



स्टेट फोकस पेपर 2020 - 21 State Focus Paper 2020 - 21

State - Maharashtra
राज्य - महाराष्ट्र

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

महाराष्ट्र क्षेत्रीय कार्यालय, पुणे
MAHARASHTRA REGIONAL OFFICE, PUNE



दृष्टि

ग्रामीण समृद्धि के लिए राष्ट्र का 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 participatory financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.

प्रस्तावना

महाराष्ट्र का राज्य फोकस पेपर 2020-21 राज्य सरकार, बैंकों, सार्वजनिक और निजी क्षेत्रों में विभिन्न विकास एजेंसियों / व्यावसायिक संस्थाओं और अन्य हितधारकों को पेश करने में मुझे प्रसन्नता हो रही है।

लगभग 3 दशकों से, नाबार्ड सभी जिलों के लिए संभाव्यतायुक्त ऋण योजना (पीएलपी) तैयार कर रहा है जो ऋण के माध्यम से कृषि और ग्रामीण विकास के विभिन्न क्षेत्रों में विकास के लिए संभावनाओं (भौतिक और वित्तीय दोनों) का विवरण प्रदान करता है। हितधारकों के परामर्श से तैयार किया गया यह दस्तावेज़ जिले की वार्षिक ऋण योजना तैयार करने के लिए बैंकों के लिए एक रोड मैप के रूप में कार्य करता है और आवश्यक बुनियादी ढांचे की आवश्यकता, अंतराल, आवश्यक लिंकेज और सहायता पर भी चर्चा करता है, जिससे ग्रामीण क्षेत्र में ऋण प्रवाह में वृद्धि और समग्र विकास को दिशा मिलती है। सभी 36 जिलों की पीएलपी को इस राज्य फोकस पेपर (एसएफपी) में एकत्रित किया गया है। यह एक राज्य स्तरीय दस्तावेज़ है जो कुल क्षमता पर चर्चा करता है और राज्य कृषि और ग्रामीण क्षेत्र के लिए विकास परिप्रेक्ष्य भी प्रदान करता है।

मौजूदा और उभरते अवसरों पर विचार करने के बाद महाराष्ट्र में वर्ष 2020-21 के लिए प्राथमिकता क्षेत्र के लिए कुल ₹ 5,47,521 करोड़ की संभावनाओं का अनुमान लगाया गया है, जो पिछले वर्ष की तुलना में ₹ 46,091 करोड़ (9 %) की वृद्धि दर्शाता है।

कुल प्राथमिकता क्षेत्र के तहत ₹ 5,47,521 करोड़ के एसएफपी अनुमानों में से कृषि क्षेत्र के अनुमानों का आकलन ₹ 1,10,640 करोड़ (20%), एमएसएमई क्षेत्र के लिए ₹ 3,14,133 करोड़ (57%), और शेष ₹ 1,22,748 करोड़ (22%) निर्यात, शिक्षा, आवास, नवीकरणीय ऊर्जा, सामाजिक आधारभूत संरचना और अन्य जैसे प्राथमिक क्षेत्रों के लिए है।

राज्य फोकस पेपर का मुख्य विषय 'हाई टेक कृषि प्रथाएं' है जो कृषि की परिस्थितिकी तंत्र में आधुनिक औजारों के प्रयोग पर बल देता है। कृषि और प्रौद्योगिकी के साथ चलने से होने वाले लाभ न केवल दक्षता में वृद्धि से के माध्यम से उपज को बढ़ाने तक सीमित है परंतु उसमें कृषि उपज के बेहतर संचालन और प्रसंस्करण भी शामिल है जिससे अधिक कृषि आय प्राप्त की जा सकती है।

नाबार्ड इस दस्तावेज़ को आकार देने के लिए महाराष्ट्र सरकार, भारतीय रिजर्व बैंक, राज्य स्तरीय बैंकर समिति (एसएलबीसी), अग्रणी जिला प्रबंधक, राज्य और जिला स्तर के कार्यकर्ताओं और संबंधित ग्राउंड स्तरीय संस्थानों द्वारा दिए गए समर्थन और सहयोग की सराहना करता है।

मुझे विश्वास है कि यह राज्य फोकस पेपर नीति योजनाकारों, बैंकों और राज्य में अन्य हितधारकों के लिए उपयोगी होगा।

(यू डी शिरसालकर)

मुख्य महाप्रबंधक

नाबार्ड, महाराष्ट्र क्षेत्रीय कार्यालय, पुणे

13 दिसम्बर 2019

Foreword

It gives me great pleasure to present the State Focus Paper 2020-21 of Maharashtra to the State Government, banks, various development agencies/business entities in public and private sectors and to other stakeholders.

For nearly three decades now, NABARD has been preparing the Potential Linked Credit Plans (PLP) for all the districts which provide the details of potential (both physical and financial) for development in different sectors of agriculture and rural development through credit. Prepared in consultation with the stakeholders, it serves as a road map to banks for preparing annual credit plan of the district and also discusses necessary infrastructure requirement, the gaps, required linkages and support, thereby facilitating increased credit flow and the overall development of the rural sector. The PLPs for all the 36 districts have been aggregated into this State Focus Paper (SFP). This is a state level document which discusses the aggregate potential and also gives a development perspective for the state agriculture and rural sector.

The aggregate credit potential so arrived at for the Priority Sector for the year 2020-21 in Maharashtra has been estimated at ₹ 547521 crore after considering the existing and emerging opportunities, showing an increase of ₹ 46091 crore (9 %) over previous year.

Out of the SFP projections of ₹ 547521 crore under the total priority sector, the projections for agriculture sector have been estimated at ₹ 110640 crore (20 %), share for the MSME sector at ₹ 314133 crore (57 %), and the remaining ₹ 122748 crore (22 %) to other priority sectors like Export, Education, Housing, Renewable Energy, Social infrastructure, etc.

The theme of the State Focus Paper 2020-21 is 'Hi-Tech Agriculture Practices', which lays emphasis on the use of modern tools in the ecosystem of agriculture. The benefits from the synergy between agriculture and technology are not limited only to increasing yield by way of enhanced efficiency but also encompass better handling and processing of farm produce entailing higher agricultural income. An entire chapter devoted to the theme is presented in the SFP that deals with the significance of the concept, the initiatives taken by the GoI, the State Government and NABARD, and the areas of concern in the present scenario.

NABARD acknowledges and appreciates the support and cooperation extended by the Government of Maharashtra, Reserve Bank of India, the State Level Bankers Committee (SLBC), Lead District Managers, the State and district level functionaries and the relevant ground level institutions in shaping this document.

I trust that this State Focus Paper will be useful to the policy planners, banks and other stakeholders in the State.

(U D Shirsalkar)
Chief General Manager
NABARD Maharashtra Regional Office, Pune
13 December 2019

INDEX

Particulars		Page No.
List of Tables/Graphs/Boxes		4
Sector-wise PLP Projections of Credit Potential for 2020-21 along with pie diagram		6
Executive Summary		8
Map of the State		16
Chapter 1	State Profile	17
Chapter 2	Banking Profile	22
Chapter 3	NABARD's perception on the development perspective of the State	27
Chapter 4	Potential Credit Outlay	90
Chapter 5	Infrastructure Support	125
Chapter 6	High-Tech Agriculture Practices	135
Annexure I	District-wise, Sector-wise PLP projections – 2020-21	151
Annexure II	Agency-wise, broad sector-wise flow of Ground level credit	153
Annexure III	Critical infrastructure support to be provided	154
Annexure IV	Critical interventions required in various sectors/sub-sectors	163
	List of Abbreviations	174
	List of DDMs in Maharashtra	176

List of Tables/Graphs/Boxes

Table No.	Particulars
1.1.	Broad Sector-wise PLP Projections for 2020-21
1.2.	Summary of Detailed Sector/Sub-sector-wise PLP Projections – 2020-21
2.1.	Broad-sector-wise GLC flow under Priority Sector in the State during the last 3 years and ACP target for 2019-20
3.1.	Ground Level Credit Flow to Priority Sector in Maharashtra in the last decade
3.2.	Progress of disbursements under Short Term Credit to MStCB and RRBs
3.3.	Details of refinance disbursed by NABARD in Maharashtra to various agencies during 2018-19 is as under (Normal plus LTRCF)
3.4.	Variables under Rural Development Infrastructure Index
3.5.	District-wise vulnerability index and ranking
3.6.	Impact of Climate Change on various sectors and various interventions suggested for adaptation/ mitigation
3.7.	District-wise clusters with potential for MSME Enterprises
3.8.	Industrial clusters identified in various districts of Maharashtra in coordination with UNIDO
3.9.	Major Agro-production clusters of Maharashtra are given below
3.10.	Support to FPOs in aspirational districts
3.11.	Support for SHG formation and bank linkage in aspirational districts
3.12.	Support for capacity building and enterprise development programmes in aspirational districts
3.13.	Support for Camps during Gram Swaraj Abhiyan in aspirational districts
3.14.	Support for Financial Literacy Camps in aspirational districts
3.15.	Grant support to banks for organizing camps in aspirational districts
3.16.	Grant support to DCCBs for issuance of EMV – RuPay Kisan Cards in aspirational districts
3.17.	Support for deployment of micro ATMs in aspirational districts
4.1.	Potential Linked Credit Plan (PLP) Projections for 2020-21
4.2.	Region-wise PLP projections for 2020 - 21
4.3.	Region wise coverage of major crops in Maharashtra
4.4.	Major horticultural crops grown in the State and their region – wise coverage
4.5.	Agri Export Zones in Maharashtra
4.6.	Kisan Sampada Yojana- Identified districts for promoting horticultural processing
4.7.	Major Exportable Horticultural Crops from Maharashtra identified by NAFED
4.8.	Potential Clusters identified by APEDA in Maharashtra
4.9.	Broad sector of activities under Land Development, Soil conservation, Watershed development
4.10.	Major production clusters of Maharashtra are given below
4.11.	Extent of disbursement under MSME sector vis-à-vis other priority sectors
4.12.	ACP target and Achievements under MSME sector in the past 3 years
5.1.	Projects supported under RIDF in Maharashtra as on 31 March 2019
6.1.	Hi-tech agriculture activities having potential for productivity enhancement and investment

6.2.	Hi-tech agricultural practices adopted by progressive farmers in Maharashtra- Some examples
6.3.	Programmes supported under R&D Fund of NABARD during 2018-19 and 2019-20
Fig. No.	Particulars
1.1.	Broad Sector-wise PLP Projections for 2020-21
3.1.	Percent Share of Crop loan and Term Loan in Agriculture GLC
3.2.	Agriculture Credit in Maharashtra
3.3.	Share of agencies in Agricultural Credit in Maharashtra
3.4.	Changing agencies' share in Agricultural Credit in Maharashtra over the years
3.5.	Achievements of the Regional Office- Disbursement (Loans & Grants)
5.1.	Sectoral share of RIDF loan sanctioned
5.2.	Sector/Activity-wise RIDF Loan Sanctioned and Disbursed (₹ crore)
Box. No.	Particulars
3.1.	Concerns expressed in SLBC meetings regarding the Agricultural credit flow in the State
3.2.	Rushiwat Farmers Producer Company Ltd., Karda, Taluka Risod, District Washim.
3.3.	Inauguration of Project on Internet of Thing (IoT) project by Hon'ble Minister of Agriculture, Government of Maharashtra
3.4.	NAFCC Project: "Restoration of degraded landscape to Natural state of ecosystem for climate Resilience and livelihood improvement of vulnerable communities"
3.5.	NABARD All India Financial Inclusion Survey (NAFIS)
3.6.	CEO, NITI Aayog, visit to Nandurbar
3.7.	Doubling of Farmer's Income by 2022 – A study by NABARD
3.8.	NABARD sponsored Krantijyoti Self Help Group, Village - Butibori, District Nagpur, Maharashtra won "NATIONAL ENTREPRENEURSHIP AWARD 2019, Ministry of Skill Development and Entrepreneurship, GOI.
6.1.	Solar Drying of Vegetables - A study by DDM, Aurangabad

TABLE 1.1. BROAD SECTOR-WISE PLP PROJECTIONS FOR 2020-21**(₹ crore)**

Sr. No.	Sector/Activity	PLP projections
1	Crop Production	74875
2	Term loan for Agriculture and Allied Activities	22890
3	Agriculture Infrastructure	4810
4	Agriculture Ancillary activities	8065
	Total Agriculture and Allied Activities (1+2+3+4)	110640
5	Credit Potential for Micro, Small and Medium Enterprises (MSME)	314133
6	Potential for Export Credit	61364
7	Credit Potential for Education	7816
8	Credit Potential for Housing	44742
9	Credit Potential for Renewal Energy	1180
10	Credit Potential for Others	4711
11	Social Infrastructure involving bank credit	2935
	Total Priority Sector	547521

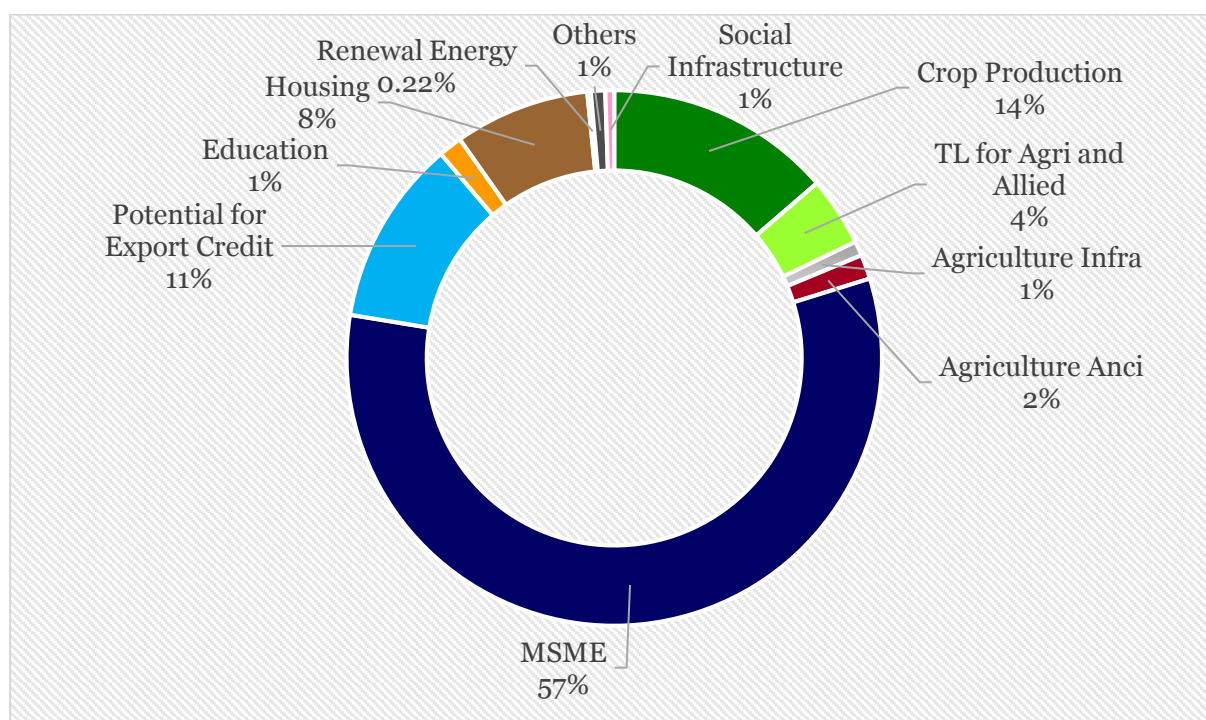
Figure 1.1. Broad Sector-wise PLP Projections for 2020-21

Table 1.2. Summary of Detailed Sector/Sub-sector-wise PLP Projections – 2020-21

₹ crore

Sr. No.	Sector	Projections
1	Crop Production, Maintenance and Marketing	74875
	Agriculture Term Loan-Farm Credit	
2	Water Resources	5670
3	Farm Mechanization	3963
4	Plantation & Horticulture	4480
5	Forestry and Wasteland Development	271
6	Animal Husbandry - Dairy Development	4111
7	Animal Husbandry - Poultry Development	1144
8	Animal Husbandry - Sheep, Goat & Piggery Development	1650
9	Fisheries Development	957
10	Others	644
	Agriculture Infrastructure	
11	Storage Godowns / Market Yard	2956
12	Land Development, Soil Conservation, Watershed Development	1286
13	Others	567
	Ancillary Activities	
14	Food and Agro Processing	6906
15	Others	1159
	Total Agriculture Term loan	35765
	Total Agriculture (Crop loan + Term loan)	110640
16	Credit Potential for Micro, Small and Medium Enterprises (MSME)	314133
17	Potential for Export Credit	61364
18	Credit Potential for Education	7816
19	Credit Potential for Housing	44742
20	Credit Potential for Renewal Energy	1180
21	Credit Potential for Others	4711
22	Social Infrastructure involving bank credit	2935
	Total Priority Sector	547521

EXECUTIVE SUMMARY

The State Focus Paper (SFP) 2020-21 for Maharashtra is a document which consolidates the credit potential for the priority sectors in the state emerging from the Potential Linked Credit Plans (PLPs) of 36 districts, and also gives a development perspective covering the state agriculture and rural scenario.

For nearly 3 decades now, NABARD has been preparing PLP for all the districts which provides the details of potential (both physical and financial) for development in different sectors of agriculture and rural development through credit. Prepared in consultation with the stakeholders, it serves as a road map to banks for preparing annual credit plan of the districts and also discusses necessary infrastructure requirement, gaps, required linkages and support, thereby facilitating increased credit flow and overall development of the rural sector.

The aggregate credit potential for the Priority Sector for the year 2020-21 in Maharashtra after considering the existing and emerging opportunities has been estimated at ₹ 547521.68 crore, showing an increase of ₹ 46091.43 crore (9.19%) over the previous year.

The theme of the State Focus Paper 2020-21 is 'High-Tech Agriculture Practices', which basically refers to agricultural operations involving the latest technologies. It is a capital intensive agriculture since large capital outlay is required towards purchase of specialized equipment, maintenance of assets, training of labour, etc. Hi-tech agriculture mainly relates to commercial farming system aimed at catering to the needs of both domestic as well as export markets. It uses farming technology to increase yields, ensures high quality and realizes increased market value. An entire chapter devoted to the theme is presented in the SFP that deals with the significance of the concept, the initiatives taken by the GoI, the State Government and NABARD, the areas of concern and the actions that can be undertaken in the present scenario.

