoption of organic farming. GSLDC can initiate action for the activity. Creation of awareness amongst farmers for harmful effects of excessive chemical fertilizer is the need of the hour. KVK, Farmers Training Centre and DAO need to initiate necessary action for the same.</p> <p>State Government may prepare a perspective plan for promotion of Organic farming in high value cash crops, viz., cotton and onion.</p> <p>Larger involvement of private corporate sector needs to encourage in hybrid seed production, micro-nutrient industry, farm equipment development, extension, marketing, value addition, etc.</p> <p>Cultivation of green manure crops should be promoted extensively by making available inputs like seeds, and technical know-how. Farmers also need to be trained in the production of bio fertilizers like blue-green algae, azolla, rhizobium etc.</p> <p>Need to promote bio-pesticides as a component of Integrated Pest Management (IPM) programs. Bio-pesticides often are effective in very small quantities and often decompose quickly.</p> <p>Awareness is required to be created by KVKs, Agri department, University and other stakeholders for popularising the concepts of Bio-pesticides and Bio-fertilizer for the benefit of rural economy through farmers' capacity building programme/exposure cum training visits, brochures and the media.</p> <p>Every farmer household should be encouraged to take-up production of vermi-compost in their backyard in place of the manure pits. It will facilitate village sanitation also. The expertise of several NGOs available in the State can be made use of for this campaign. Vermi-compost may be promoted through SHG groups. Commercial units may also be promoted with the farmers interested in the activity for commercial benefits.</p> <p>Banks should give due support to entrepreneurs to establish Bio-pesticides and Bio-fertilizer, Tissue Culture units in the State as the same are very profitable ventures.</p> <p>Most of plant residues and cow dung are either burnt or put at undesired places leading to soil and water pollution on one hand and loss of plant nutrient on the other hand. Need to promote Vermi-composting for recycling the farm wastes and cow dung into valuable organic manure.</p> <p>Keeping in view the importance given by GoI to food security for the increasing population, the effective strategy would be to focus on 'increasing productivity of food crops 'without increasing sown area' and it is possible only by popularizing high-yielding varieties.</p> <p>Since the farmers need to be encouraged to come forward and adopt HYV seeds, appropriate policies and schemes may be required for HYV seeds.</p>
14	Agriculture Ancillary-Food & Agro Processing	<p>FPOs may be promoted and facilitated by Government of Gujarat's nodal agency (GAIC/GIDC) etc. with special objective of processing of agricultural/horticultural produce.</p> <p>Fruit processing activities can be encouraged by setting up Exclusive Processing Zones with infrastructural facilities like graders, dehydrators, cold storages, processing plants, etc. There is an urgent need for opening of more value-addition centres and post-harvest processing services, if necessary, with private investment.</p> <p>A coordinated and participatory approach is required to be adopted by financing banks/ State Government Depts. and various development agencies to create conducive environment for properly harnessing the resources endowed to the district by ensuring enhanced credit flow to Agro and Food Processing Sector.</p> <p>Taking into consideration the potential of agro processing sector, in view of employment generation and also export, pro-active role of State Government in respect of infrastructure creation is required.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>There is a strong need for increasing the processing level of food crops and developing excellent Post-Harvest Management system to achieve the goal of food security. Food processing in the State can be taken up in a big way through farmer's collectives like Farmers' Producers Organisations (FPOs) with specific objectives of value-addition and processing of targeted commodities.</p> <p>DCCBs can take a lead in the matter by aggregating PACS as FPOs.</p> <p>DIC may disseminate comprehensive details of all promotional schemes of both Central and State Governments, more particularly those implemented by APEDA, NHB, Ministry of Food Processing Industries, GAIC, etc., together with those about facilities, relief, subsidy and initiatives offered under each of them among the people, through media and meetings. This single exercise may go a long way in attracting potential entrepreneurs.</p> <p>Capacity building of entrepreneurs especially SHGs can be achieved through greater participation of RSETI, Skill Development Centres and NGOs which will be supported by NABARD, DRDA, DIC, Horticulture Department, KVK, KVIC, ATMA, etc.</p> <p>With rising awareness of benefits of hygienic food among the public, demand for setting up of food processing units is increasing rapidly, making this sector as the "sunrise" industry.</p> <p>Many of the farmers are not aware of various State Government schemes for Food Processing Sector. Awareness creation on larger scale need to be done on a priority basis.</p> <p>Banks may initiate efforts and encourage small entrepreneurs or Self Help Groups to take up food processing ventures in terms of preliminary value addition.</p> <p>Business incubator in agro-processing may be set up to give a boost to the sector.</p> <p>FSSAI certification enabling nodal agencies operating in the State may collaborate with Government approved laboratory available in the State.</p> <p>More emphasis on design, product development, upgrading packaging standards, brand promotion and thrust on R&D and innovations by different Government agencies.</p> <p>GLPC may explore the possibility of formation of Cluster of the trained youth / farmers/ SHG women and handhold/extend the desired inputs to promote successful entrepreneurs.</p> <p>Small and suitable activities related to fruits and vegetables post-harvest management are also being supported by GoG through the portal i-Khedut for a centralised distribution of subsidy. Thus, the bank loan requirement may also increase due to such initiative.</p> <p>APMCs and bigger mandalis in horticulture growing areas may be encouraged to create post-harvest infrastructure. Benefit of subsidy under ISAM could be availed of for the same.</p> <p>Bank branches could identify important horticulture belts and organize credit sensitization cum technology camps in association with Agriculture Universities.</p>