A. State Profile

Maharashtra is the second largest State in India in terms of population and third largest in terms of geographical area (next to Rajasthan and Madhya Pradesh) spread over 3.08 lakh sq. km. As per the population census 2011, the State has a population of 11.24 crore, which is 9.3% of the total population of India. The State is highly urbanized with 45.2% people residing in urban areas.

The State has 36 districts which are divided into six revenue divisions. There are 34 Zilla Parishads, 351 Panchayat Samitis and 27,896 Gram Panchayats. The rainfall in the State varies from a heavy 4000 mm in the Konkan region to barely 500 mm in North Maharashtra.

B. Banking Profile of the State

The banking outreach in Maharashtra comprises of 18 Public Sector Banks with a network of 8512 branches, 13 Private Sector Banks with 3621 branches, 9 Small Finance Banks with 517 branches, 2 Regional Rural Banks with 763 branches and cooperative banks including the MStCB and 31 DCCBs with a branch network of 3744 (Data as on 30.09.2019, Source : SLBC). The Primary Urban Cooperative Banks, Non-banking Financial Companies and the latest entrants viz., payment banks also cater to the credit needs in boosting the State's economy. Other financial intermediaries in the form of Primary Agriculture Cooperative Societies, Marketing Societies and Business Correspondents also play an important role in reaching out to the otherwise inaccessible hamlets to cater to the increasing financial needs of the

population. There are 21102 Primary Agriculture Cooperative Societies in the State affiliated to the DCCBs with a membership of 150 lakh, engaged in disbursement of credit for agricultural activities. The total branch network of the State thus is 17166. Of the 17166 branches, 6129 branches are located in rural areas catering to the rural population. The per branch population in rural areas is 10043. Bank of Maharashtra functions as the Convenor of the State Level Bankers Committee.

The total deposits of the banks in the State stood at ₹ 22.65 lakh crore as on 31.03.2019, showing an increase of 15% over 31.03.2018. The flow of ground level credit under Priority Sector in the State during 2018-19 was of ₹ 316755 crore and the ACP target for priority sector during 2019-20 is ₹ 424029 crore. The CD ratio of the State as on 31.03.2019 stood at 97% (Source: SLBC, Maharashtra).

C. NABARD's perception on the development perspective of the State

C.1 Role of NABARD as an Apex Development Bank

In its journey of 37 years, NABARD has aimed at building an empowered and financially inclusive rural India through specific goals. Through its development and financial initiatives, NABARD touches almost every aspect of rural economy, from providing refinance support to building rural infrastructure; from preparing district level credit plans to guiding and motivating the banking industry in achieving these targets; from supervising Cooperative Banks and Regional Rural Banks (RRBs) to helping them develop sound banking practices and on-boarding them to the CBS platform; promoting digitization drive of the GoI and micro credit movement; from designing new development schemes to the implementation of GoI's development schemes; from training handicraft artisans to providing them a marketing platform for selling these articles. NABARD thus balances its finance and development functions in sync with the financial and real sector challenges relating to agriculture and rural development.

In financial terms, NABARD in Maharashtra has invested around ₹ 1,40,000 crore so far in last 37 years under various investment purposes and using different financial instruments. Out of this, contribution of around ₹ 80,000 crore has come in the last five years itself. This investment together with the non-financial investment in terms of facilitating credit planning, supervision and development of cooperative banks, formation and capacity building of ground level institutions like SHGs, Farmers Producer Companies / Organizations, Farmers Clubs, addressing the climate change issues etc., shows the substantial extent of contribution made by NABARD in the progress of the state.

C.2 Agricultural Scenario

The State, with a population of 1123.74 million has 54.8% population living in rural areas. The total number of operational holdings is 1.53 crore (Tenth Agriculture Census, 2015-16) covering 2.05 crore ha with an average size of operational holdings at 1.34 ha. Out of these 1.53 crore holdings, 79.52% were small and marginal holdings.

The major problems faced by the small and marginal farmers are - fragmented land-holdings, non-availability of good quality seeds, lack of proper integration of cropping and farming systems suited to different regions, lack of farm mechanization, non-availability of customized skill development programme, poor purchasing power, inadequate transport and storage facilities and limited access to inputs, technology, credit, market etc.

Of the 307.58 lakh ha geographical area of the State, the gross cropped area (GCA) was 232.24 lakh ha while the net sown area was 169.10 lakh ha, forming 55% of the GCA. The cropping intensity is 137%. As far as the coverage of irrigation is concerned, the State Gross Irrigated Area (42.82 lakh ha) to Gross cropped area (232.24 lakh ha) is only 18.40%, indicating dryland farming leading to more of mono cropping systems.

(Source: Economic Survey of Maharashtra -2018-19, Irrigation - Statistical Year Book India 2018, MoSPI and Department of Agriculture, Cooperation & Farmers Welfare- 2018-19)

The share of agriculture and allied activities sector in the total Gross State Value Added (GSVA-Nominal) is about 11.6% during 2017-18 as against 15.3% during 2001-02 which shows a declining trend over the period even while the majority of the population is still dependent on this sector.

C.3 Accelerating investment in agriculture – Emerging model - Farmers’ Producers Organizations - Aggregation as an effective tool for scalability and increasing productivity & income through effective marketing linkage

Maharashtra has 152.85 lakh rural households and the average land holding is 1.34 ha. This small size of holding makes investments in the land unviable and the farmers face a number of problems, some of which relate to procuring inputs and sale of marketable surplus at a reasonable price. In the above context, aggregation of farmers into Producer Organisations provides many benefits to the farmers by enabling them to leverage the multifarious benefits of economies of scale. Recognizing this, NABARD has taken various initiatives for promotion, hand holding and financing of Farmer Producers Organisations (FPOs).

Between 2014-15 and 2017-18, NABARD has promoted 125 FPOs in Maharashtra under the GoI’s PRODUCE Fund. The support included grant assistance for mobilization of farmers, training of the members, Board of Directors, CEOs, expenditure for registration, preparation of Business Development Plan, revolving fund for taking up activities related to procurement of inputs / marketing of output, and also the management expenses of the promoting institutions. These FPOs are in various stages of development. More than 90% of the members of these FPOs are SF/MF. Presently, NABARD is assisting eligible institutions for promotion and handholding of the FPOs out of its own fund viz. Producer Organisation Development Fund (PODF).

Majority of FPOs promoted by NABARD are involved in input supply, aggregation, marketing and activities like dairy, poultry, fisheries, goat farming, horticulture, rice cultivation, organic vegetable cultivation, etc. Many FPOs have received input licenses from the competent authorities. Some FPOs have obtained dealership for Drip system/ equipment, poultry equipment, poultry, dairy feed, etc. These FPOs have prepared their Business Development Plans, based on which the banks could extend finance for the projected activities.

NABARD has digitized the data of all the registered FPOs promoted under the PRODUCE Fund and put it on a cloud based portal (www.nabfpo.in) which could also capture data of FPOs promoted by other agencies. Efforts are on to consolidate the FPO database to enable real time tracking, objective analysis and networking with other stakeholders.

C.4 Climate change- Adaptation and Mitigation

NABARD has taken various initiatives in addressing the challenges posed by climate change

particularly in the areas of agriculture and rural livelihood. NABARD as the National Implementing Entity (NIE) for three important funding arrangements viz., Adaptation Fund (AF), National Adaptation Fund for Climate Change (NAFCC) and Direct Access Entity to Green Climate Fund (GCF) aims to channelize national, international, and private finances for adaptation and mitigation activities in India. Thirty-eight projects involving financial assistance of ₹1819.43 crore were sanctioned and till 31 March 2019, the executing entities received ₹620.78 crore towards implementing these projects. These projects mainly cover adaptation finance aimed at building resilience of various sectors such as agriculture, fisheries, animal husbandry, water, etc., in various agro-climatic regions. NABARD is also making efforts for development of feasible project concepts for mitigation sector under GCF.

Under NAFCC, two projects have been sanctioned in Maharashtra. “Project on Efficient Water Management and Agriculture Technology Adoption for Climate Adaptive and Resilient Farming System in 51 Villages of Nandurbar and Buldhana Districts of Maharashtra” for implementation through Vasundhara Watershed Development Agency (VWDA), Govt. of Maharashtra aims to promote climate resilient cropping systems, technology transfer, and capacity building of farming community in Buldhana and Nandurbar districts. The second project under NAFCC viz., “Restoration of Degraded Landscapes to Natural State of Ecosystems for Climate Resilience and Livelihood Improvement of Vulnerable Communities” is a multi-state project and it is being implemented in critical tiger habitat of Pench Tiger Reserve, Maharashtra (Nagpur Dist.) with Pench Tiger Conservation Foundation as an executing entity of the project. The project aims to restore the ecosystem services on degraded forest areas to promote livelihood for local tribal communities and to minimize the incidences of human-wildlife negative interface and also to build up climate resilient local diversity (i.e. flora and fauna) for its sustainability.

NABARD has successfully implemented community based adaptation and mitigation measures under existing programmes such as watershed development, tribal development, etc. Sufficient amount of experience and expertise for ensuring long term resilience of livelihoods has been generated through these programmes. There is immense possibility for integrating these strategies in the existing government programmes. Fulfilling the need of climate action at grass root levels to address its impact on agriculture and climate finance requirement would require multi-stakeholder engagements.

C.5 Micro, Small and Medium Enterprises (MSME)

Bank loans to micro, small and medium enterprises in both manufacturing and service sectors are eligible to be classified under the priority sector. The sector is showing steady increase particularly in the last five years. The share of MSME in the overall priority sector increased from a meagre 8% during the year 2007-08 to 64% in 2018-19, indicating the potential existing in the State for the sector. Government of India has brought out major schemes like Start up India, MUDRA, Stand- up India, Make in India and Skill India to develop the much required entrepreneurship in the country.

The ground level credit flow to the sector during the last three years i.e. 2016-17, 2017-18 and 2018-19 was ₹ 117,748 cr, ₹ 142,338 cr and ₹ 201,940 cr respectively. During the year 2018-19, the disbursements under MSME sector (₹ 201940 cr) were substantial in the State forming 64 % of the total achievements under priority sector (₹ 316755 cr).

SLBC has prepared a credit plan of ₹ 2,35,375.91 crore for the year 2019-20 under MSME

sector. The PLP credit projections for MSME activities during the year 2020-21 are estimated at ₹ 314132.92 crore.

C.6 Micro credit and Informal Credit Delivery System

The Self Help Group- Bank Linkage Programme (SHG BLP) which gave an alternative mechanism for providing formal banking services to the unreached rural poor has now completed 2 decades of its existence. There are 13 States, including Maharashtra, which have been identified as “Priority States” for implementation of SHG-BLP by the GoI.

As on 31 March 2019, in Maharashtra state, there are 10.83 lakh SHGs with savings of ₹166.15 crore which accounts for 7.12% of total SHGs in the country. During 2018-19, 127596 SHGs were disbursed loan to the extent of ₹1641.00 crore which accounts for 2.81% of the total loans disbursed in the country. Women Self Help Group Programme (WSHG) is being implemented in 6 districts of the State viz., Nandurbar, Gadchiroli, Chandrapur, Dhule, Nanded and Gondia since June 2012 and under the programme 11676 SHGs have been credit linked against a target of 14149 as on 31 March 2019. The interest subvention scheme under NRLM for eligible women SHGs in identified districts is being implemented by NABARD for RRBs and Cooperative banks.

Though the programme has been recognized as an effective route for reaching the unreached and unequivocally endorsed as “profitable banking proposition”, the ground level feedback is not much encouraging. While it is recognized that the banks have enormously contributed to the growth of the programme, there have been cases of reluctance by banks to accord priority to this programme owing to various reasons including staff shortages and increasing NPAs under SHG financing. Maharashtra is facing 3 major challenges in SHG-BLP (i) Gap between Savings Linked SHGs & Credit Linked SHGs - credit linkage is only about 25% in Maharashtra against 48% at all India level, (ii) Increasing loan size per SHG which is ₹ 1.28 lakh in Maharashtra against ₹ 2.16 lakh at all India as on 31.3.19 & (iii) Level of NPAs in SHG portfolio which is 12.57% in Maharashtra against 5.19% all India.

The JLG mode of financing serves as collateral substitute for loans provided to the small, marginal, tenant farmers, oral lessees, share croppers, etc. It enables the banks to reach farmers through group approach, adopt cluster approach, and facilitate peer education and credit discipline. Hence the banks may increase their financing to small, marginal, tenant farmers and oral lessees through JLG mode of financing.

As on 31 March 2019, NABARD has extended grant assistance of ₹ 80.095 lakh to JLG Promoting Institutions (JLPs) for promoting 8038 JLGs across Maharashtra and enabling flow of collateral-free loans to tenants/landless farmers.

C.6.1 EShakti and Digitization of SHGs

EShakti programme in three phases covered seven districts –Dhule, Wardha, Kolhapur, Nagpur, Chandrapur, Aurangabad and Raigad. As a consequence of EShakti, 27605 SHGs have been digitized and 13735 SHGs have been provided credit. Encouraged by the success of the project, in the phase IV during 2019-20, 8 more districts viz. Ahmednagar, Jalgaon, Nanded, Nandurbar, Satara, Sangli, Sindhudurg and Washim from Maharashtra are being covered under the EShakti programme. EShakti enables effective monitoring of the SHGs, helps SHG members to access wider range of financial services, increases bankers' comfort in credit appraisal and linkage, transfer of social benefits and DBT, convergence with other Government programmes, social and financial empowerment, strengthening of SHGs, etc.

C.7. Financial Inclusion

NABARD has been using the Financial Inclusion fund to encourage the banks into digital initiatives with the overall objective of making available quality banking services in rural areas, supplement costs related to such initiatives as also help the banks to introduce systems and procedures prescribed as regulatory requirements. Some of the Financial Literacy Initiatives supported by NABARD are Financial Literacy Centres/ Camps, Mobile Van for demonstration of banking technology, support to RSETIs, Computerization of PACS, Camps for 'Going Digital', Hand-held projectors for FLCs and Rural branches of Banks, Micro ATMs for RRBs, Operationalization of Central KYC Records Registry, Membership to Authentication User Agency (AUA)/KYC User Agency (KUA) facilities, Incentives to migrate to digital transactions, etc.

C.8 Doubling of farmers' income by 2022

GoM has initiated several measures for doubling of Farmers income by 2022 like Unnat Sheti-Samruddha Shetkari Campaign, Group Farming Scheme, Project on Climate Resilient Agriculture (PoCRA) now renamed as Nanaji Deshmukh Krishi Sanjeevani Prakalp, State of Maharashtra's Agribusiness and Rural Transformation (SMART) Project, etc., which aim to increase the income of farmers by increasing the production and productivity, and providing marketing facilities through aggregation and enterprise creation.

C.9 Skill Development

NABARD provides grant support to Rural Development and Self Employment Training Institute (RUDSETI) and Rural Self Employment Training Institutes (RSETIs) promoted by banks for Rural Entrepreneurship Development Programme (REDP) and Skill Development Programmes. NABARD also participates in the meetings of academic advisory councils of the RSETIs and provides guidance on need based skill development training programmes. Skill Development Programmes are also supported by NABARD for SHGs on a large scale in the State. Further, NABARD DDMs are associated with the monitoring of the Stand Up India Scheme. The Potential Linked Credit Plans (PLP) prepared for all districts in the state have duly identified the emerging potentials in the sphere of skill development pertaining to agriculture and non-agriculture sectors.

D. Potential Credit Outlay

The aggregate credit potential for the Priority Sector for the year 2020-21 in Maharashtra has been estimated at ₹ 547521 crore after considering the existing and emerging opportunities, showing an increase of ₹ 46090.75 crore (9.19%) over previous year. The credit potential arrived at is 29.12% more than the ACP target (₹ 424029 crore) of 2019-20. Of the SFP projections of ₹ 547521 crore, the projections for agriculture sector have been estimated at ₹ 110640 crore (20.21% of Total PS), for the MSME sector at ₹ 314133 crore (57.37%), and the remaining ₹ 122748 crore (22.42%) to Other priority sectors like Export Credit, Education, Housing, Renewable Energy, Social infrastructure and Others. The salient features of the credit potential are as under:-

- Crop loan potential has been assessed at ₹ 74875 crore which is 7.48% more than the projections of 2019 - 20.
- The share of Crop loan potential (₹ 74875 crore) in total Agriculture projections is 67.67% and that of Agriculture Term Loans is 32.32 %.

- The total agriculture including investment credit has been assessed at ₹ 110640 crore which is 8.18% over and above the last year projections.
- MSME sector is projected at ₹ 314133 crore which is 13.79% more than the last year projections.
- The projections in Other Priority Sector has been assessed at ₹ 122748 crore which is slightly less (0.27%) than last year projections.

The district- wise/ sector- wise projections are presented in Annexure I. The broad sector-wise and agency-wise targets and achievements of the ground level credit flow are presented in Annexure II. Critical infrastructure gaps identified in districts are presented in Annexure III. Critical interventions required in various sectors/ subsectors are presented in Annexure IV.

In order to achieve the credit potential as assessed in the present State Focus Paper, there is a need to have a coordinated approach by all the stakeholders, viz., Banks, Government Departments, NGOs and others. For a balanced economic growth, an appropriate combination of the strategies linking credit disbursement to the potential present in various sectors of the State as envisaged in the PSL norms is required, and the same is worked out in the district PLPs and the present SFP.

E. Infrastructure Support

E.1 Rural Infrastructure Development Fund (RIDF) - For a large State like Maharashtra with a rapidly growing rural economy, the requirement for financing rural infrastructure investments is huge and the demands from various sectors / Departments are competing. However, the budget resources are limited and the gap is wide. Rural Infrastructure Development Fund (RIDF) which was formed during the year 1995-96, serves as the 'bridge over the gap', as RIDF over the years, has emerged as a single largest source of funds covering infrastructure projects. NABARD's relationship with the State of Maharashtra for creation of rural infrastructure so far, extends over 21830 projects involving a sanction of over ₹16703.57 crore. Of this, an amount of ₹11990.20 crore has already been disbursed as on 31 March 2019. Sanctions under RIDF, in turn, have helped NABARD to fulfil its own mandate in creating credit absorption capacity, increased access to markets, enhanced incomes and better quality of life in rural Maharashtra. Thirty seven activities are approved by Government of India for financing under RIDF covering almost all aspects of rural infrastructure. The eligible activities are classified under three broad categories *i.e.*, (i) Agriculture and related sectors (ii) Social sector and (iii) Rural connectivity.