15	Agri-Ancillary- Others-(Loans to Coop. Societies + ACABC + FPCs + MFIs)	<p>Banks may consider engaging Micro Finance Institutions (MFIs) operating in the district as their partners in lending to the unreached. The win-win situation for both may result in enhancing the bank's portfolio and also make available formal credit to the hitherto deprived last-mile clientele</p> <p>DCCB of the district may explore to cover maximum PACS under PACS as MSC scheme.</p> <p>MFI can avail financial support from NABARD for on lending to JLG groups.</p> <p>The ACABC Scheme be given wide publicity for encouraging educated youngsters with agriculture background to come forward for their contribution to the farming community. The Scheme may be deliberated in BLBC / DLCC meetings for wider acceptance by banks and also for discussion on any operational issues.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>PACS needs to function as 'One Stop Shop' for meeting all the credit requirements of farming community. It will help them to enhance their own business operations and financial viability.</p> <p>Banks may consider to engage Micro Finance Institutions (MFIs) operating in the district as their partners in lending to the unreached. The win-win situation for both may result in enhancing the bank's portfolio and also make available formal credit to the so far deprived.</p> <p>Formal entities of small and marginal farmers such as FPOs need to be promoted with financial assistance under PRODUCE Fund.</p> <p>Dissemination of knowledge and information of various schemes benefitting the rural community may be given wide publicity by banks</p> <p>Farmers Producers Organizations may take up food & agro processing activities for value addition and ultimately for better realization of value of their produce. Banks can also have their own strategy for provision of the required support to farmers in a holistic manner.</p> <p>Banks may utilize their network of BC for promotion of SHG/ JLG. Bankers may work in coordination of GLPC for promotion of SHG.</p> <p>GoG has permitted Milk Unions to act as BC/ BF. There is a vast network of these Unions, almost one in each village.</p> <p>Security oriented lending practices and legal formalities hinder credit flow. Rationalizing these formalities will reduce additional cost burden on farmers.</p> <p>There is a need to promote activity based JLG groups in the field of hiring services, catering services, food processing, artificial jewellery making, etc. wherein members join together as a group and earn supplementary income to support the family. On the line of SHGs, interest subvention and exemption from stamp duty may be provided to JLGs.</p>
16	MSME	<p>There is a need to form cluster of handicraft artisans who are trained through various Government supported programmes.</p> <p>NGOs and various Govt. departments should come forward to provide much needed markets and design-related training to artisans so that the goods produced by them can withstand the stiff market competition.</p> <p>Unorganized clusters of artisans pursuing various rural arts in the district have to be mapped and guided to avail benefits offered under various State and Central Government schemes so as to enable them to better commercialize their arts, undertake larger production to benefit from economies of scale and also be in a better position to market their produce.</p> <p>MSMEs may be encouraged to adopt technology, formalize their enterprise, produce quality competitive products of global standards through in-house innovation.</p> <p>MSMEs may be encouraged to accept e-payments to gain economies of scale, gradually expand in size.</p> <p>Banks should step up their lending to MSME sector including provision of adequate Working Capital assistance. Handloom Weavers and Handicrafts sectors in the district need to be adequately supported with bank credit. Banks may encourage artisan SHGs/JLGs from handloom, arts & crafts in these areas and also issue SCCs.</p> <p>DIC may develop data base on mapping of Block wise NFS potential and set up counselling centers to guide the entrepreneurs. Digitalization of data base and on-line application tracking.</p> <p>Rural Non-Farm Sector activities may be encouraged under Government Sponsored Schemes after suitable skill building under RSETI/ DRDA schemes.</p> <p>Special focus on women's micro / small enterprises is required.</p> <p>Considering GoG drive to promote tourism, banks may see a possibility of financing hotels/ motels/ transporters/ booking agents and such other related services</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>In respect of the financing of rural artisans also, bankers may take help of the NGOs working in the areas as usually the term loan needs of the rural artisans are very small.</p> <p>For stepping up the disbursements for village industries / rural artisan sector, bankers may utilize the fora of Farmers' Clubs and SHGs to undertake financing in clusters.</p> <p>Adequate and regular supply of electrical power to the existing as also new units may be ensured.</p>
17	Export	<p>Micro, Small and Medium Exporters should be properly trained by MSME/export organizations with technical assistance from banks Regarding correct filling up of forms.</p> <p>Exporters may be encouraged to avail export credit insurance facilities extended by ECGC.</p> <p>Due precaution needs to be taken in case of the export of agricultural products, especially for factors such as domestic and international demand, quality concerns, temporary restrictive measures sometime adopted by the importing countries in view of non-conformity to any of these standards/rules, etc. that may lead to financial loss to the exporters</p> <p>Micro, Small and Medium Exporters should be properly trained by MSME / export organizations with technical assistance from banks regarding correct filling up of forms.</p> <p>Settling the Pre-shipment credit within the stipulated time after the dispatch of goods or converting them into Post Shipment credit may be ensured.</p> <p>Exporters may be encouraged to avail the export credit insurance facilities extended by ECGC.</p> <p>Need for more forex branches in the State required.</p> <p>Due precaution needs to be taken by exporters in case of the export of agricultural products especially for factors such as domestic and international demand and supply situation, price competitiveness, quality concerns, Sanitary & Phytosanitary (SPS) requirements and relevant rules & regulations of the importing countries. Temporary restrictive measures sometimes adopted by the importing countries in view of non-conformity to any of these standards/rules ruin the unit.</p> <p>Market intelligence and creating awareness in international market about quality of products need to be strengthened to boost agricultural exports.</p> <p>Publicity about Government schemes is much needed.</p>