E.2 Long Term Irrigation Fund (LTIF) -The Hon'ble Union Finance Minister, during his Budget speech 2016-17, has announced creation of a dedicated Long Term Irrigation Fund (LTIF) in NABARD with an initial corpus of ₹ 20,000 crore by way of budgetary resources and /or market borrowings by NABARD (both under GoI fully serviced bonds and own borrowings) for funding and fast tracking of the incomplete major and medium irrigation projects identified by Ministry of Water Resources, River Development and Ganga Rejuvenation(MoWR, RD&GR), GoI. In Maharashtra, the State Government was sanctioned a loan amount of ₹ 15637.98 crore under LTIF for completion of 25 projects. As on 31st March 2019, a cumulative disbursement of ₹ 6976.72 crore has been made under this fund, so far. With readily available funds, it is expected that these ongoing projects on completion would bring an area of 8.5 lakh ha under irrigation.

E.3 NABARD Infrastructure Development Assistance (NIDA) - Rural Infrastructure remain a challenge for policy makers. RIDF has proved as a game changer for the States in ensuring completion of the hitherto incomplete infrastructure projects thereby accelerating the rural economy. Of late, various other constraints in the form of limited resources, limited flexibility, shorter duration available to complete the projects and ensure returns etc., have come in the way of expanding the scope and coverage of projects under RIDF by the State Governments. NABARD Infrastructure Development Assistance (NIDA), a new window of funding support opened by NABARD is designed to fund directly to State Governments /State owned institutions/ corporations on both on-budget as well as off-budget for creation of rural infrastructure outside the ambit of RIDF borrowing. Infrastructure projects largely benefiting rural areas and covered in a harmonized list of projects as approved by the GOI/RBI and activities covered under RIDF and “Rurban” mission are eligible for funding under NIDA. Funding under NIDA has also been broadened by covering PPP and non-PPP projects by registered entities like cooperatives, companies, etc.

To address the issues of farmers’ in severe drought prone areas, the Government of Maharashtra has announced a centrally supported scheme viz., Baliraja Jal Sanjeevani Yojana, to complete irrigation projects in Vidarbha, Marathwada and other drought prone areas of rest of Maharashtra, for which the state was sanctioned ₹6655.00 crore under the NABARD Infrastructure Development Assistance (NIDA).

NABARD, through a basket of RIDF, LTIF & NIDA, had invested a major part in irrigation sector in the State to the extent of ₹29238.85 crore for completion of 961 major/medium/minor irrigation projects (RIDF : ₹6945.87 crore, LTIF : ₹15637.98 crore and NIDA : ₹6655.00 crore). Still there exists huge requirement on the part of the State Government to complete the ongoing projects.

E.4 Micro Irrigation Fund: With a view to provide impetus to the micro irrigation, in the Union Budget 2017-18, Hon’ble Finance Minister announced setting up of a dedicated Micro Irrigation Fund (MIF) to be instituted with NABARD with an initial corpus of ₹ 5000 crore for facilitating the States to mobilize additional resources for expanding coverage of Micro Irrigation. The main objective of the fund is to facilitate the States in mobilising the resources for expanding coverage of Micro Irrigation by taking up special and innovative projects and also for incentivizing micro irrigation beyond the provisions available under Per Drop More Crop component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY-PDMC) to encourage farmers to take up micro irrigation systems. The loans will be extended by NABARD to the State Governments. The fund is to be accessed by the State Government on behalf of farmers.

F. Hi-tech Agriculture Practices

The SFP theme chapter covers various dimensions of the Hi-tech Agriculture like need, advantages & potential for Hi-tech agriculture, High Value Crops (HVC), export prospects in Hi-tech Agriculture, High Value Agriculture for Small Farmers, Hi-Tech Farming Technologies, Precision Farming, use of Drones, hydroponic fodder and vegetables production, use of Internet of Things in Agriculture, issues - policy frame work- strategies for promotion of Hi-tech agriculture, Govt. Interventions, role and initiatives of NABARD in supporting Hi-Tech Agriculture, Hi-Tech Agriculture in Maharashtra and institutions in Maharashtra involved in Research and Promotion of Hi-Tech Agriculture, etc.

Map of the State



1.1 Maharashtra occupies the western and central part of the country and has a long coastline stretching nearly 720 km along the Arabian Sea. The State is surrounded by Gujarat to the North West, Madhya Pradesh to the north, Chhattisgarh to the east, Telangana to the south east, Karnataka to the south and Goa to the south west.

Maharashtra is the second largest State in India in terms of population and third largest in terms of geographical area (next to Rajasthan and Madhya Pradesh) spread over 3.08 lakh sq. km. As per the population census 2011, the State has a population of 11.24 crore, which is 9.3% of the total population of India. The State is highly urbanized with 45.2% people residing in urban areas and 54.8% population in rural areas.

The State has 36 districts which are divided into six revenue divisions viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur for administrative purposes, with effective machinery for planning at the district level. For local self-governance in rural areas, there are 34 Zilla Parishads, 351 Panchayat Samitis and 27,896 Gram Panchayats. The urban areas are governed through 27 Municipal Corporations, 241 Municipal Councils, 126 Nagar Panchayats and 7 Cantonment Boards. The State has been categorised into nine zones on the basis of agro-climatic conditions. The rainfall in the State varies from a heavy 4000 mm in the Konkan region to barely 500 mm in North Maharashtra. Varied agro-climatic conditions offer good scope for cultivation of variety of cereals, cash crops and horticulture crops.

1.2 Maharashtra Economy

The State economy was expected to grow by 7.5 % during 2018-19, while the Indian economy registered a growth of 6.8 per cent. The 'Agriculture & allied activities' sector was expected to grow by 0.4 % during 2018-19 due to less rains, 73.6 % of the normal monsoon. During 2018-19, 'Industry' and 'Services' sectors was expected to grow by 6.9 % and 9.2 % respectively. The nominal (at current prices) Gross State Domestic Product (GSDP) for 2018-19 was expected to be ₹ 26,60,318 crore and the real (at constant 2011-12 prices) GSDP was expected to be ₹ 20,88,835 crore. Per capita Income during 2018-19 was expected at ₹ 1,91,827 as against ₹ 1,76,102 during 2017-18, showing a growth of 8.9 % (source: Economic Survey of Maharashtra 2018-19)

1.3 Agriculture

The State received 73.6 % of the normal rainfall during monsoon 2018. Out of 355 talukas (excluding talukas in Mumbai City and Mumbai Suburb districts) in the State, 192 received deficient, 138 received normal and 25 received excess rainfall.

The land utilisation statistics for 2016-17 depicts that out of the total 307.58 lakh ha geographical area of the State, the net sown area (NSA) was 55% while the gross cropped area was 76%. As per State of Forest Report 2017, the area under forests was 16.5% against the required cover of 33% and the State figures fourth among the top five states with maximum forest cover, next to Madhya Pradesh, Arunachal Pradesh Chhattisgarh and Odisha. The irrigated area in command area under the jurisdiction of Water Resources Department, GoM was 39.50 lakh ha in 2017-18. As far as the intensity of irrigation is concerned, the State's area under irrigation utilized (39.50 lakh ha) to Net Sown Area (169.1 lakh ha) is only 23%, indicating dryland farming leading to more of mono cropping systems.

In the State 10,625 Water Users Association (WUA) have been formed up to the end of November 2018 for management of irrigation system by farmers.

Major crops in the state are Rice, Tur, Soyabean, Wheat and Jowar. The other major cash crops are sugarcane and cotton. As per the third advance estimates of 2018-19, the production of cereals and pulses is expected to decrease while production of sugarcane, oilseeds and cotton is expected to increase. The State is the major producer of horticulture crops and occupies a prominent place in the horticulture map of India. In 2018-19, the area under horticulture crops in Maharashtra is 16.43 lakh ha and production is expected to be 224.17 lakh MT as against area of 17.22 lakh ha and production of 248.53 lakh MT in 2017-18. The Maharashtra State Agricultural Marketing Board (MSAMB) has promoted the organisation of Mango growers in the name of Mahamango in order to boost the export of Alphonso mangoes as well as for domestic marketing as a co-operative partnership society. Likewise, fruit specific cooperative partnership of growers has also been promoted for grapes, banana, orange and anaar. Agricultural and Processed Food Products Export Development Authority (APEDA) has promoted clusters for vegetables and fruits like pomegranate and banana.

Agricultural Census 2015-16 provisional data depicts that there are 1.53 crore total operational holdings in the State, of which 79 per cent belong to small and marginal farmers with land holding less than or equal to 2 ha. The average size of operational holding in the State is 1.34 ha. better than that of all India average at 1.08 ha.

1.4 Secondary and Tertiary Sectors – Manufacturing & Industry

Maharashtra is one of the most industrialized states in the country. The State has identified industrial sectors like Auto, Engineering, Electronics, Textile and Defence as focus sectors considering the national and international trends and potential of the resources in the State. The State has formulated Retail Trade Policy-2016, Electronics Policy-2016, Single Window Policy-2016, Policy for SC / ST Entrepreneurs and Policy for IT & ITeS-2015. MAITRI (Maharashtra Industry, Trade and Investment facilitation) cell has been set up at Mumbai to facilitate clearances and help in expediting setting up of industrial units. Such cells have also been set up at each Regional Headquarter to assist MSMEs.

Annual Survey of Industries 2016-17 reveals that Maharashtra is at the top position in terms of Gross Value Added with share of 17.7 per cent at All-India level.. The State is at second position in number of factories, number of workers and wages to workers with share of 11.5 per cent, 11.7 per cent and 14.9 % respectively at All India level. The contribution of the State in total value of output, working capital and in the Net Value Added (NVA) in the country was 14.8 per cent, 30.5 per cent & 18.2 per cent respectively. Since August, 1991 to February, 2019 in all 20,323 industrial proposals with an investment of ₹ 12,86,696 crore were approved. Of this, 9,098 projects (44.8 per cent) with an investment of ₹ 3,06,825 crore (23.8 per cent) were commissioned, which generated employment of about 13.23 lakh. Of the total proposals received in the country, the State's share in number of proposals & investment is about 18% and 10.4% respectively.

Micro, Small and Medium Enterprises sector occupies an important position in the State's economy and continues to contribute to industrial production, export, creation of employment opportunities, etc. Up to March 2019 about 9.86 lakh MSMEs have obtained Udyog Aadhar number with an investment of ₹ 1,60,016 crore and 57.51 lakh employment.

The other sectors contributing to accelerating the economic growth of the State are Exports, Bio-technology, textiles, sugar and tourism.

1.5 Infrastructure

The road infrastructure in the State is managed by various local bodies including Public Works Department of the State, Municipal Corporations/Municipal Councils/Nagar Panchayats, Cantonment Boards, Maharashtra State Road Development Corporation, Forest Department, Maharashtra Industrial Development Corporation (MIDC), City and Industrial Development Corporation, etc. The total road length maintained by Public Works Department and Zilla Parishad in the State was 3.04 lakh km as at the end of March 2018.

Railway is the lifeline of State's transport infrastructure with its network of 6,114 km (including 381 km of Konkan railway), which is 8.9 % of the total railway route length (68,442 km) of India.

The State of Maharashtra located on the west coast of India has 720 km. coastline. The State has two major ports i.e. Mumbai Port Trust & Jawaharlal Nehru Port Trust (JNPT) both located in Mumbai harbour. The JNPT is India's largest container traffic port and is ranked 28th among the leading 100 international container ports. MbPT & JNPT handled 628.28 lakh MT and 660.04 lakh MT cargo traffic respectively during 2017-18. There are 12 minor ports handling cargo and 36 minor ports handling passenger traffic. The State has 3 international airports viz. Mumbai, Pune & Nagpur and 13 domestic airports.

Power is a critical factor in infrastructure for sustained economic growth. Installed capacity in the State was 36,705 MW in 2017-18. Wind, solar, biomass, biogas, tidal, geo-thermal, etc., are the renewable energy sources. In the State installed capacity of renewable energy sources was 8,476 MW in 2017-18. The State Government has notified Maharashtra Energy Development Agency (MEDA) as the designated agency to co-ordinate, regulate and enforce the provisions of Energy Conservation Act, 2001 within the State.

The State Government has undertaken various major, medium & minor irrigation projects to create maximum irrigation potential. The State Government has initiated few reforms in irrigation sector, which include declaration of water policy, enactment of Water Resources Regulatory Authority, Management of Irrigation system by farmers & Water Users Associations.

The State is having a three-tier public health infrastructure. Under the primary tier, three types of health-care institutions are covered i.e. sub-centre, primary health centre & community health centre. The district level hospitals serve as a secondary tier, whereas, tertiary health care is provided by hospitals in urban areas which are equipped with technology for diagnostic & investigative facilities. As on 31 December 2017 there are 1402 hospitals and 3087 dispensaries. There are 1828 Primary Health Centres and 10,668 sub centres and primary health units as on 31 March 2019.

1.6 Social Sector

According to Maharashtra Human Development Report (MHDR) 2012, the Human Development Index (HDI) of the State is 0.752. Of the total 36 districts in the State, HDI of 27 districts was lower than that of the State HDI meaning thereby 75% of the districts fall below the state average, calling for better facilities and utilisation of public expenditure in the education and health sectors and other human development sectors in addition to other

infrastructural facilities. The index shows regional imbalance across the districts and the concentration of better facilities in Mumbai (where the HDI is as high as 0.841) and the seven districts in the descending order (Pune, Thane, Nagpur Kolhapur, Raigad, Sindhudurg and Sangli) with very high HDI (Source: Economic Survey of Maharashtra 2018-19)

NITI Aayog has identified 115 aspirational districts in 28 states for transformation with an aim to remove the high inter-state and inter-district heterogeneity in living standards through a mass movement to quickly and effectively foster transformation. Four districts viz, Osmanabad, Gadchiroli, Nandurbar and Washim have been identified as “Aspirational districts” in Maharashtra. The key areas identified are Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion, Skill Development and Basic Infrastructure including roads, potable water, rural electrification, individual household toilets, etc. which have a direct bearing on the quality of life and economic productivity of citizens. Concerted efforts are being made by the State Government agencies in the districts in coordination with NABARD DDMs for bringing improvement in these sectors and for overall development of the districts.

State Profile

State - Maharashtra

1. PHYSICAL & ADMINISTRATIVE FEATURES

Total Geographical Area (Sq.km)	308
No. of Sub Divisions	6
No. of Blocks	355
No. of Villages (Inhabited)	40959
No. of Panchayats	27896

3. LAND UTILISATION [ha]

Total Area Reported	30758000
Forest Land	5194000
Area Not Available for Cultivation	3464000
Permanent Pasture and Grazing Land	1351000
Land under Miscellaneous Tree Crops	253000
Cultivable Wasteland	924000
Current Fallow	1401000
Other Fallow	1261000
Net Sown Area	16910000
Total or Gross Cropped Area	23224000
Area Cultivated More than Once	6314000
Cropping Intensity [GCA/NSA]	137%

6. WORKERS PROFILE [in '000]

Cultivators	15285
Of the above, Small/Marginal Farmers	12155
Agricultural Labourers	13486
Workers engaged in Household Industries	1225
Workers engaged in Allied Agro-activities	NA
Other workers	22147

8. HOUSEHOLDS [in '000]

Total Households	24422
Rural Households	13800
BPL Households	NA

10. VILLAGE-LEVEL INFRASTRUCTURE [Nos]

Villages Electrified	41933
Villages having Agriculture Power Supply	39522
Villages having Post Offices	11381
Villages having Banking Facilities	40697
Villages having Primary Schools	NA
Villages having Primary Health Centres	8514
Villages having Potable Water Supply	28461
Villages connected with Paved Approach Roads	NA

13. IRRIGATION COVERAGE [Ha]

Total Area Available for Irrigation (NIA + Fallow)	N.A.
Irrigation Potential Created	50360000
Net Irrigated Area (Total area irrigated at least once)	N.A.
Area irrigated by Canals / Channels	25720000
Area irrigated by Wells	13780000
Area irrigated by Tanks	N.A.
Area irrigated by Other Sources	N.A.
Irrigation Potential Utilized (Gross Irrigated Area)	39500000

15. AGRO-PROCESSING UNITS

Type of Processing Activity	No of units	Cap.[MT]
Food (Rice/Flour/Dal/Oil/Tea/Coffee)	NA	NA
Sugarcane (Gur/Khandani/Sugar)	NA	NA
Fruit (Pulp/Juice/Fruit drink)	NA	NA
Spices (Masala Powders/Pastes)	NA	NA
Dry-fruit (Cashew/Almond/Raisins)	NA	NA
Cotton (Ginning/Spinning/Weaving)	NA	NA
Milk (Chilling/Cooling/Processing)	NA	NA
Meat (Chicken/Mutton/Pork/Dry fish)	NA	NA
Animal feed (Cattle/Poultry/Fishmeal)	NA	NA

17. ANIMAL POPULATION AS PER CENSUS 2012 [in '000]

Category of animal	Total	Male	Female
Cattle - Cross bred	3651	444	3207
Cattle - Indigineous	11833	6780	5053
Buffaloes	5595	596	4998
Sheep - Cross bred	71	19	52
Sheep - Indigenous	2509	485	2024
Goat	8435	1900	6535
Pig - Cross bred	37	16	21
Pig - Indigenous	288	117	171
Horse/Donkey/Camel	67	41	26
Poultry - Backyard	17506	NA	NA
Poultry - Farm	60287	NA	NA

Source: Economic Survey of Maharashtra 2018-19, Handbook of Basic Statistics of Maharashtra State 2016

2. SOIL & CLIMATE

Agro-climatic Zone	Western Plateau and Hilly Region - Plateau Zone South
Climate	Tropical monsoon
Soil Type	Nine agro climatic zones

4. RAINFALL & GROUND WATER

Rainfall [in mm]	Normal	2016	2017	2018
	1198.70	1137.60	1010.10	881.70
	% actual rainfall to normal rainfall	95%	84%	74%
Availability of Ground Water [Ham]	Net annual recharge	Net annual draft		Balance
	NA	NA		NA

5. DISTRIBUTION OF LAND HOLDING (2015-16)- Source ESM- 2018-19

Classification of Holding	Holding	Area	
	Nos.	% to Total	ha.
<= 1 ha	7816000	51	3449000
>1 to <=2 ha	4339000	28	5771000
>2 to <=5 ha	2327000	15	6025000
>5 to <=10 ha	734000	5	4099000
>10 ha	69000	0	1162000
Total	15285000	100	20506000

7. DEMOGRAPHIC PROFILE [in '000]

Category	Total	Male	Female	Rural	Urban
Population	112374	58243	54131	61556	50818
Scheduled Caste	13276	6768	6508	7500	5776
Scheduled Tribe	10510	5315	5195	9000	1510
Literate	81554	45257	36296	41483	40071
BPL	34499	17939	16560	18974	15525

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

Having brick/stone/concrete houses	8018	Having electricity supply	19993
Having source of drinking water	9032	Having independent toilets	12654
Having access to banking services	16415	Having radio/TV sets	18165

11. INFRASTRUCTURE RELATING TO HEALTH & SANITATION [Nos]

Anganwadis	97475	Dispensaries	3087
Primary Health Centres	1814	Hospitals	1402
Primary Health Sub-Centres	10668	Hospital Beds	123742

12. INFRASTRUCTURE & SUPPORT SERVICES FOR AGRICULTURE

Fertiliser/Seed/Pesticide Outlets [Nos]	46000	Agriculture Pumpsets [Nos]	4202000
Total N/P/K Consumption [MT]	3357100	Pumpsets Energised [Nos]	66174
Certified Seeds Supplied [MT]	2322000	Agro Service Centres [Nos]	NA
Pesticides Consumed [MT]	17957	Soil Testing Centres [Nos]	31
Agriculture Tractors [Nos]	752279	Plantation nurseries [Nos]	NA
Power Tillers [Nos]	26813	Farmers' Clubs [Nos]	NA
Threshers/Cutters [Nos]	94934	Krishi Vigyan Kendras [Nos]	45

14. INFRASTRUCTURE FOR STORAGE, TRANSPORT & MARKETING)

Rural/Urban Mandi/Haats [Nos]	NA	Wholesale Market [Nos]	123
Length of Pucca Road [Km]	304045	Godown [Nos]	1139
Length of Railway Line [Km]	6114	Godown Capacity [MT]	745000
Public Transport Vehicle [Nos]	18710	Cold Storage [Nos]	242
Goods Transport Vehicle ['000 Nos]	1722000	Cold Store Capacity [MT]	11726

16. AREA, PRODUCTION & YIELD OF MAJOR CROPS

Crop	2017-18		2018-19 \$		Avg. Yield [kg/ha]
	Area (ha)	Prod. (MT)	Area (ha)	Prod. (MT)	
Rice	1425000	2668000	1553000	3408000	2194
Tur	1375000	1250000	1210000	684000	565
Soyabean	3694000	3805000	4043000	4550000	1125
Wheat	1138000	1885000	569000	726000	1276
Jowar	3464000	2389000	1541000	787000	511
Cotton	4351000	6094000	4254000	7128000	1676
Sugarcane	902000	83138000	1163000	91704000	78851

* production of cotton in '000 bales of 170 kg each

\$ tentative

18. INFRASTRUCTURE FOR DEVELOPMENT OF ALLIED ACTIVITIES

Veterinary Hospitals/Dispensaries [Nos]	4847	Animal Markets [Nos]	NA
Disease Diagnostic Centres [Nos]	201	Milk Processing & chilling plants [Nos]	265
Artificial Insemination Centres [Nos]	34	Fishermen Societies [Nos]	3038
Animal Breeding Farms [Nos]	NA	Fish seed farms [Nos]	30
Animal Husbandry Tng Centres [Nos]	NA	Fish Markets [Nos]	NA
Dairy Cooperative Societies [Nos]	12376	Poultry hatcheries [Nos]	NA
Improved Fodder Farms [Nos]	NA	Slaughter houses [Nos]	NA

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

Fish	Production [Lakh MT]	4.60	Per cap avail. [gm/day]	53
Egg	Production [Lakh Nos]	57000	Per cap avail. [nos/p.a.]	48
Milk	Production ['000 MT]	11102	Per cap avail. [gm/day]	256
Meat	Production [000 MT]	924	Per cap avail. [gm/day]	NA

2.1 Banking Network in the State

The banking outreach in Maharashtra comprises of 18 Public Sector Banks with a network of 8512 branches, 13 Private Sector Banks with 3621 branches, 9 Small Finance Banks with 517 branches, 2 Regional Rural Banks with 763 branches and cooperative banks including the MStCB and 31 DCCBs with a branch network of 3744 (*Data as on 30.09.2019, Source : SLBC*). The Primary Urban Cooperative Banks, Non-banking Financial Companies and the latest entrants viz., payment banks also cater to the credit needs and infrastructure development in boosting the State's economy. Other financial intermediaries in the form of Primary Agriculture Cooperative Societies, Marketing Societies and Business Correspondents also play an important role in reaching out to the otherwise inaccessible hamlets to cater to the increasing financial needs of the population. There are 21102 Primary Agriculture Cooperative Societies in the State affiliated to the DCCBs with a membership of 150 lakh, engaged in disbursement of credit for agricultural activities. The total branch network of the State thus is 17166. Of the 17166 branches, 6129 branches are located in rural areas catering to the rural population. The per branch population in rural areas is 10043. The other financial intermediaries including the PACS and Business Correspondents (BCs) also take care of the credit needs of the rural population.

Bank of Maharashtra, with a branch network of 1121 branches functions as the Convenor of the State Level Bankers Committee of the State coordinating and acting as a consultative body to discuss issues and to suggest measures / solutions for effective implementation of various banking related policies and programmes with the help of 36 Lead District Managers functioning at the district level.

2.2 Institutional credit with reference to priority sector and agriculture in particular

The total deposits of the banks in the State stood at ₹ 22.65 lakh crore as on 31.03.2019, showing an increase of 15% over 31.03.2018. An interesting fact is that, nearly 59% of the deposits are concentrated in Mumbai (suburb and city put together) with 14% of the branches (2477 out of 17166 branches in the State) located in that area giving a clear indication of deposit concentration in Mumbai. The CD ratio of the State as on 31.03.2019 stood at 97% (*Source: SLBC, Maharashtra*).

The details of broad-sector-wise flow of ground level credit (GLC) under Priority Sector in the State during the last 3 years and Annual Credit Plan (ACP) target for priority sector during 2019-20 are given in Table 2.1.

Table: 2.1 Broad-sector-wise GLC flow under Priority Sector in the State during the last 3 years and ACP target for 2019-20

(₹ crore)

Sr. No.	Sector	2016-17	2017-18	2018-19	ACP Target 2019-20
1	Short term credit for Production & Marketing – Crop loans	42173	25322	31237	59766
2	Investment Credit for Agriculture & Allied Activities (ATL) *	54605	25691	36677	27556
3	Total Agriculture & Allied Activities (1+2)	96778	51013	67914	87322
4	Non-Farm Sector (MSME)	117748	142338	201940	235376
5	Other Priority Sector (Including export credit, housing, education and social infrastructure)	29884	26290	46901	101331
	Total Priority Sector	244410	219641	316755	424029

Source: SLBC (* including agriculture infrastructure and agriculture ancillary activities)

As can be seen from the above table, the priority sector disbursements fell by 10% during 2017-18 over 2016-17 but reversed course and increased by about 44% during 2018-19. The disbursements under agriculture increased by 33% to ₹ 67914 crore during 2018-19. The disbursements under crop loan and ATL increased by 23% and 43% respectively during 2018-19. The size of the annual credit plan for the year 2019-20 is ₹ 424029 crore which includes Mumbai city and Mumbai Suburb districts constituting 58% of the plan size. The broad sector-wise targets and disbursements under this plan during the last three years are given in Annexure II.

2.3 Financial Inclusion

Inclusion has been the focus of the development agenda of NABARD, which, since the early 1990s, envisaged that economic, social and financial inclusion must go hand in hand. As 'manager' of Financial Inclusion Fund, under the guidance of the FIF Advisory Committee, NABARD has been using the Fund to encourage the banks into digital initiatives with the overall objective of making available quality banking services in rural areas, supplement costs related to such initiatives as also help the banks to introduce systems and procedures prescribed as regulatory requirements.

2.4 Financial Inclusion Fund

The emerging understanding amongst policy makers is achieving growth that is inclusive and sustainable. In order to help RFIs make available their services to people, GOI had constituted two funds, viz., Financial Inclusion Fund (FIF) and Financial Inclusion Technology Fund (FTTF)

in 2007-08 in NABARD. In 2015, GOI merged FITF into FIF. The fund supports ICT interventions of RFIIs so as to enable the RFIIs to bring the disadvantaged population under the umbrella of financial services.

2.5 Financial Literacy Initiatives

- **Financial Literacy Centers (FLCs)** : FLCs are an institutional set up within the banks, which facilitates the use of banking services, wherein the counsellor can advise customers on the schemes available, banking products suitable or help with the procedures involved. FIF grant has been extended to RRBs and DCCBs towards CAPEX and OPEX for the first year as also OPEX for second and third year. FLCs, through their outreach and access to remote areas, are instrumental to the eventual acceptance of digital payment systems by rural clients. In Maharashtra, ₹7.83 crore has been released to banks for 196 FLCs.
- **Financial Literacy Camps** : To create awareness about the features and benefits of new digital payment methods, use of cards and POS machines, UPI, BHIM and Aadhaar based payments, among the users of banking services, NABARD has been supporting conduct of Financial and Digital Literacy Awareness Programmes by banks through their Financial Literacy Centres (FLCs) and rural branches. During 2018-19, ₹ 0.25 crore was released to RRBs and RCBs for conduct of 1023 camps.
- **Centres for Financial Literacy (CFL)**: A pilot project for establishing CFLs in select districts is under implementation since 2017-18, under which 10 CFLs, i.e., 05 each in Ratnagiri and Washim districts have been set up by BoI and SBI respectively. The CFLs are managed by an agency, viz. CRISIL in Maharashtra, on behalf of the banks. FIF grant of ₹1.50 crore has been sanctioned to these 02 banks (@ ₹15 lakh per CFL) towards CAPEX for first year and OPEX for 03 years. The CFLs have been instrumental in establishing linkages in terms of enrollments under PMSBY/ PMJJBY/ APY, mobile number linkage, bank account opening, MUDRA loans, BHIM app, etc., through conduct of Flip book based trainings, AV based trainings, awareness camps, etc.
- **Mobile Van for demonstration of banking technology**: To enhance the outreach of the DCCBs and RRBs beyond the FLCs, support for mobile van fitted with micro ATM/ ATM/ POS, display screens and hoardings, for demonstration of banking technology, has been extended, with support up to ₹15 lakh per van. These vans will be run as per schedule, in remote areas of the district, thereby familiarizing people with new banking technology. Out of the 21 mobile demo vans sanctioned in Maharashtra, grant support amounting to ₹2.21 crore has been released, till date, towards deployment of 18 vans.
- **RSETIs**: RSETIs are Rural Self Employment Training Institutes, an initiative of Ministry of Rural Development to have dedicated infrastructure in each district of the country to impart training and skill upgradation of rural youth geared towards entrepreneurship development. RSETIs are managed by banks with active cooperation from GOI and State Governments. In Maharashtra, an amount of ₹1.024 crore has been released to Commercial Banks as one-time grant support towards CAPEX for purchase of training equipments, in respect of 35 RSETIs.

2.6 Prime Minister Jan Dhan Yojana (PMJDY)

Prime Minister Jan Dhan Yojana, which was launched on 28 August 2014, is being implemented by DCCBs, Commercial banks and RRBs. NABARD monitors the progress under

PMJDY by RRBs and DCCBs, and plays an important role in monitoring the overall progress of the scheme at district and state levels. NABARD also makes efforts for generating awareness about PMJDY through its various financial literacy interventions. As on 30 October 2019, banks in Maharashtra have opened 2,63,32,756 accounts, of which 1,29,86,059 accounts pertain to beneficiaries at rural/ semi-urban centre bank branches. A total of 1,88,96,691 RuPay cards have been issued to the beneficiaries. The balance in the beneficiary account is ₹6,350.99 crore.

2.7 Social Security Schemes

Three social security schemes Pradhan Mantri Suraksha Bima Yojna (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), and Atal Pension Yojana (APY) were launched by the Hon'ble Prime Minister on 9th May 2015. Implementation of these schemes by Cooperative Banks and RRBs is being monitored by NABARD. It is imperative that cooperative banks align themselves with the banking mainstream, which will ensure that the rural customers get the services and facilities that other banks offer. Therefore, through wide ranging support from the FIF, NABARD, in line with the national policy, encourages adoption of technology for digitization of banking transactions.

NABARD regularly reviews the progress of RRBs and DCCBs on digital transactions through monthly VCs with its Head Office, in the presence NPCI/ UIDAI. A well-coordinated, concerted and consistent action will go a long way in helping the banks to comply with the regulatory requirements being introduced in the new digital technology environment.

NABARD also provides support to the Banks for issue of Rupay cards, technology support for CBS, ICT based solutions, Authentication User Agency (AUA)/KYC User Agency (KUA), Central KYC Records registry, Public Financial Management System (PFMS), Aadhaar Enrollment Centres, dual authentication system and BHIM UPI platform.

2.8 Computerization of PACS:

In tune with the efforts taken for revival of cooperative credit structure and on completion of CBS at the StCB/DCCB level, the steps for computerization of PACS were initiated. GoI has allocated a budget of ₹1900 crore towards computerization of 63000 PACS all over India. The governance structure for this project comprises a National Level Implementation and Monitoring Committee (NIMC), National Level Technical Sub Committee (NLTSC), State Level Implementation and Monitoring Committee (SIMC) and District Level Implementation and Monitoring Committee (DIMC). Maharashtra has about 21000 PACS. SIMC, under the Chairmanship of ACS, Finance, GoM, is to take decision on the number of PACS to be computerized and phases thereof. Around 30 DCCBs have formed PACS Computerization Cell in their banks.

Banking Profile

Maharashtra

1. NETWORK & OUTREACH (As on 31/03/2019)

Agency	No. of Banks/Soc.	No. of Branches				No. of non-formal agencies associated			Per Branch Outreach (excl. PACS)	
		Total	Rural	Semi-urban	Urban/Metro	mFIs	SHGs	BCs/Bank Mitras	Villages	Households
Commercial Banks (Pub/Pvt)	32	12133	2854	2830	6449	-	555215	11276	7	2013
Regional Rural Bank	2	763	444	241	78	-	124895	-	60	18087
State/District Central Coop. Bank	32	3744	2761	456	527	-	403701	-	13	3686
Coop. Agr. & Rural Dev. Bank	-	-	-	-	-	-	-	-	-	-
Primary Agr. Coop. Society	21102	-	-	-	-	-	-	-	2	654
Others	1	526	70	189	267	-	-	-	-	-
All Agencies	21169	17166	6129	3716	7321	33	1083811	11276	4	1423

2. DEPOSITS OUTSTANDING

Agency	No. of accounts					Amount of Deposit (₹000)				
	31-Mar-17	31-Mar-18	31-Mar-19	Growth(%)	Share(%)	31-Mar-17	31-Mar-18	31-Mar-19	Growth(%)	Share(%)
Commercial Banks	NA	NA	NA	NA	NA	1724680000	18849060000	21606020000	15%	95.40
Regional Rural Bank	NA	NA	NA	NA	NA	108460000	125100000	140310000	12%	0.62
Cooperative Banks	NA	NA	NA	NA	NA	631290000	694330000	791890000	14%	3.50
Others	NA	NA	NA	NA	NA	-	330000.00	110100000	33264%	0.49
All Agencies	NA	NA	NA	NA	NA	17986430000	19668820000	22648320000	15%	100.00

3. LOANS & ADVANCES OUTSTANDING

Agency	No. of accounts					Amount of Loan (₹000)				
	31-Mar-17	31-Mar-18	31-Mar-19	Growth(%)	Share(%)	31-Mar-17	31-Mar-18	31-Mar-19	Growth(%)	Share(%)
Commercial Banks	NA	NA	NA	NA	NA	17233000000	18344610000	21285890000	16%	96.63
Regional Rural Bank	NA	NA	NA	NA	NA	77540000	73230000	86250000	18%	0.39
Cooperative Banks	NA	NA	NA	NA	NA	487430000	485960000	580360000	19%	2.63
Others	NA	NA	NA	NA	NA	-	390000	76080000	19408%	0.35
All Agencies	NA	NA	NA	NA	NA	17797970000	18904190000	22028570000	17%	100.00

4. CD-RATIO

Agency	CD Ratio		
	31-Mar-17	31-Mar-18	31-Mar-19
Commercial Banks	99.92	97.32	98.52
Regional Rural Bank	71.49	58.54	61.47
Cooperative Banks	77.21	69.99	73.29
Others	-	-	-
All Agencies	98.95	96.11	97.26

5. PERFORMANCE UNDER PMJDY (as on 24.04.2019)

Agency	Rural A/c		Total A/c		Aadhar seeded	Rupay card issued
	31-Mar-17	31-Mar-18	31-Mar-17	31-Mar-18		
Banks	12230601	24900586	21442818	17486522		

6. PERFORMANCE TO FULFILL NATIONAL GOALS (As on 31.03.2019)

Agency	Priority Sector Loans		Loans to Agr. Sector		Loans to Weaker Sections		Loans to Minority Communities		Loans to SCs/STs	
	Amount (₹000)	% to Total Loans	Amount (₹000)	% to Total Loans	Amount (₹000)	% to Total Loans	Amount (₹000)	% to Total Loans	Amount (₹000)	% to Total Loans
Commercial Banks	2931731682	93%	531610911	79%	-	-	-	-	-	-
Regional Rural Bank	29214952	1%	19629472	3%	-	-	-	-	-	-
Cooperative Banks	156086831	5%	120731431	18%	-	-	-	-	-	-
Others	50518805	-	-	-	-	-	-	-	-	-
All Agencies	3167552270	100%	671971814	100%	-	-	-	-	-	-