18	Education	<p>Banks must cut the turn-around time (TAT) substantially as time is the essence for students.</p> <p>The Banks may organise camps at the ITI, engineering and medical college campuses for education loans.</p> <p>Transparent grading and placement records of various educational institutes may be made available to banks so as to gain confidence in the institute to finance its students.</p> <p>Education Department & banks together may play a pro-active role in sensitizing the students and parents about benefits of higher education and loan facilities available from various banks. The credit discipline and inculcating the habit of regular repayment of instalment can be infused right from the student stage itself.</p> <p>Bank should accommodate a higher number of applications under Central Government Interest Subsidy Schemes on educational loan for interest subsidy to eligible student.</p> <p>Proper coordination between college management and bankers in the district will help in guiding / assisting students enrolling for professional courses about the procedure and requirements. This will help students avail hassle- free and timely education loan.</p>
19	Housing	<p>Farmers face issues in obtaining housing loans due to non-availability of IT returns and difficulties in obtaining income certificate from revenue Authorities. Banks may formulate special schemes to accommodate farmers for Housing loans based on their cultivable land.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>As demand side instrument, there is requirement to develop property rights to own and freely exchange housing/plot by ease of registration process. Further, providing easy mortgage loans to the home buyer and greater access for housing finance to the middle and lower class under government subsidy schemes wherever applicable.</p> <p>There is a huge demand for purchase /renovation of housing. Bank should exploit this opportunity and provide housing loan at reasonable terms and conditions. Awareness should be created in rural areas about availability of loan even for house repairing and renovation.</p> <p>Bank should give priorities to the loan application under Prime Minister Awas Yojana/ Mukhya Mantri Gruh Yojana. Where ever possible toilet constructions may be linked to Government's Awas Yojana schemes.</p> <p>Institutional reforms in land acquisition, approval processes and taxation are much needed to expedite development of affordable housing.</p>
20	Infrastructure -Public Investment	<p>Availability of manpower for the created infrastructure is essential. This may require skill upgradation of manpower and in case of hospitals, professionals, etc.</p> <p>Close monitoring is needed to avoid delay in large projects, viz., bridges and irrigation canals. Projects under Irrigation sector may be posed to NABARD only after getting all necessary clearances from Forest / Revenue Departments and completing the formalities relating to land acquisition, rehabilitation etc., to avoid abnormal delay and cost escalation in implementation of projects.</p> <p>Maintenance continues to be a major issue. Implementing line departments may ensure that adequate budgetary allocation for maintenance of assets is made so that the infrastructure projects can be put to use for a longer period of time.</p> <p>Involvement of NGOs for social mobilization of people to make them a part of all the Social Sector Infrastructure Projects may be considered so that people's participation is ensured for better utilization of infrastructure and for future maintenance. Efforts may be made to form Water Users Association (WUAs) and Village Water and Sanitation Committees and their capacity building may be done.</p> <p>Line departments may keep various projects in pipeline so that the same can be taken up for funding under RIDF as early as possible.</p>
21	Social infrastructure involving bank credit	<p>Concerned Govt. Depts. could contemplate setting up RO plants in villages to ensure availability of potable drinking water. About 20% of these households can be covered through establishment of RO plants though bank credit.</p> <p>Education department may ensure availability of infrastructure facilities in schools. Digitisation of the schools and provision for drinking water plants, toilet, etc., therein.</p> <p>The Health Department needs to design PPP/ community-based programs to develop new dispensaries/ hospitals which help to prevent disease, improve health and enhance quality of life.</p> <p>To increase the quality, availability, and effectiveness of education, the Education Department needs to support private/ PPP mode investment for development of new educational institutions in the state.</p> <p>Banks may sensitize its customers about the sanitation requirements and offer bank loan under rural sanitation to fulfill the national objective of 'Swachh Bharat Abhiyan'.</p>
22	Renewal Energy	<p>The schemes of MNRE may be popularized for intensive use of solar pumping, lighting and heating systems, along with the benefits of subsidy offered and saving on the recurring expenses on electricity, oil, diesel, etc., presently being used for running the equipment and pump sets. GGRC and banks to make joint efforts to sensitize the public, rural people in particular.</p> <p>District-wise biomass assessment studies would provide information regarding power generation potential from biomass for each district.</p> <p>Banks should integrate non-conventional energy systems as part of their lending under Non-farm Sector, Housing and Other Priority Sector.</p> <p>NGOs, SHGs and Farmer Clubs may be involved in creating awareness regarding construction of toilets, clean drinking water, basic medical facilities, etc.</p>

S No .	Sub-Sector	Critical Interventions Identified
		<p>The Implementing agencies may initiate necessary steps to motivate people and propagate the use of various alternative sources of energy. Lack of awareness is observed among banks as well as entrepreneurs.</p> <p>Awareness about the availability of subsidy may be created among the villagers by banks & concerned departments.</p> <p>Defunct Bio Gas plants need repair for which necessary training/ awareness to the beneficiaries concerned is essential. KVIB / ZP can jointly work in this direction.</p> <p>GEDA may organise training programmes for enterprising villagers to promote use of solar unit. List of eligible farmers may be sent to banks for financing.</p> <p>Community Bio Gas Plants / Institutional Bio Gas plants may be planned by Panchayats, NGOs, Trusts etc in association with GEDA.</p> <p>Fishing Boats may be equipped with Solar PV Lighting as well as Solar Cookers for reducing the drudgery of this community along coastal belt of the State.</p> <p>Farmers should be encouraged to go for Solar Water Pumping System.</p>
23	Informal Credit Delivery System	<p>Government may advise urban local bodies to make solar rooftop mandatory in construction of new houses. Provision of rebate on property tax could be introduced.</p> <p>Banks, GLPC and NGOs should work together towards creating awareness in SHG members, credit linkage of SHGs, group formation for availing Govt. subsidies, leadership rotation and in creating suitable income generation activities</p>