7. AGENCY-WISE PERFORMANCE UNDER ANNUAL CREDIT PLANS

Agency	2016-17			2017-18			2018-19			Average Ach[%] in last 3 years
	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	
Commercial Banks	2224847200	2096921900	94	2595623900	2026348700	78	4014864900	2982250500	74	82
Regional Rural Bank	54416700	29970100	55	54040300	16259500	30	62826600	29215000	47	44
Cooperative Banks	269766300	317203000	118	258624100	153803500	59	268220500	156086800	58	78
Others	-	-	-	-	-	-	-	-	-	-
All Agencies	2549030200	2444095000	96	2908288300	2196411700	76	4345912000	3167552300	73	81

8. SECTOR-WISE PERFORMANCE UNDER ANNUAL CREDIT PLANS

Broad Sector	2016-17			2017-18			2018-19			Average Ach[%] in last 3 years
	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	Target (₹000)	Ach'ment (₹000)	Ach'ment [%]	
Crop Loan	512351000	421727800	82	542209800	253219300	47	1166489600	624673000	54	61
Term Loan (Agr)	262225100	546053000	208	229856000	256911700	112	542799800	733611500	135	152
Total Agri. Credit	774576100	967780800	125	772065800	510131000	66	1709289400	1358284600	79	90
Non-Farm Sector	1161067700	1177479200	101	1432023500	1423381500	99	4922566400	4038795600	82	94
Other Priority Sector	613386400	298835000	49	704199000	262899200	37	2059968200	938024300	46	44
Total Priority Sector	2549030200	2444095000	96	2908288300	2196411700	76	8691824000	6335104600	73	81

9. RECOVERY POSITION

Agency	2016-17			2017-18			2018-19			Average Rec. [%] in last 3 years
	Demand (₹000)	Recovery (₹000)	Recovery [%]	Demand (₹000)	Recovery (₹000)	Recovery [%]	Demand (₹000)	Recovery (₹000)	Recovery [%]	
Commercial Banks	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Regional Rural Bank	40134071	25793497	64	NA	NA	NA	NA	NA	NA	NA
Cooperative Banks	129834969	87586577	67	NA	NA	NA	NA	NA	NA	NA
Others	-	-	-	-	-	-	-	-	-	-
All Agencies	-	-	-	-	-	-	-	-	-	-

Sources : Lead Bank & SLBC, Economic Survey of Maharashtra 2018-19

3.1. Role of NABARD as a financial institution with development banking approach

NABARD aims at building an empowered and financially inclusive rural India through specific goals. Through its development and financial initiatives, NABARD touches almost every aspect of rural economy : from providing refinance support to building rural infrastructure, from preparing district level credit plans to guiding the banking industry in achieving these targets, from supervising Cooperative Banks & Regional Rural Banks to helping them develop sound banking practices & on-boarding them to the CBS platform, from designing new development schemes to the implementation of GoI sponsored schemes, from training handicraft artisans to providing them a marketing platform for selling these articles, from promoting digitization drive of the GoI to micro credit movement, etc. NABARD thus balances its finance and development functions in sync with the financial and real sector challenges relating to agriculture and rural development.

In financial terms, NABARD in Maharashtra has invested around ₹ 1,40,000 crore so far in last 37 years under various investment purposes and using different financial instruments. Out of this, contribution of around ₹ 80,000 crore has come in the last five years itself. This investment together with the non-financial investment in terms of facilitating credit planning, supervision and development of cooperative banks, formation and capacity building of ground level institutions like SHGs, Farmers Producer Companies / Organizations, Farmers Clubs, addressing the climate change issues etc., shows the substantial extent of contribution made by NABARD in the progress of the state.

Although the development perspective is part of the State Focus Paper, which is an integration of the potential linked credit plans prepared for the districts, an attempt is made to look beyond the projections through numbers and to reach out to the priorities of the State for a sustained income generation for the rural population, particularly farmers. For this, NABARD has been continuously striving to evolve policies and enabling environment through discussions, studies, workshops, field observations and feedback. This is thus a shared perspective with three dimensions, viz., Agri & Rural Development, the bankers and the State. The perception hopefully will provide ideas for further collaborations and platforms for implementation. Therefore, the growth is viewed from these three angles which are closely linked. Finding out ways and means for convergence among the three, is the primary objective of this attempt.

3.2. Agriculture scenario in Maharashtra

The State, with a population of 1123.74 million has 54.8% population living in rural areas. The total number of operational holdings is 1.53 crore (Tenth Agriculture Census, 2015-16) covering 2.05 crore ha with an average size of operational holdings at 1.34 ha. Out of 1.53 crore total operational holdings, 79.52% belong to small and marginal farm operational holdings (with a holding size less than or equal to 2 ha). There has been an increase in SF/MF holdings which was at 78.6% as per Agri Census 2010- 11 (of the total holdings of 1.37 crore) to 79.52% as per Agriculture Census 2015-16. While the average size of holdings in respect of marginal farmers has decreased from 0.47 ha to 0.44 ha, the average size of holdings of small farmer has decreased from 1.42 ha to 1.33 ha. The overall average size of holdings for the State has decreased from 1.44 ha (2010-11) to 1.34 ha (2015-16), indicating further fragmentation of the agriculture land holdings (*Source: ESM 2018-19*).

Of the 307.58 lakh ha geographical area of the State, the gross cropped area (GCA) was 232.24 lakh ha while the net sown area was 169.10 lakh ha, forming 55% of the GCA. The cropping intensity is 137%. As far as the coverage of irrigation is concerned, the State Gross Irrigated Area (42.82 lakh ha) to Gross cropped area (232.24 lakh ha) is only 18.40%, indicating dryland farming leading to more of mono cropping systems.

(Source: Economic Survey of Maharashtra -2018-19, Irrigation - Statistical Year Book India 2018, MoSPI and Department of Agriculture, Cooperation & Farmers Welfare- 2018-19)

The real GSVA of 'Agriculture & allied activities' sector was expected to grow at 0.4 per cent in 2018-19. Due to drought situation in the State in 2018-19, the crop production was expected to reduce resulting in the expected growth of (-) 8.0 per cent in real GSVA of the 'Crops' sector. 'Livestock', 'Forestry & Logging' and 'Fisheries & Aquaculture' sectors were expected to grow at 13.9 per cent, 16.4 per cent and 3.4 per cent respectively. (ESM 2018-19). Though the share of the allied activities in the Agriculture & allied activities sector is comparatively less, its contribution with regard to livelihood is of immense importance. The increasing consumption of fruits & vegetables, milk & milk products, poultry, meat, fish and flowers due to changing lifestyle as also inclination towards consumption of organic produce than processed foods, provides significant growth potential in this sector which needs to be harnessed. Dependency on weather conditions, increasing number of marginal & small farmers, reduction in the area of operational holdings, high expenses leading to non-profitability and market uncertainty continues to be the prime concerns of the sector in the State.

The major problems faced by the marginal and small farmers are as under:

- Small and fragmented land-holdings
- Non availability of good quality seeds
- Lack of proper integration of cropping and farming systems suited to different regions
- Lack of farm mechanization
- Non-availability of customized skill development program to the farmers and rural youth
- Poor purchasing power
- Inadequate storage and transport facility
- Limited access to inputs, technology, credit, market

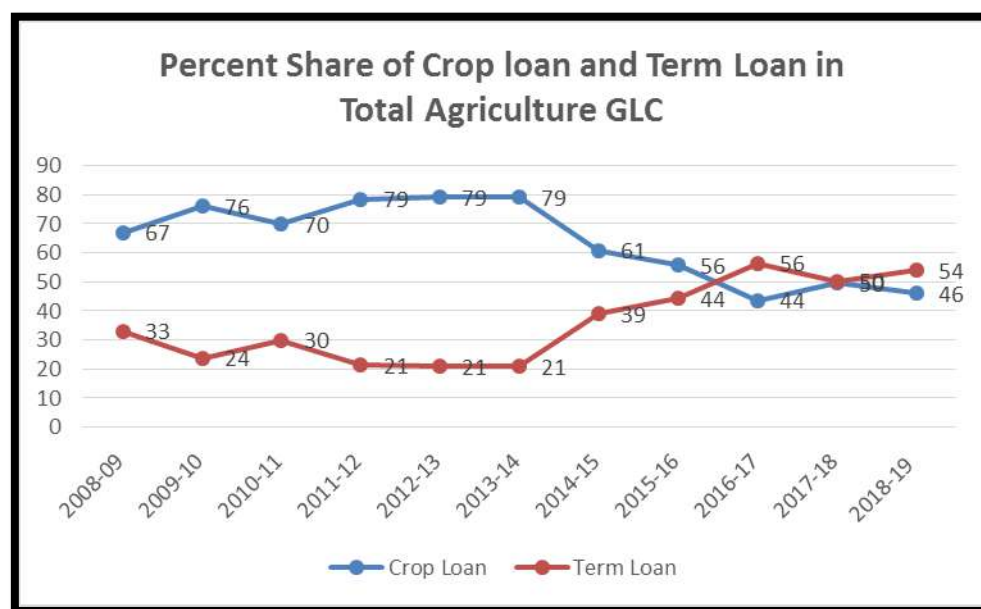
3.3. Agriculture credit in Maharashtra: A decadal performance

Cumulative Priority sector (PS) disbursement in the State during last 11 years (2008-09 to 2018-19) was ₹ 14.4 lakh crore of which ₹4.8 lakh crore was for agriculture (33.49%, of which ₹2.8 lakh crore for crop loan, forming 57.87%). Share of Commercial Banks in crop loan varies from 52% to 56%, share of cooperatives varies from 37% to 42% while that of RRBs varies from 3% to 5% during the last five years, as detailed in Figure 3.3.

Table 3.1. Ground Level Credit Flow to Priority Sector in Maharashtra in the last decade
(₹ crore)

Year	Crop loan	Term loan	Total Agriculture	MSME	OPS	Total Priority Sector
2008-09	6445	3180	9625	2867	5440	17933
2009-10	11591	3623	15214	3304	8301	26819
2010-11	13374	5734	19107	5246	12646	37000
2011-12	19178	5249	24427	6472	15925	46824
2012-13	24252	6414	30666	8299	17421	56386
2013-14	31426	8258	39684	64493	26442	130619
2014-15	34100	21860	55961	66228	23857	146046
2015-16	40581	32284	72865	104488	23078	200431
2016-17	42173	54605	96778	117748	29884	244410
2017-18	25322	25691	51013	142338	26290	219641
2018-19	31237	36677	67914	201940	46901	316755

Figure 3.1. Percent Share of Crop loan and Term Loan in Agriculture GLC



A ten year trend of agriculture credit is indicated in Figure 3.1 showing ratio of crop loan to term loan at 67: 33 in 2008- 09 reversing to 44:56 in 2016-17 and then reversing again to 54: 46 during the year 2018-19. Traditionally, the flow of credit to the crop loan and ATL has been in the ratio of 67: 33 in the country and in Maharashtra it was no exception. However, during the last 2-3 years there is a change in the composition of the same and the ratio was almost 50: 50 during 2017-18 and then changes to 54:46 in 2018-19.

The MSME sector is showing steady increase particularly in the last five years. While the share of MSME in the overall PS increased from 16% during the year 2008-09 to 49% during the year 2013-14 and then further increased to 64 % in 2018-19, that of OPS showed a decline from

31% to 15% during the ten year period. In the last decade, the share of MSME and OPS stood at an average of 58% in the Priority Sector credit and the share of agriculture stood at an average of 42%.

Figure 3.2. Agriculture Credit in Maharashtra

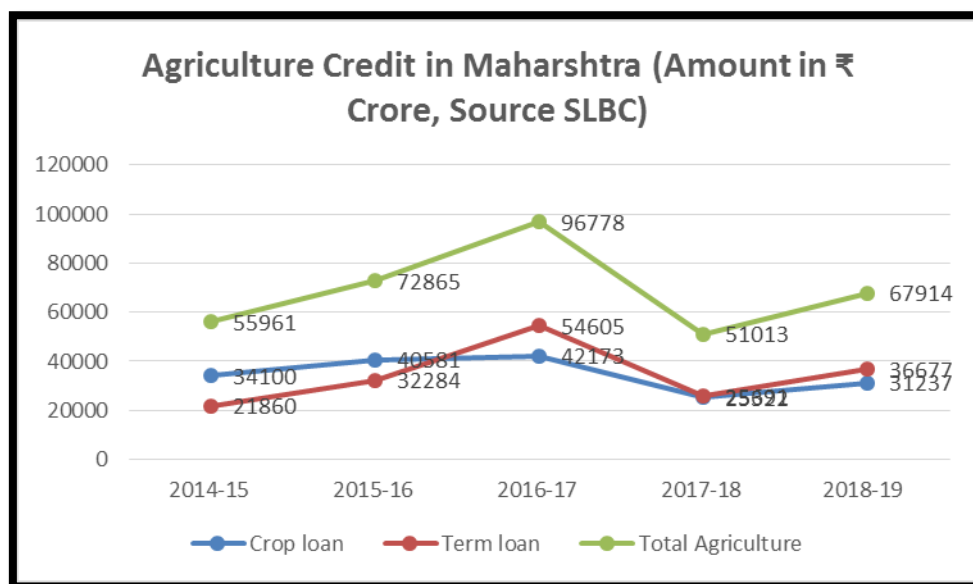


Figure 3.3. Share of agencies in Agricultural Credit in Maharashtra

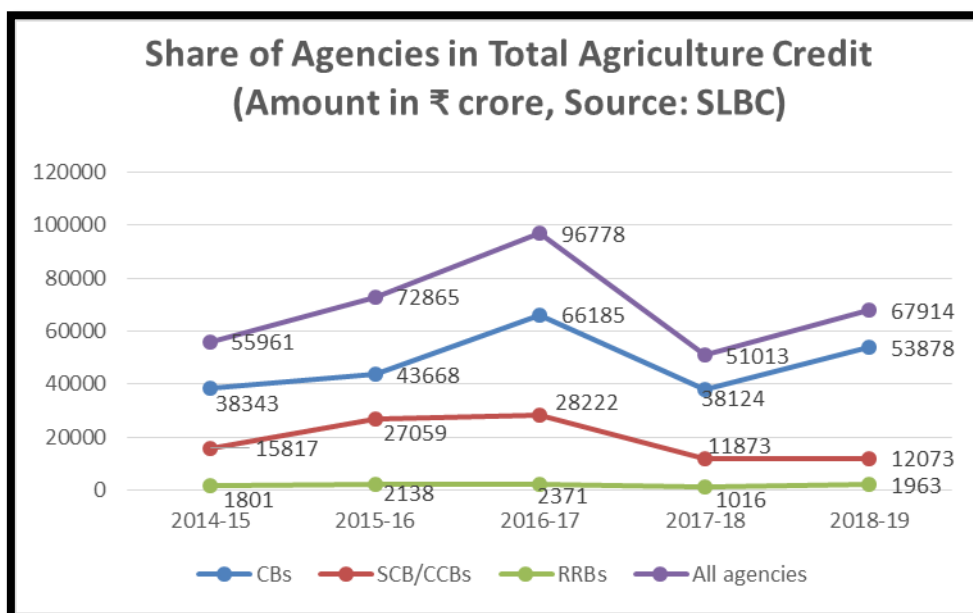
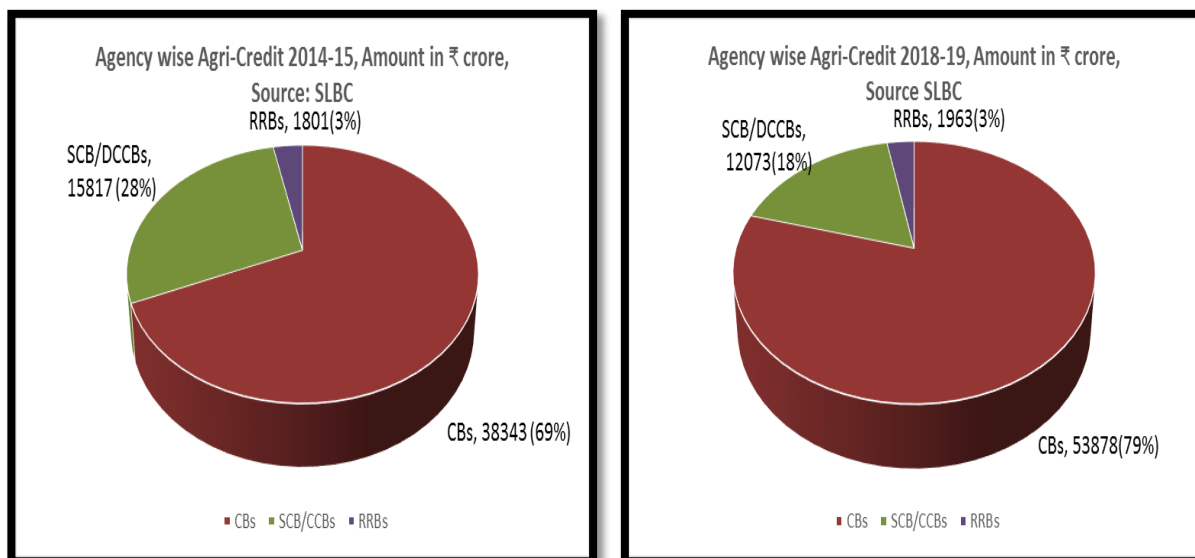


Figure 3.4. Changing agencies' share in Agricultural Credit in Maharashtra over the years



During 2018-19, Commercial banks contributed the major share (79 %) in total agricultural credit. Co-operative institutions also played a significant role in extending agricultural credit and the share of all co-operative banks/institutions (i.e. StCBs, DCCBs and PACS put together) was 18%. The RRBs contributed the remaining 3% of the agricultural credit.

From 2014-15 to 2018-19, the share of Co-operative banks/institutions in total agriculture credit has reduced by 10% and subsequently the corresponding share for Commercial Banks has increased by the same magnitude, indicating the increasing outreach of Commercial banks in agriculture credit disbursal, whereas the share of RRBs has remained range bound at 3%.

3.4 Role of NABARD in credit flow

3.4.1. Credit planning and monitoring: NABARD has played a huge role in the credit planning process and its monitoring. Since 1988-89 NABARD has been preparing Potential Linked Credit Plans (PLPs) for all the districts of the state after a rigorous consultation process by following well defined guidelines for assessment of credit potential for all sectors/activities under priority sector. This credit potential is discussed in the DLCC meetings and accepted after deliberations. PLPs form the basis/reference document for preparation of Annual Credit Plans. Further, NABARD plays an active role in review of the performance under ACP at all the three fora (Block Level Bankers' Committee (BLBC), District Level Consultative Committee (DLCC) and State Level Bankers' Committee (SLBC)) to ensure that the targets set are achieved.

Box 3.1. Concerns expressed in SLBC meetings regarding the Agricultural credit flow in the State

- Reducing share of co-operatives in crop loan in Maharashtra despite strong cooperative structure: In 2018-19, the share of co-operatives in crop loan disbursement was 38%, Commercial banks was 56% and RRBs was 6%.
- Large scale Regional disparity in agricultural disbursement (crop and term loan): Western and Northern Maharashtra lead in the agricultural credit disbursement, number of branches, crop loan per branch and crop loan per farmer, while Marathwada and Vidarbha regions are lagging behind.
- Unavailability of granular data on agricultural term loan disbursement by banks - Format devised by RBI will aid in proper reporting of data of various sectors and subsectors which will be put to use by December 31, 2019. Availability of such data would ensure intricate analysis.
- Necessity of consistency in data reporting to SLBC and on ENSURE portal of NABARD.
- Covering eligible farmers /extension of fresh loan to farmers in the background of CSMSSY/restructuring due to natural calamities (like drought and floods recently experienced in the State).
- Deepening of credit - Extending term loans to farmers traditionally availing ST loans, exploring term loan requirements of good clientele of farmers who regularly repay.
- Necessity of expanding the coverage of farmers under KCC through measures like holding credit camps at village/taluka level, convincing farmers to renew KCC.
- Joint efforts by Govt. machinery and banks for enhancing credit flow.
- Facilitating the credit flow making use of various State Govt. schemes.
- Strategic identification of farmers for extending credit based on the activities undertaken like warehouse, cold storage, agro-processing, SHG, ACABC, POCRA, etc.
- Enhancing export credit especially for agricultural produce as also financing new and emerging sectors like agro processing.
- Bankers to proactively come out with own loaning policies rather than waiting for GoM/SLBC instructions.

3.4.2. Refinance to Banks: NABARD's refinance plays a catalytic role in the flow of ground level credit. To support the working capital requirements of farmers and to boost the investment credit and creation of assets at the ground level, short term and long term refinance was extended to Commercial Banks, Cooperative Banks, Regional Rural Banks and NBFCs to the extent of ₹ 18,321 crore during the year 2018-19 as presented below.

3.4.2.1. Short- Term Refinance**3.4.2.1.1. Short Term Seasonal Agricultural Operations (ST-SAO):**

NABARD sanctions refinance limits for lending under ST-SAO, as a proportion of the Realistic Lending Programme (RLP) proposed by Maharashtra State Cooperative Bank (MStCB) on behalf of the DCCBs and Regional Rural Banks (RRBs) viz., Maharashtra Gramin Bank (MGB) and Vidarbha Konkan Gramin Bank (VKGB).

The ST-SAO refinance to MStCB on behalf of the DCCBs and RRBs include the following components:

- National Mission on Oilseeds and Oil Palm (NMOOP-Oilseeds)
- Development of Tribal Populations (DTP)
- National Food Security Mission –Pulses (NFSM-Pulses)

The production and working capital needs of farmers, weavers, artisans, etc., for agriculture and allied activities are met by Rural Financial Institutions (RFIs) through short –term credit.

During the year 2018-19, MStCB was sanctioned and disbursed a limit of ₹ 3000 crore. Similarly, ₹ 150.00 crore was sanctioned and disbursed to Maharashtra Gramin Bank to meet the credit demand for growing of crops.

3.4.2.1.2. Additional Short-Term Seasonal Agricultural Operations (ST-ASAO):

NABARD introduced a new line of credit in the year 2016-17 for helping banks to tide over liquidity constraints arising due to drought, increased ground level demand for credit, low accretion of deposits, etc. 60 % of RLP amount is extended as refinance under ST- ASAO limit. This limit is available w.e.f. 1 April of each year without waiting for allocations under ST (SAO) by RBI. Further, this borrowing is treated as the own fund of the DCCBs and thus GoI interest subvention of 2 % is available on this amount.

Additional ST (SAO) is a market driven product and varies from time to time. With 1% interest subvention provided by the GoM to all the agencies on crop loan, the farmers in the state are provided crop loan at 6% rate of interest. With an additional interest subvention of maximum 1.5% to the DCCBs, the effective rate of interest becomes quite low. The effective rate to the DCCBs, after taking into account the various subventions (2% from GoI, 1% from GoM and additional 1.5% from GoM for cooperatives) and the St Coop Bank margin of 0.5 % worked out to 3.35 % as against 5% under ST (SAO), as on date (19.12.2019). Realising the utility of this product there was a substantial jump in the availment of this refinance by the MStCB/DCCB during 2018-19. The MStCB was sanctioned credit limit of ₹ 2422.70 crore under Additional ST SAO on behalf of 11 DCCBs, of which it availed the limit to the extent of ₹ 1390.77 crore.

The Short Term Co-operative Credit Structure continued to avail the ST(SAO) support during the year 2018-19 also.

The progress of disbursements under Short Term Credit to MStCB and RRBs during the last two years is presented in the table given below.

Table 3.2. Progress of disbursements under Short Term Credit to MStCB and RRBs

(₹ in Crore)

Purpose	MStCB		RRBs	
	2017-18	2018-19	2017-18	2018-19
ST-SAO	3440.00	3000.00	120.00	150.00
Addl ST-SAO	40.00	1390.77	18.50	Nil
ST-Others	Nil	Nil	Nil	Nil

3.4.2.2. Direct Refinance Assistance to District Central Cooperative Banks

NABARD has a short-term multipurpose credit product designed for providing direct refinance to DCCBs for meeting the working capital and farm asset maintenance needs of affiliated PACS and individual borrowers. Under this credit product, during the year 2018-19, NABARD had sanctioned ₹ 690.00 crore to Ratnagiri, Sindhudurg, Kolhapur, Akola and Pune DCCBs and disbursed ₹ 790.00 crore to Ratnagiri, Sindhudurg, Kolhapur, and Pune DCCBs.

3.4.2.3. Long-Term Refinance

3.4.2.3.1. Long Term Refinance - Normal

NABARD extends Refinance Assistance for asset creation and capital formation in rural areas, which is critical for increasing agricultural productivity, agricultural growth, and rural development, in the form of long-term (LT) refinance to Scheduled Commercial Banks (SCBs), Regional Rural Banks (RRBs), State Cooperative Banks (StCBs), State Cooperative Agriculture and Rural Development Banks (SCARDBs), Small Finance Banks (SFBs), Non-Banking Financial Companies (NBFCs), NBFC-Microfinance Institutions (MFIs), Primary Urban Cooperative Banks (PUCBs), and NABARD Subsidiaries. Refinance is available for various activities covering farm investments, allied activities, micro, small, and medium enterprises, agro-processing, organic farming, non-conventional energy, SHGs, JLGs, rural housing, etc. The repayment period ranges from 3 to 15 years. There is a renewed focus on area development plans for enhancing investment credit.

3.4.2.3.2. Long-Term Rural Credit Fund (LTRCF)

In order to boost capital formation in agriculture, GoI had set up the LTRCF with NABARD in 2014–15, to exclusively provide LT refinance support to Cooperative Banks and RRBs. The allocation to LTRCF for the State for 2018-19 was ₹ 650 crore. Refinance at concessional rate (@ 4.65% per annum) is made available with an advisory that the banks should pass on this benefit to the borrowing farmers.

The details of long term refinance disbursed by NABARD to various agencies during 2018-19 are given in Table 3.3.

Table 3.3. Details of refinance disbursed by NABARD in Maharashtra to various agencies during 2018-19 (Normal plus LTRCF)

₹ crore			
Name of the Agencies	2016-17	2017-18	2018-19
Commercial Banks	3823.33	7128.52	5494.88
Regional Rural Banks	618.96	33.36	59.13
State Cooperative Bank	163.16	1010.98	602.70
Others (PUCBs/NBFCs)	850.00	1400.00	7624.00
Total	5455.46	9572.86	13780.71

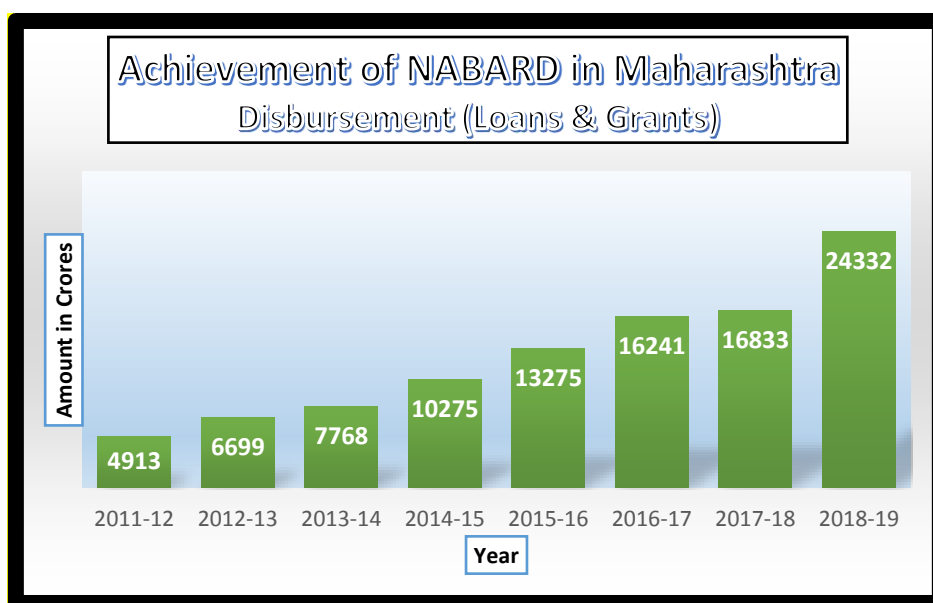
3.4.3. Finance to the State Govt.

NABARD has been providing increased financial support to the State Govt. under Rural Infrastructure Development Fund (RIDF), Long Term Irrigation Fund (LTIF), NABARD Infrastructure Development Assistance (NIDA), etc. for creating infrastructure in the field of irrigation, rural connectivity, fishing harbour jetties, social infrastructure etc., which leads to increase in credit demand. Further, keeping in view the fact that only about 18% of the Gross cropped area is under irrigation in the State, against the All India average of 45%, NABARD has been providing increased funding for bringing additional area under irrigation. During 2018-19, the amount released under RIDF, LTIF and NIDA was ₹ 937.70 crore, ₹ 3293.88 crore and ₹ 568 crore respectively.

3.4.4. Disbursement (Loans & Grants) by NABARD in Maharashtra

The disbursements by NABARD (loans & grants) in Maharashtra have increased from ₹ 123 crore in the inception year (1982-83) to ₹ 24,332 crore in 2018-19 registering the CAGR of 15.36 % over the span of 37 years. Cumulatively, NABARD disbursements have reached a level of around ₹ 1,40,000 crore for development of the state. The position is indicated in figure 3.5.

Figure 3.5. Disbursement (Loans & Grants) by NABARD in Maharashtra



3.5. Accelerating Investments in Agriculture

3.5.1. Capital formation in agriculture

NABARD perceives that the growth of agriculture sector at a faster pace is desirable for the economy as a whole for adopting advanced productive methods and for better post-production endeavors. The chain of consequences from the bank loans extended in the agricultural sector leading to the growth of the sector through asset creation and capital formation needs to be perceived in an expanded way. In addition to the stake of the individual capital, while the agricultural term loans for various activities (such as farm mechanization, water resources etc.)

contribute to the asset creation in agriculture, the short term loans also play a role in seasonal agricultural operations. The profitability in agriculture is attained through the efficient utilization of the loans for productive purposes and the market factors like price realization. The capital formation in agriculture is a result of the credit & assets in the core sector of agriculture and the capital formation for agriculture occurs through the credit & assets created in the sector conducive to agriculture such as infrastructure, exports etc. The measures of capacity building contribute in optimally transforming the individual resources and the credit into the assets and the capital to the desired extent. Therefore the developmental projects promoting good agricultural practices, innovations, improving techniques and sustainability play a significant role in this transformation. NABARD has therefore been striving to extend the credit by providing refinance to banks through the concessional finance window of Long Term Rural Credit Fund (LTRCF) and normal short, medium and long term refinance products as also the finance to the State Govt. for development of infrastructure and supporting developmental projects through grant assistance.

3.5.2. Development Perspective – Rural Infrastructure and Linkage Support

3.5.2.1. Infrastructure support – Public Investments

The rapid growth in the rural economies is determined by the accessibility and delivery of essential infrastructure such as connectivity, irrigation/flood protection, health, education sanitation, and marketing centres. Needless to say, the importance of infrastructure development for the rural communities is required to be more focussed on the growth of agriculture and allied sectors which is synonymous with the development of rural community's major economic resources.

Financing of rural infrastructure especially through public investment is critical for boosting productivity of economic factors and has been a challenge for the States as well. According to Economic Survey 2019, India needs to spend 7% to 8% of its gross domestic product (GDP) on infrastructure every year, which translates into an annual infrastructure investment of \$200 billion. However, the country has been able to spend only about half the amount so far.

In Maharashtra, the infra sector in the State is grappling with challenges pertaining to financing capital intensive projects, land acquisition and environment clearances, high costs incurred because of delays in project implementation and regional disparities. With fiscal constraints coming in the way of the State's capacity to infuse more funds, private investment plays a key role in accelerating infrastructure development. An analysis of the Maharashtra's budget over a period of five years (2014-15 to 2018-19) reveal that, against an average of ₹1.00 lakh crore budgeted for the sectors viz., water resources / conservation, agriculture, tribal development, rural sanitation, rural housing and education, the capital expenditure spent is around ₹22000.00 crore only, i.e., 22% of the budgeted amount, which is again only 4% of the total capital expenditure spent. The development expenditure of the State on the other side is increasing at 16.2% CAGR over the last five years but the share of development expenditure against GSDP is only 8.2% (2019-20 Revised Budget Estimates). A wide gap, therefore, still exists in realising the potential.

3.5.2.2. Major Rural Infrastructure segments and Financing

While the Rural Infrastructure Development Fund, over a period of 25 years, was able to cater to the State's requirement in fulfilling completion of various infrastructure projects through an

investment of ₹16703.57 crore, special purpose funds were created by Government of India to augment irrigation potential utilisation viz., Long Term Irrigation Fund (LTIF) and Micro Irrigation Fund (MIF). Under LTIF, the State has been investing in 25 projects against which sanction as on 31 March 2019 stands at ₹15637.98 crore. To address the issues of farmers' in severe drought prone areas, the Government of Maharashtra has announced a scheme viz., Baliraja Jal Sanjeevani Yojana, to complete irrigation projects in Vidarbha, Marathwada and other drought prone areas of rest of Maharashtra, against which the state was sanctioned ₹6655.00 crore under the NABARD Infrastructure Development Assistance (NIDA). NABARD, through a basket of all these funds had invested a major part in irrigation sector in the State to the extent of ₹29238.85 crore for completion of 961 major/medium/minor irrigation projects (RIDF: ₹6945.87 crore, LTIF: ₹15637.98 crore and NIDA : ₹6655.00 crore). Still there exists huge requirement on the part of the State Government to complete the ongoing projects.

As far as the coverage of irrigation is concerned, the State Gross Irrigated Area (42.82 lakh ha) to Gross Cropped Area (232.24 lakh ha) is only 18.40. As on date 313 irrigation projects are either stuck or moving at a slow pace for want of funds to the extent of ₹93750 crore, which works out, on an average, to ₹300.00 crore per project, a tall order. In addition to this, yearly maintenance cost works out to nearly ₹1600 crore. The gap could be bridged through low cost funds and cost effective market linked funds of NABARD. In addition to the funding mechanism, robust technology to be adopted to bring down the cost especially that of operation & maintenance as also effective use of manpower through community mobilisation and imparting capacity building.

Various studies have pointed out that road investment contribute directly to the growth of agriculture output and has accelerated socio economic benefits. In Maharashtra, Road Development Plan 2000-21 is currently being implemented in the State targeting 3.37 lakh km of roads. For construction and upgradation of rural roads exclusively, the PMGSY of GoI and the Mukhya Mantri Gram Sadak Yojana are being implemented. The State Government, on an average, is spending ₹7000-7500 crore for construction / improvement / strengthening / upgradation of roads and bridges. Three departments, PWD, ZP and MRRDA are implementing MDRs, ODRs and VRs. MRRDA, which is implementing the PMGSY is exclusively focusing of rural roads and is requiring funds to the extent of ₹3000-3500 crore annually. With the Rural Roads maintenance Policy coming into force recently in the State, there would be an additional fund requirement of around ₹800-₹900 crore per year for maintenance & repair works (*worked out based on cost norms indicated in IRC Rural Roads Manual, ranging from ₹22000 to ₹88000 per km, average taken as ₹40000 per km*). A comprehensive Road Development Plan for the next five years may be prepared by the State taking cue from the earlier plan prepared and with focus on core rural network.

In tune with the priority of Government of India in accessing safe drinking water to households, the State Government has been implementing various programmes to ensure access to safe drinking water to households. On an average, the State Government is investing over ₹1000.00 crore under various schemes, in addition to the National Rural Drinking Water Programme being implemented. Even though these programmes are considered satisfactory compared to all India, there exists scope for improvement. Back to back drought and ground water depletion issues have created huge gap both in terms of access and quality. As per Economic Survey 2018-19, the percentage of rural households having exclusive access to drinking water is 63.5%. Still 21.5% had

to fetch drinking water from far distances or through public / common use. Existing schemes, therefore, may be reviewed by empowering Gram Panchayats in implementing the schemes which will have a direct impact. The module, technology and governance mechanism implemented by the Government of Andhra Pradesh in the name of Mission Bhageeratha Scheme could be studied by the State Government for replication.