List of Abbreviations

ACP	Annual Credit Plan	DTPC	District Tourism Promotion Council
ACABC	Agri Clinic and Agri Business Centre	EDP	Entrepreneurship Development Programme
ADS	Area Development Scheme	e-NAM	e-National Agriculture Market
AEZ	Agri. Export Zone	FIF	Financial Inclusion Fund
AH	Animal Husbandry	FLC	Financial Literacy Centre
AMRUT	Atal Mission for Rejuvenation and Urban Transformation	FLCC	Financial Literacy and Credit Counselling Centres
AIF	Agriculture Infrastructure Fund	FM	Farm Mechanization
AMI	Agriculture Marketing Infrastructure	FPF	Food Processing Fund
APMC	Agricultural Produce Market Committee	FPO	Farmer Producers' Organization
APY	Atal Pension Yojana	FSPF	Farm Sector Promotion Fund
APEDA	Agricultural and Processed Food Products Export Development Authority	GCA	Gross Cropped Area
AI	Artificial Insemination	GCF	Green Climate Fund
ATMA	Agricultural Technology Management Agency	GIA	Gross Irrigated Area
BC	Business Correspondent	GLC	Ground Level Credit
BF	Business Facilitator	GoI	Government of India
BLBC	Block Level Banker's Committee	HYV	High Yielding Variety
BPL	Below Poverty Line	ICT	Information and Communications Technology
BSBDA	Basic Savings Bank Deposit Account	IWMS	Integrated Watershed Management Scheme
CAT	Capacity Building for Adoption of Technology	JLG	Joint Liability Group
CBs	Commercial Banks	KCC	Kisan Credit Card
CBS	Core Banking Solution	KVIB/KVIC	Khadi and Village Industries Board/ Khadi and Village Industries Commission
CCF	Climate Change Fund	KYC	Know Your Customer
CDR	Credit Deposit Ratio	KVK	Krishi Vigyan Kendra
CGTMSE	Credit Guarantee Fund Trust for Micro and Small Enterprises	LBR	Lead Bank Return
CISS	Capital Investment Subsidy Scheme	LDM	Lead District Manager
CRAR	Capital to Risk weighted Asset Ratio	LEDP	Livelihood and Enterprise Development Programmes
DAP	Development Action Plan	LWE	Left Wing Extremism
DBT	Direct Benefit Transfer	MEDP	Micro Enterprise Development Programme
DDD-GKY	Deen Dayal Upadhyaya-Grameen Kaushal Yojana	MFI	Micro Finance Institution
DCCB	District Central Cooperative Bank	MIDH	Mission for Integrated Development of Horticulture
DCC	District Consultative Committee	MI	Minor Irrigation
DCP	District Credit Plan	MNRE	Ministry of New and Renewable Energy
DDM	District Development Manager	MNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
DIDF	Dairy Processing and Infrastructure Development Fund	MSME	Micro, Small and Medium Enterprises
DLRC	District Level Review Committee	MoRD	Ministry of Rural Development
DLTC	District Level Technical Committee	MSC	Multi Service Centre
DRDA	District Rural Development Agency	NABARD	National Bank for Agriculture and Rural Development
NBFC	Non-Banking Financial Company	PPP	Public Private Partnership
NDDB	National Dairy Development Board	PRI	Panchayati Raj Institution
NEFT	National Electronic Fund Transfer	PWCS	Primary Weavers Cooperative Society
NFDB	National Fisheries Development Board	RBI	Reserve Bank of India
NAFCC	National Adaptation Fund for Climate Change	RIDF	Rural Infrastructure Development Fund
NHB/ NHM	National Horticulture Board/ National Horticulture Mission	RNFS	Rural Non-Farm Sector
NIDA	NABARD Infrastructure Development Assistance	RKBY	Rashtriya Krishi Bima Yojana
NIA	Net Irrigated Area	RKVY	Rashtriya Krishi Vikas Yojana
NRLM	National Rural Livelihood Mission	RRB	Regional Rural Bank