3.5.2.3. Rural Development Infrastructure Index

A study commissioned by NABARD through Economic & Political Weekly Research Foundation during 2017-18 has computed rural infrastructure indices across states and the relative infrastructure levels indicate that Maharashtra, despite being ranked among the top economies of the country, falls in the middle category of 10 states when compared to the four southern states which figure among the high infrastructure index category.

Further, in 2018-19, a study was commissioned by NABARD through Symbiosis School of Economics which constructed the Rural Development Infrastructure Index (RDII) capturing three dimensions of rural infrastructure viz., physical, social and institutional, across 33 districts of Maharashtra. It brought out disparities in rural infrastructure development with respect to 28 parameters across the three dimensions as indicated in the box below. The study gave the score for 33 districts varying from 1.761 in Sindhudurg to 0.575 in Nandurbar.

The results of the study indicate significant disparities among districts and regions in terms of availability and accessibility of infrastructural facilities in Maharashtra. While Kolhapur, Pune and Konkan divisions are best performing in the State, most of the laggard districts are in Marathwada and Vidarbha regions giving clear indication of need for focussed attention in those districts.

Investments in turn, have helped NABARD to fulfil its own mandate in accelerating irrigation management, creating credit absorption capacity, increased access to markets, enhanced incomes and better quality of life in rural Maharashtra. The crux of the matter lies in creating a utilisation index, bringing out reforms and focussing on institutional strengthening to bring in efficiency of local level institutions to ensure that infrastructure services are accessible to the rural community.

(Source : *Economic Survey of Maharashtra 2018-19, Budget analysis of the State last five years-fig taken from PRS Legislative Research, NABARD Annual Report 2018-19, NABARD EPWRF Study on Rural Infrastructure Index of States, RBI Study on State Finances 2017-18, 2018-19 & 2019-20.***)**

Table 3.4. Variables under Rural Development Infrastructure Index

Physical Infrastructure Index (PII)	Social Infrastructure Index (SII)	Institutional Infrastructure Index (III)
➤ Land utilisation • Cropping Intensity ➤ Irrigation • Number of pumpsets per thousand ha GCA • Irrigation potential realised • Pumpsets energized ➤ Electricity • Power consumption in agriculture • Rural electrification ➤ Transport • Tractors • Road connectivity ➤ Communication • Mobile connectivity ➤ Agri Marketing • Storage / Warehouse facility ➤ Agri technology • Agri Laboratory	➤ Education • Rural literacy rate • School density • Schools with more than a single teacher ➤ Amenities • Households with drinking water facilities • Households with latrine facilities ➤ Health • Hospital density • Beds per thousand persons • Institutional deliveries	➤ Finance • Households with banking facility • Banks • Primary agricultural cooperative societies • Credit ➤ Agricultural extension • Self Help Groups • Extension capacity ➤ Institutional capacity • Post offices • Insurance

Way forward

Based on the above indicators, the following is suggested :-

- i. Preparation of an exclusive Rural Infrastructure Policy with a regional planning approach and further breaking down to district and block level. For this, State Government may attempt for construction of robust rural infrastructure index updating the base year of indices, every five years.*
- ii. The weighing pattern be revised every five years so that the index is representative of the actual state of affairs in this Sector. This would enable identification of critical infrastructure gaps and enable the State in prioritizing and investing in those sectors.*

iii. Need for comprehensive investment – Separate policy for Agriculture Infrastructure. Financing agriculture infrastructure by leveraging low cost and market linked cost effective funds so that the assets are realized over a period of time.

iv. Focus on irrigation investment and management – Leveraging technology, Improvement in delivery mechanism, efficacy of community participation, i.e., Water Users Association (WUAs), Command Area Development through participatory irrigation management systems in completed irrigation projects, preparation of banking plan to realize the potential created / potential utilized.

v. Connectivity – Preparation of Vision Document for the State on the lines of Vision Document for the Development of Rural Roads in India. Road Development Plan with special focus on Core Rural Network i.e., linking to higher routes, i.e., State / National Highways, major marketing centres etc. Further, since these assets are small, to create economies of scale, asset bundling may be done while identifying gaps within particular sector (roads, bridges).

vi. Aligning with national priorities – water conservation, village level rural drinking water programme modules (on the lines of Mission Bhageeratha of Government of Andhra Pradesh).

3.6. Farmers’ Producers Organizations

FPOs are new areas emerging from the changing ecosystem which works on the principle of Aggregation as an effective tool for scalability, increasing productivity and income through effective marketing linkage.

Maharashtra has 1.53 crore rural households and the average land holding is 1.34 ha. This small size of holding makes investments in the land unviable and the farmers face a number of problems, some of which are faced while procuring inputs and sale of marketable surplus at a reasonable price. In the above context, aggregation of farmers into Producer Organisations provides a plethora of benefits to the Farmers by enabling them to leverage the multifarious benefits of economies of scale. Recognizing this, NABARD has taken various initiatives for promotion, hand holding and financing of Producers Organisations.

Between 2014-15 and 2017-18, NABARD had promoted 125 FPOs in Maharashtra under the Gol’s PRODUCE Fund. The support included grant assistance for mobilization of farmers, training of the members, Board of Directors, CEOs, expenditure for registration, preparation of Business Development Plan, revolving fund for taking up activities related to procurement of inputs/ marketing of outputs, and also the management expenses of the promoting institutions. These FPOs are in various stages of development. More than 90% of the members of these FPOs are SF/MF. Presently, NABARD is assisting eligible institutions for promotion and handholding of the FPOs out of its own fund viz. Producer Organisation Development Fund (PODF). NABARD has accorded sanction for promotion & nurturing of 75 new FPOs and conveyed revised sanction to 30 low cost FPOs (sanctioned earlier under various Funds) under PODF-ID (PODF- Interest Differential Fund) to enable them to expand their scope and activities.

Majority of FPOs promoted by NABARD are involved in input supply, aggregation and marketing, dairy, poultry, fisheries and goat farming, horticulture, rice cultivation, marketing organic vegetable cultivation etc. Many FPOs have received the input licenses from the competent authorities. Some FPOs have obtained dealership for Drip system/ equipment, poultry equipment, poultry and dairy feed, etc. These FPOs have prepared their Business Development

Plans, based on which the banks could be extending finance for the projected activities.

NABARD has digitized the data of all the registered FPOs promoted under the PRODUCE Fund and has put it on a cloud based portal in www.nabfpo.in which could also capture data of FPOs promoted by other agencies. Efforts are on to consolidate the FPO database to enable real time tracking, objective analysis and networking with other stakeholders.

Box 3.2. Rushiwat Farmers Producer Company Ltd., Karda, Taluka Risod, District Washim.

NABARD had sponsored 'Pilot Project on Lead Crops' in the district during the year 2012-15 to Krishi Vigyan Kendra, Karda. The intervention which used low cost technology for sustainable cultivation of crops resulted in increase of the productivity of 5 lead crops in the district. The KVK, Karda had given the necessary hand holding support with an end-to-end approach to the farmers attached with the project. Along with the productivity, the farmers' income also showed remarkable growth. The agency encouraged the farmers associated with the project to form Farmer's Producers Company. For the two FPOs, one dealing with Commodity based seed & grain production and processing unit at Karda and another with Fresh Water Fish Production at Manora Cluster, the KVK, Karda acted as POPI.

In the Rushiwat Farmer's Producer Company Limited, Karda, there were only 125 shareholders initially. After continuous follow-up & monitoring of the project and regular PMIC meetings conducted by the DDM, the shareholders increased to 674. Presently, the equity mobilization of Rushiwat FPCL is around ₹7.64 lakh. Bank of Baroda, Washim branch has sanctioned ₹1 Crore loan to the company under SFAC Credit Guarantee Fund in the form of CC limit towards the working capital for purchase of Soyabean, Gram and Turmeric from the farmers. The company has already availed ₹43 lakh so far for their business activity and has entered in turmeric production and processing. During the year, they have made 500 quintal turmeric powder for selling in domestic market.

The FPO has created their infrastructure for seed processing plant through National Food Security Mission support (NFSM). Similarly, 50% grant assistance has been received from Maharashtra Agricultural Competitiveness Project (MACP-ATMA) for turmeric processing plant. Also, 50% grant assistance has been received under POCRA project for construction of 1000 MT capacity godown. The FPO has forwarded its first consignment of processed turmeric to UAE during September 2019. The turnover of the FPO for the year 2018-19 reached ₹135 lakh and earned profit of ₹29 lakh.

Credit linkage for FPOs is one of the critical requirements during the formative stage. NABARD supports the FPOs (promoted by NABARD/ other agencies) to access credit, through the eligible institutions like commercial banks, regional rural banks, cooperative banks, small finance bank, subsidiaries of NABARD and such other institutions approved by NABARD, by providing need based grant to FPOs. The grant support would be linked to the loan, viz., @ 20% of loan amount (maximum), provided, the activities considered for the support forms part of the project, and its needs are clearly evaluated and justified in the loan sanction memo of financial institutions. The support would be for Training / Capacity building (for skill development, business planning, exposure visits, agricultural university tie ups, expert meetings, etc. Tie up with agri business incubators/ professional agencies for business facilitation etc.); Market Linkage support (Setting up of marketing infrastructure facilities); tie up for forming partnerships between POs/ other companies and for other purposes (including DPR preparation, part of administrative cost of the PO and incentive for the promoting agency).

NABARD has come out with a Credit Guarantee Fund for FPOs financed by NABKISAN whereby guarantee is extended for 50% of the loan disbursed to the FPOs. NABKISAN provides credit in the form of Term Loan and Working capital to FPOs for their working capital needs. So far, 90 FPOs have been supported by NABKISAN in Maharashtra.

It is expected that the grant assistance would facilitate in proper and scientific utilization of the loan sanctioned by the banks, and the banks may leverage this grant assistance for lending to good working FPOs. Banks may come forward to finance good working FPOs based on the Business Development Plans prepared by them.

For understanding the field level situation regarding FPOs, a quick study was conducted by DDMs in various districts of Maharashtra and the findings are presented below.

The following factors contribute to the efficacy and sustainability of the FPOs

- ✓ Constant commitment, monitoring and follow-up by Producers Organization Promoting Institution (POPI).
- ✓ Sense of belonging and ownership in members for their FPO.
- ✓ Awareness about legal procedures.
- ✓ Strong share capital base
- ✓ Timely and adequate loan from financial institutions especially for working capital needs.
- ✓ Availability of resources for providing security.
- ✓ Expansion of membership and corresponding equity to increase business volumes.
- ✓ Diversification of business activities
- ✓ Capacity building of CEOs and Board of Directors as well as members of FPOs.
- ✓ Institutional support by various stakeholders.

Since FPOs satisfying the above factors are gradually emerging in the State, the banks may come forward to finance good working FPOs based on the Business Development Plans prepared by them.

MAHA – FPC, a State Level Farmer Producer Company, is a consortium of farmer producer companies registered under the company Act 1956. It was established on 3 September 2014 and, as a multi-commodity growers' for-profit making association is working directly with farmer producer companies to help mitigate the difficulties of farmers through institutional development services, capacity building services, system and process integration, technical training dissemination, financial intermediation, market linkage development, policy advocacy and facilitating social security and economic development. NABARD has extended support for a workshop held at VAMNICOM on the theme of bringing together the buyers and sellers (FPOs) for encouraging marketing efforts by FPOs.

3.7. Climate Change

3.7.1. The Challenge: Climate change has emerged as a major challenge for agriculture, food security and rural livelihoods. As per recorded observations, India has seen an increase of 0.40 C, in the mean surface air temperature over the past century (1901–2000). It has been estimated that a 2.0 to 3.5 degree Centigrade increase in temperature, and the associated increase in precipitation, can lower agricultural GDP by 9 to 28 per cent (Source: 12th Five Year Plan).

According to World Bank Report “South Asia’s Hotspots: The Impact of Temperature and Precipitation Changes on Living Standards” (published in June 2018), almost half of South Asia’s population, including India, now lives in the vulnerable areas and will suffer from declining living standards that could be attributed to falling agricultural yields, lower labor productivity or related health impacts. Some of these areas are already less developed, suffer from poor connectivity and are water stressed. According to the report’s analysis, by 2050 Chhattisgarh and Madhya Pradesh are predicted to be the top two climate hotspot states and are likely to experience a decline of more than 9 percent in their living standards, followed by Rajasthan, Uttar Pradesh, and Maharashtra. Seven out of the top 10 most- affected hotspot districts will belong to the Vidarbha region of Maharashtra.

Over last decade and a half, Maharashtra has frequently faced deficit in rainfall and unseasonal rains, thus, threatening crop production. Records for the period 2000-15 indicate that agriculture drought (defined as rainfall below 50 mm continuously for 4 weeks during JJAS) has occurred in 10 out of these 16 years. The highlights of the impacts for the State projected as indicated in the Climate Change Policy of Maharashtra (dated 25 Oct. 2017), with baseline (1970- 2010 projected for 2030) include increase in extreme rainfall (22 to 32%), increase in temperatures – 1.19 to 1.33 (annual mean temperatures), increase in heat index – up to 15°C, sea level rise - 24 cm to 66 cm projected along Maharashtra coastline.

3.7.2. District-wise vulnerability index and ranking

Based on the Current vulnerability to the future climate, the districts in the state have been ranked. The vulnerability index has been arrived at based on 19 indicators under the categories (i) climate exposure, (ii) adaptive capacity, and (iii) sensitivity and the results are presented in the following table.

Table 3.5. District-wise vulnerability index and ranking

Sr. No.	District	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Index
1	Ahmednagar	20	26	9	20
2	Akola	4	6	11	21
3	Amravati	13	8	20	16
4	Aurangabad	12	1	13	27
5	Bhandara	19	30	10	11
6	Bid	24	16	22	14
7	Buldhana	8	17	32	3
8	Chandrapur	23	28	6	22
9	Dhule	2	19	29	2

Sr. No.	District	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Index
10	Gadchiroli	27	33	14	10
11	Gondia	18	31	15	8
12	Hingoli	15	21	31	5
13	Jalgaon	1	13	26	4
14	Jalna	17	18	30	7
15	Kolhapur	32	20	8	30
16	Latur	28	2	17	24
17	Nagpur	21	9	12	23
18	Nanded	25	5	28	15
19	Nandurbar	5	29	33	1
20	Nashik	6	24	25	6
21	Osmanabad	29	3	27	17
22	Parbhani	22	10	18	18
23	Pune	26	25	7	28
24	Raigad	7	14	5	26
25	Ratnagiri	11	12	2	32
26	Sangli	33	23	16	25
27	Satara	31	27	3	33
28	Sindhudurg	16	32	1	31
29	Solapur	30	11	23	19
30	Thane	3	4	21	12
31	Wardha	14	7	4	29

Sr. No.	District	Exposure	Sensitivity	Adaptive Capacity	Vulnerability Index
32	Washim	9	22	24	9
33	Yavatmal	10	15	19	13
▪ For the contributory factors 'exposure' and 'sensitivity', ranking of districts from 1 to 33 follows the descending order of corresponding index measures, whereas for 'adaptive capacity', it is the reverse. ▪ Thus the district of Jalgaon is found to be the most exposed to climatic risks in the 2030s and Sangli the least. While Nandurbar has the least adaptive capacity and Sindhudurg the highest, the districts of Gadchiroli and Aurangabad are, respectively, the most and least sensitive to climatic risks. ▪ Nandurbar is the most vulnerable district followed by Dhule and Buldana. Satara was regarded as the least vulnerable district, whereas Ratnagiri and Sindhudurg were also considered less vulnerable as compared to other districts. Source: Maharashtra State Climate Change Adaptation Policy.					

3.7.3. The initiatives of Govt. of India and Govt. of Maharashtra: Government of India accorded top priority for addressing climate change related concerns. India has signed the United Nations Framework Convention on Climate Change (UNFCCC), and has acceded to the Kyoto Protocol in 2002 and Paris Agreement in 2015. The Government has also formulated the National Action Plan on Climate Change (NAPCC) that provides for eight missions to help the country adapt to the effects of climate variability and change. On the basis of NAPCC, State Governments have prepared State Action on Climate Change (SAPCC). India has also submitted very ambitious targets under Nationally Determined Contributions.

Government of Maharashtra also taken proactive steps to address the climate change challenges. State Action Plan on Climate Change (SAPCC) included more than 60 actionable recommendations for various sectors impacted by climate change. To support the implementation of SAPCC, Govt. of Maharashtra finalized a State Climate Change Policy in 2017 and Sectoral Action Plans for 8 sectors (Agriculture, Water, Forest, Health, Energy, Rural Development, Urban Development, Disaster Management) prioritization of recommendations using cost benefit analysis were finalized, Integrated Coastal Zone Management authority has been formed by the State in 2018. Similarly, to mainstream the climate change initiatives State Government has also taken-up initiatives such as Water for All (Jalyukta Shivar Abhiyan), Village level water budgeting, Water Literacy Campaign, State Action Plan on Water, massive afforestation programme with an aim to plant 500 million trees (2014- 2019) to increase in forest cover from current 20% to 33%, etc.

Government of Maharashtra is also implementing World Bank supported project viz. "Project on Climate Resilient Agriculture (POCRA)" to build climate resilience in 15 vulnerable districts (drought and salinity prone and socio-economically backward) to promote climate resilient crop varieties and agronomic practices which includes aspects relate to micro-watershed and soil management, value chain development (10 climate resilient crops), strengthening farmer

producer organizations, etc.

3.7.4. Initiatives of NABARD

As per the mandate for sustainable and equitable rural prosperity, NABARD, in line with the initiatives of Government of India, has taken various steps to develop climate resilient livelihoods for rural areas. NABARD has been implementing several developmental projects with an objective of promoting sustainable livelihoods through Natural Resources Management (NRM) such as watershed development, sustainable livelihood for tribal communities, Umbrella Programme for Natural Resources Management (UPNRM), etc. These projects have helped in building climate change resilience and adaptive capacities of rural communities.