NRM	National Resource Management	RUDSETI	Rural Development & Self Employment Training Institute
NSA	Net Sown Area	RSETI	Rural Self Employment Training Institute
NSSO	National Sample Survey Organisation	SAMIS	Service Area Monitoring and Information System
NWR	Negotiable Warehouse Receipt	SAO	Seasonal Agriculture Operation
OFPP	Off-Farm Promotion Fund	SCARDB	State Cooperative Agriculture & Rural Development Bank
OPS	Other Priority Sector	SDI	Skill Development Initiative
PACS	Primary Agricultural Cooperative Society	SF/MF	Small Farmer / Marginal Farmer
PCARDB	Primary Cooperative Agriculture & Rural Development Bank	SFAC	Small Farmers' Agri-Business Consortium
P & H	Plantation & Horticulture	SHG	Self Help Group
PKVY	Paramparagat Krishi Vikas Yojana	SHPI	Self Help Group Promotion Institution
PMFBY	Pradhan Mantri Fasal Bima Yojana	SIDBI	Small Industries Development Bank of India
PMJDY	Pradhan Mantri Jan Dhan Yojana	SMAM	Sub Mission on Agricultural Mechanization
PMJJBY	Pradhan Mantri Jeevan Jyoti Bima Yojana	SLBC	State level Banker's Committee
PMKVY	Pradhan Mantri Kaushal Vikas Yojana	SRI	System of Rice Intensification
PMMY	Pradhan Mantri Mudra Yojana	SRLM	State Rural Livelihood Mission
PMRY	Prime Minister's Rozgar Yojana	StCB	State Cooperative Bank
PMSBY	Pradhan Mantri Suraksha Bima Yojana	TDF	Tribal Development Fund
PMKSY	Prime Mantri Krishi Sinchayee Yojana	WDF	Watershed Development Fund
PODF	Producer Organisation Development Fund	WDRA	Warehousing Development and Regulatory Authority
POPI	Producer Organisation Promoting Institution	WIF	Warehouse Infrastructure Fund
POS	Point of Sale	WSHG	Women Self Help Group

गुजरात के जिला विकास प्रबंधक

अमरेली श्री जिग्नेश टी झाला Ph: 9408441238 Email : amreli@nabard.org	आणंद श्री अमित भट्ट Ph: 9619040232 Email : anand@nabard.org
बनासकांठा श्री अजित एन दिघे Ph: 9426673718 Email : banaskantha@nabard.org	वडोदरा श्री दर्शन देओरे Ph: 9594977667 Email : vadodara@nabard.org
भरूच श्री अनंत वर्धम Ph: 9820697635 bharuch@nabard.org	भावनगर श्री दीपककुमार खलास Ph: 9510050065 Email : bhavnagar@nabard.org
दाहोद श्री राहुल देवचंद्र बांगर Ph: 9920055773 Email : dahod@nabard.org	जामनगर श्री नगेन्द्र शर्मा Ph: 9459584230 Email : jamnagar@nabard.org
जूनागढ़ श्री किरण राऊत Ph: 9408111092 Email : junagadh@nabard.org	कच्छ श्री निरजकुमार सिंह Ph: 9833741538 Email : kutch@nabard.org
मेहसाणा श्री राहुल पाटील Ph: 9040404056 Email : mehsana@nabard.org	नवसारी श्री बी के सामंतराय Ph: 7600841626 Email : navsari@nabard.org
पंचमहाल श्री राजेश आर भोसले Ph: 9969015312 Email : panchmahal@nabard.org	पाटन श्री राकेश कुमार वर्मा Ph: 8460110099 Email : patan@nabard.org
राजकोट श्री धर्मेन्द्र जी चौहान Ph: 9638721552 Email : rajkot@nabard.org	साबरकांठा श्री नवल जे कन्नोर Ph: 9409067117 Email : sabarkantha@nabard.org
सूरत सुश्री कुंतल एल सूरती Ph: 9969926876 Email : surat@nabard.org	सुरेन्द्रनगर श्री अरसू बरनाबस Ph : 9408111361 Email : surendranagar@nabard.org
वलसाड श्री गौरव कुमार Ph: 9594078851 Email : valsad@nabard.org	गांधीनगर श्री विशाल शर्मा Ph: 8954137526 Email : gandhinagar@nabard.org
अहमदाबाद श्री भरत बी पटेल Ph: 9426518364 Email : ddm.ahmedabad@nabard.org	



NABVENTURES Limited

A wholly owned Subsidiary of NABARD

NABVENTURES Ltd., a Company registered under the Companies Act, 2013, with a paid-up capital of INR 25 crore, is the Sponsor and Investment Manager of NABVENTURES Fund-I, a SEBI-registered Category II Alternative Investment Fund (AIF), with a base corpus of INR 500 crore and greenshoe option of INR 200 crore.

Investment focus: Start-ups/MSMEs operating in/with

► **Sectors:** Agri-tech, rural fin-tech, food-tech, health-tech and edu-tech, with a rural focus

► **Stage:** Pre-Series A (INR 5-20 cr.) & Series A (INR 20-50 cr.)

Model: asset-light, technology-led models, which can be quickly scaled up across geographies

As on 31st March 2022:

► **Corpus raised:** INR 598 crore

► **Investments made:** INR 148.21 crore in 9 start-ups

Registered Office: NABARD, 2nd Floor, A Wing, Plot No. C-24, G Block, BKC, Bandra (East), Mumbai-400051

✉ e-mail: nabventure@nabard.org ☎ Phone: 91-22-26539149 🌐 www.nabventure.in



NABSAMRUDDHI FINANCE Limited

A Subsidiary of NABARD

"The objective of NABSAMRUDDHI is to provide credit facilities to legal entities for the promotion, expansion, commercialisation and modernisation in non-farm & agri allied activities including microfinance, MSME, housing, education, transport, etc."

FOCUS SEGMENTS

Green Finance & Wellness (Renewable Energy, Electric Vehicle, Healthcare, WASH) Fabrics & textiles, Handicrafts

OTHER SEGMENTS

► Small Business
► Microfinance
► Transport
► Housing
► Education
► Allied Agriculture
► Agri/Food processing

Corporate Office:

NABARD, Gr. Floor, D Wing, Plot No. C-24, G Block, BKC, Bandra (East), Mumbai-400051
Ph: 022-2653 7091/9693

✉ e-mail: nabsamruddhi@nabard.org

Registered Office:

NABARD, Regional Office 1-1-61, RTC 'X' Road, P.B. No. 1863 Hyderabad- 500020, Telangana
Ph: 040-23241155/56

🌐 www.nabsamruddhi.in



NABFOUNDATION

Leveraging the power of convergence

NABFOUNDATION is a wholly owned, not for profit, subsidiary of NABARD, established under Sec 8 of Companies Act, 2013. The organization draws its strength and experience from the thousands of development projects grounded by its parent body, NABARD, in multiple domains over nearly last four decades.

What does NABFOUNDATION want from you ?

IF YOU ARE AN INDIVIDUAL

Reach out to us with your ideas about development projects which you believe need to be implemented. We really look forward to your fresh ideas

IF YOU ARE A CSR UNIT

Of a corporate and believe that there is a scope for collaborating with us to have access to the vast network of resources of NABARD in a structured manner, just give us a call

IF YOU ARE A CIVIL SOCIETY ORGANIZATION/ NGO

With an idea whose time you think has come and have not been able to find willing partners, reach out to us

IF YOU ARE WITH THE GOVERNMENT

And believe that there is a need for reimagining implementation of your Central or State government projects, allow us to be a part of your vision



Registered Office: NABARD, 2nd Floor, B Wing, Plot No. C-24, G Block, BKC, Bandra (East), Mumbai-400051

✉ e-mail: nabfoundation@nabard.org

☎ Phone: 91-22-2653 9404/9054

🌐 www.nabfoundation.in



NABKISAN Finance Limited

A Subsidiary of NABARD

- › Largest lender in FPO space
- › Present in 20+ States
- › 1400+ FPOs credit linked
- › Collateral free lending at affordable rates
- › Financing FPOs through
 - ▶ Working Capital
 - ▶ Term loan
 - ▶ Pledge Financing (eNWR)
- › Term lending for Corporates/ NBFCs/ MFIs
- › Soft loans for Agri Startups

Corporate Office

C/o NABARD, Mumbai

✉ e-mail:corporate@nabkisan.org

☎ Phone:022- 26539620/26539415

🌐 www.nabkisan.org

Registered Office

C/o NABARD, Tamil Nadu RO, Chennai

✉ e-mail:finance@nabkisan.org

☎ Phone:044- 28270138/28304658

🌐 Web-portal:krishimanch.co.in



NABARD Consultancy Services Private Limited [NABCONS]

A wholly owned Subsidiary of NABARD

ISO-9001:2015 COMPANY

OFFERS

CONSULTANCY AND ADVISORY SERVICES

Pan India

Presence with

offices in 31

States/UTs

AREAS OF OPERATION

› Agriculture & Allied Activities

› Off-farm Sector

› Horticulture

› Forestry

› Corporate Social Responsibility

› Watershed Development

› Irrigation & Water Resources

› Socio-economic Development

› Natural Resource Management

› Food Processing

› Banking & Finance

› Skills for Livelihood

› International Business

› Value Chain Development

› Infrastructure Monitoring

› Climate Change

Registered Office

NABARD, Plot No. C-24,

G Block, BKC, Bandra (East)

Mumbai-400051, Ph: 022-26539419

✉ e-mail:headoffice@nabcons.in

Corporate Office

NABARD Tower, 7th floor

Rajendra Place, New Delhi -110125

Ph: 011-25745103/07

🌐 www.nabcons.com



NABFINS Limited

A Subsidiary of NABARD

- › A Non Deposit taking Systemically Important NBFC – MFI with a vision to become a model MFI in the country
- › 63% of shares held by NABARD, with other shareholders being Government of Karnataka and Public Sector Banks
- › Mission - To be a trusted client centric financial institution advancing hassle free services to the low income households and the unorganised sector
- › The company has a range of financial products and services including financing of SHGs in partnership with NGOs and JLGs directly through its branches
- › Operating across in 16 States of India and touching lives of more than 5.50 lakh households with a commitment towards their socio-economic empowerment and furthering the cause for financial inclusion

Registered Office: #3072, 14th Cross, K R Road, Banashankari 2nd stage, Bengaluru - 560 070, Karnataka, India

✉ e-mail: ho@nabfins.org

☎ Phone: 080 2697 0500

🌐 www.nabfins.org



NABSanrakshan Trustee Private Limited, A wholly owned Subsidiary of NABARD

Building Trust for Rural Prosperity

- › Offers credit guarantee through the Trusts under its Trusteeship
- › Two sovereign Credit Guarantee Schemes offered:
 - ▶ FPO Financing
 - ▶ Under Animal Husbandry Infrastructure Development Fund (AHIDF)
- › Credit guarantee given against the credit offered by the Eligible Lending Institutions registered under the Scheme

Corporate Office

NABARD, Plot No. C-24,

G Block, BKC, Bandra (East)

Mumbai-400051

Ph:022-26539243/26539241

e-mail:ho@nabsanrakshan.org