NABARD has been making efforts for channelizing national and international climate finance under funding arrangements, viz. Adaptation Fund (AF), National Adaptation Fund for Climate Change (NAFCC) and Green Climate Fund (GCF).

NABARD has taken various initiatives in addressing the challenges posed by climate change particularly in the areas of agriculture and rural livelihood. NABARD as the National Implementing Entity (NIE) for three important funding arrangements viz., Adaptation Fund (AF), National Adaptation Fund for Climate Change (NAFCC) and Direct Access Entity to Green Climate Fund (GCF) aims to channelize national, international, and private finances for adaptation and mitigation activities in India. Thirty-eight projects involving financial assistance of ₹1819.43 crore were sanctioned and till 31 March 2019, the executing entities received ₹620.78 crore towards implementing these projects. These projects mainly cover adaption finance aimed at building resilience of various sectors such as agriculture, fisheries, animal husbandry, water, etc., in various agro-climatic regions. NABARD is also making efforts for development of feasible project concepts for mitigation sector under GCF.

NABARD has institutionalized Climate Change Centre (CCC) at BIRD, Lucknow in 2018 to extend professional support to stakeholders for designing climate related projects, their capacity building and to take up collaborative studies and action research projects in the area of climate change. Priority areas of the Centres' functions include mapping of climate change, hot spots, identification of investment areas, sectoral collaboration, collaboration with institutes of international repute, development of a knowledge portal, case studies, etc. A state-of-of-the-art learning lab and classroom has been created in the centre.

Under NAFCC, two projects have been sanctioned in Maharashtra, viz., "Project on Efficient Water Management and Agriculture Technology Adoption for Climate Adaptive and Resilient Farming System in 51 Villages of Nandurbar and Buldhana Districts of Maharashtra" for implementation through Vasundhara Watershed Development Agency (VWDA), Govt. of Maharashtra. The project aims to promote climate resilient cropping systems, technology transfer, and capacity building of farming community in Buldhana and Nandurbar districts.

The second project under NAFCC viz., "Restoration of Degraded Landscapes to Natural State of Ecosystems for Climate Resilience and Livelihood Improvement of Vulnerable Communities" is a multi-state project and it is being implemented in critical tiger habitat of Pench Tiger Reserve, Maharashtra (Nagpur Dist.) with Pench Tiger Conservation Foundation as an executing entity of the project. The project aims to restore the ecosystem services on degraded forest areas to

promote livelihood for local tribal communities and to minimize the incidences of human-wildlife negative interface and also to build up climate resilient local diversity (i.e. flora and fauna) for its sustainability.

Under Green Climate Fund, NABARD has received sanction for 02 projects including grant assistance of USD 34.35 million for building resilience of water resources sector in Odisha and loan assistance of USD 100 million under Private Sector Facility of GCF for solar roof top. These projects are expected to bring positive changes in lives of 5.2 Million Plus beneficiaries.

Considering the substantial climate finance requirement to the tune of USD 1.0 trillion for India by 2030, as estimated under NDC, there is a need to ensure proper blend of public and private finance, mainstreaming of climate change concerns in development planning, climate proofing of investments, etc. NABARD has successfully implemented community based adaptation and mitigation measures under existing projects and programmes such as watershed development, tribal development, etc. Sufficient amount of experience and expertise for ensuring long term resilience of livelihoods has been generated through these programmes. There is immense possibility for integrating these strategies in the existing government programmes. Fulfilling the need of climate action at grass root levels to address its impact on agriculture and rural sectors and its mainstreaming would require multi-stakeholder engagements.

3.7.5. Impact of Climate Change on various sectors and various interventions suggested for adaptation/mitigation

The impacts of climate change in major sectors like Agriculture, Water resources, ecosystem and livelihood, health and energy, along with the suggested action plan for adaptation are discussed in the Table 3.6.

Box 3.3. Inauguration of Project on Internet of Thing (IoT) project by Hon'ble Minister of Agriculture, Government of Maharashtra

The NABARD supported project on "Application of IoT to monitor soil moisture and automated irrigation system for crops at Buchkewadi village, Junnar block, Pune" was inaugurated by Hon'ble Agriculture Minister, Government of Maharashtra, Shri Anil Bondeji in a digital launch function held at Mantralaya (State Secretariat) on 17 Sept. 2019 in the presence of Shri. U D Shirsalkar, CGM, NABARD, MRO Pune and other Stakeholders, viz., Lupin Foundation, Elnnovation Technologies, Pune University, Mahatma Phule Agriculture University, Village Sarpanch and VWC members.



The project is unique in terms of application of IOT tools along-with crop-water budgeting and planning by a Water Users Association (WUA), in a watershed programme under dryland agriculture situation. The project is expected to facilitate improved water use efficiency and change in cropping pattern, which ultimately is expected to increase the farmer's income.

IoT devices based on soil moisture and crop specific-season specific water demand would control irrigation operations for a group of farmers, drawing water from a common farm pond. Soil Moisture Sensor inbuilt with a wireless IOT Device and a mobile app, would facilitate farmer to optimize the water usage for irrigation which results into saving of water and enhancement of crop yield.

Box 3.4. NAFCC Project: “Restoration of degraded landscape to Natural state of ecosystem for climate Resilience and livelihood improvement of vulnerable communities”

The impacts of climate change are global, but countries like India are more vulnerable in view of the high population depending on agriculture and high dependence on climatic parameters. As per the World Bank report (2018) Vidharbha region of Maharashtra is indicated as climate change hotspot due to its impacts. Impact of climate change on forestry are also substantial. As per the State Action Plan on Climate Change (SAPCC) projections, in case of forested regions of northern and southern Vidarbha, semi-evergreen to moist deciduous forests in southern part would turn into moist deciduous to dry deciduous and the dry deciduous forests in the north would possibly turn into more hardy woodlands. These would impact the flora and fauna of the ecosystem substantial. In order to build the resilience of the forest ecosystem through restoring the degraded landscape and various livelihood measures, a project under National Adaptation Fund for Climate Change (NAFCC) was sanctioned during March 2019. NAFCC has been established during 2014 with Ministry of Environment, Forest & Climate Change (MoEF&CC), Govt. of India and NABARD is National Implementing Entity (NIE) for this fund. The project is sanctioned for Maharashtra, Telangana and Rajasthan. The project in Maharashtra aims at enhancing ecosystem Services of the degraded forest land & ex-community wasteland in Totladoh irrigation colony in the Critical Tiger Habitat of Pench Tiger Reserve, through restoration and enrichment. Pench Tiger Conservation Foundation (PTCF) of Forest Department, Govt. of Maharashtra is the Executing Entity of the project.

The project interventions include restoration of degraded forest areas by dismantling and clearing of old abandoned human habitats, soil and moisture conservation measure, assisted regeneration, livelihood development for the village communities, etc. The project would treat the degraded landscape of about 250 ha creating additional carbon sink of about 11253 tonnes of carbon. The project would also support climate resilient sustainable livelihood in the buffer areas of the Pench tiger project.



❖ Degraded Forest Ecosystem in Pench Tiger Reserve area to be treated under NAFCC

Table 3.6. Impact of Climate Change on various sectors and various interventions suggested for adaptation/ mitigation

Sector	Specific impacts	Action plan
Agriculture	• Increase in temperature from 1 to 4 °C is likely to lead to decrease in yields for some crops, for e.g., in case of rice, the drop can vary from 0 to 49%. A rise in temperature of 1°C and 2.3°C results in 6.3% and 17.5% decline in sorghum yield in semi-arid conditions. 1 to 4 °C increase results in reduction in soybean yield of 11 to 36%. A temperature rise of 3.2°C can lead to a 268 kg/ha decline in cotton yield. • Increase in CO2 concentration may lead to increases in yields in some crops to some extent. However, this beneficial effect is bound to be nullified by an increase in temperature. • Pest incidence may increase due to increase in rainfall. For e.g., in Maharashtra there is an increasing incidence of black mould in sorghum and of Heliothis in cotton and red gram, which is attributed to increased rainfall.	• Farmer advisories by agricultural extension agencies on appropriate crops/ varieties, based on the predicted temperature/ rainfall fluctuations. • Research and extension work related to propagation of high yielding varieties of hardy traditional crops (including summer crops, traditional early sowing rice variety like Bhadas in Konkan) and promotion of heat-tolerant and early maturing varieties. • Provision of frequent and localized weather forecasts and crop-specific agricultural advisories to encourage farmers to change cropping practices (e.g. delay sowing dates, protective irrigation). • Denser networks of monitoring stations for better pest and disease surveillance (mobile based disease surveillance and instituting forewarning system for emerging pests and diseases and also customized advisories) and climate services. • Measures to conserve soil moisture for winter and summer crops, and improved planning and construction of watershed management structures like percolation tanks and check dams. • Enhancing resilience of farming systems through diversified cropping patterns (including hardy crops and integrated farming system approach), soil conservation, precision farming, organic farming. • Preservation of good agricultural land in peri-urban areas through designation of urban food zones around major cities to source the city's food (e.g. vegetables, milk, eggs), reduce its carbon footprint, and secure its food supply

Sector	Specific impacts	Action plan
		chain against climate risks. • Expanding network of Automatic Weather Stations, Ensuring weather based Crop insurance (to both loanee and non-loanee farmers; increased access to livestock insurance.
Water Resources	• Increase in rainfall projected for future time periods would be mainly in the form of heavy precipitation events, which would increase the surface run off. • Increase in the number of low rainfall days in south central Maharashtra indicates dry periods in this region which is likely to have an impact on water resources.	• Conservation and renaturalisation of rivers and water bodies - Retain and conserve the riparian zones and renaturalize existing wetlands in the state. Enhance native vegetation in these zones and formulate stringent policies to prevent the dumping of debris and waste in these zones. • Enhancement of water storage and groundwater recharge (in Central Maharashtra), to effectively harness the projected increase in rainfall for irrigation). • Improve water use efficiency through drip/ sprinkler, especially in districts with plantation/ fruit trees as main crops, like Aurangabad, Amravati, Bhandara, Nagpur, Nasik and Jalgaon. • Making rainwater harvesting mandatory in all new/ existing structures and also water recycling / reuse by industries/ utilities/ treatment and reuse of sewage water for gardening/ flushing.
Health	• Negative impacts on animal health, faster rate of parasite development at higher temperatures • Increased risk of water borne diseases due to increases in mean rainfall and proportion of extremely high rainfall events. • Reduced availability of	• Develop early warning tools in collaboration with meteorological agencies for fishermen, for farming communities, and provide health advisories. • Develop and maintain a digital health database for climate-sensitive diseases, including vector-borne diseases, water borne diseases, and heat stress. • Promote community surveillance and awareness programmes.

Sector	Specific impacts	Action plan
	fresh water due to saltwater intrusion into groundwater aquifers near the coast.	
Ecosystem & livelihoods	• Degradation of forests and fragmentation of land in the northern Western Ghats and loss of biodiversity corridors, which will make the region more vulnerable. • The projections include increased fire risk in savanna woodlands of Northern Western Ghats and Northern Vidarbha due to higher temperatures and arid conditions; • Increased aridity and reduced fodder supply in Marathwada, Khandesh, and Vidarbha; • Local species loss especially of mangroves, fishes & associated biota due to increased salinity of water; • Longer term threats (by 2070s) in composition and quantum of fish landings and impacts on associated livelihoods.	• Enhance quality of forest cover and improve ecosystem services through: ○ eco-restoration of degraded open forests in northern Western Ghats ○ regeneration of NTFP species in Yavatmal, Buldhana and Gondia ○ restoration of grasslands in Washim and Akola • Restore wetlands with a focus on tank based irrigation and fishery management system in Vidarbha. • Protect catchment areas of hydrological importance • Rejuvenate barren hillsides and degraded forests through corporate social responsibility (CSR) activities using selected diverse native varieties. • Encourage community participation in conservation through approaches such as Payment for Ecosystems Services • Diversify livelihood options through (i) developing agro forestry/ social forestry models, (ii) providing opportunities for value addition and income enhancement with NTFP based livelihoods and (iii) diversified livelihood options for fishery dominated districts like Sindhudurg and Ratnagiri.
Energy	• Energy shortages in the rural areas.	• Adoption of renewable energy (like solar, wind, biomass based power) for irrigation, lighting, drying of farm produce.
Cross sectoral	• Integrate future climate change projections and uncertainties into state	

Sector	Specific impacts	Action plan
recom.	disaster management plans and disaster risk reduction strategies. • Incorporate climate change concerns into development plans and land use planning, for e.g., if business as usual trends in land use and land cover change continue, there could be increased fragmentation and degradation of forests, making these ecosystems more vulnerable to climate change, as well as the dependent species and livelihoods. • Land use zoning and development planning can be oriented to protection and restore such ecosystems and make them more resilient to climate change.	

3.8. Micro, Small and Medium Enterprises (MSME)

3.8.1. Significance of the sector

Majority of people living in rural areas draw their livelihood from agriculture and allied sectors. However, the growth of other sectors such as industry and services is also necessary to sustain the balanced development of the economy. Micro, Small and Medium Enterprises is an important employment generating sector, especially in the backdrop of dwindling employment opportunities in the agriculture sector. Development of MSME helps in capital formation, growth of entrepreneurship among local people, reduced migration and ensures inclusive growth.

Services Sector is a critical segment of the economy, which helps in the marketing of goods and services. Lending to this sector assumes significance from the viewpoint of linkage support provided by it to the primary and secondary sectors and to the overall development of a district's economy. Potential for these activities depends upon the demand for the activities generated in the district based on opportunities and need of clients. Assessment of physical potential under this sector which besides manufacturing sector industries, includes activities such as small road & water transport operators, retail trade / small business, professional & self-employed, etc., is rather difficult due to the complex and diverse nature of the activities and also since any standardization of the size of unit and per unit investment tends to be hypothetical. The growth of the sector is reflective of the overall economic development of the region. Since the activities are generally demand based, their potential can be assessed mostly in financial terms based on the past trends in financing.

Considering the increased pressure on land, there exists limited scope for increasing employment in agriculture. So, employment in the off-farm sector becomes an important option to create job opportunities and development of requisite skills among the rural people for the purpose. MSMEs provide opportunities for income generation utilizing local raw materials, local skills, labour and require low investments. The significance of the off-farm sector is even more pronounced in the agriculturally backward and low productivity regions of Maharashtra.

3.8.2. GoI, RBI and NABARD – Perspectives, Directives and Initiatives

3.8.2.1. Bank loans to micro, small and medium enterprises in both manufacturing and service sectors are eligible to be classified under priority sector. The limits for investment in plant and machinery/equipment for manufacturing / service enterprise, as notified by Ministry of Micro

Small and Medium Enterprises, vide, S.O.1642(E) dated September 9, 2006 are as under:-

Sector	Manufacturing Sector*	Service Sector**
	investment in plant and machinery	investment in equipment
Micro	< ₹ 25 lakhs	< ₹ 10 lakhs
Small	₹ 25 lakhs – ₹ 5 crores	₹ 10 lakhs – ₹ 2 crores
Medium	₹ 5 crores- ₹ 10 crores	₹ 2 Crores - ₹ 5 crores

[*In case of the above enterprises, investment in plant and machinery is the original cost excluding land and building and the items specified by the Ministry of Small Scale Industries vide its notification No.S.O. 1722(E) dated October 5, 2006; ** Enterprises whose investment in equipment (original cost excluding land and building and furniture, fittings and other items not directly related to the service rendered or as may be notified under the MSMED Act, 2006) These will include small water & road transport operators, small business, retail trade, professional and self- employed persons and other service enterprises].

3.8.2.2. Some of the directions in which new ideas are being contemplated are as follows-

- a) to make turnover as the criteria instead of investment under Plant & Machinery
- b) (i) to enhance the existing limit for investment in plant and machinery considering changes in price index and cost of inputs consistent with the emerging role of the MSMEs in various Global Value Chains,
- (ii) to include in such classification, the micro or tiny enterprises or the village enterprises, as part of medium enterprises apart from small enterprises so as to enable the aforesaid category of enterprises to avail the benefits and become competitive, and
- (iii) to revise the existing limit for investment, by notification, considering the inflation and dynamic market situation

3.8.2.3. As per the revised Priority Sector Lending guidelines by the RBI, all the loans to MSME will be classified as priority sector lending by banks. As per the guidelines, a separate sub limit of 7.5% of ANBC was created for lending to Micro Enterprises under Priority Sector to be achieved in a phased manner i.e. 7% by March 2016 and 7.5% by March 2017. All the loans to units in the Khadi and Village Industries sector are classified under the sub-target of 7.5% prescribed for the micro enterprises. Loans to entities involved in assisting the decentralized sector, in the supply of inputs to and marketing of outputs of artisans, village and cottage industries form part of MSME. The priority sector guidelines also state that in order to ensure that the MSMEs do not remain Small or Medium units merely to claim eligibility for priority sector status, the MSME units will continue to enjoy the priority sector lending status upto three years, even after they grow out of the MSME category concerned.

3.8.2.4. Removal of Cap of loan limits per borrower to MSME-Services Sector- With the increasing prominence of services sector in the economy, RBI has issued guidelines in respect of

removal of the loan limits of ₹5 crore and ₹ 10 crore per borrower to Micro/ Small and Medium Enterprises (Services) respectively, to Scheduled Commercial Banks for classification under priority sector. Accordingly, all bank loans to MSMEs, engaged in providing or rendering of services as defined in terms of investment in equipment under MSMED Act, 2006, shall qualify under priority sector without any credit cap. (Ref- RBI/ 2017.18/ 135 FIDD.CO.Plan.BC.18/ 04.09.01/2017.18 dated 01 March 2018).

3. 8.2.5. Relief for MSME Borrowers registered under Goods and Services Tax (GST)- RBI vide Cir No. RBI/2017-18/129 DBR .No.BP.BC.100/21.04.048/2017-18 has advised that the exposure of banks and NBFCs to a borrower classified as micro, small and medium enterprise under the Micro, Small and Medium Enterprises Development (MSMED) Act, 2006, shall continue to be classified as a standard asset in the books of banks and NBFCs subject to the following conditions:

- i. The borrower is registered under the GST regime as on January 31, 2018.
- ii. The aggregate exposure, including non-fund based facilities, of banks and NBFCs, to the borrower does not exceed ₹250 million as on January 31, 2018.
- iii. The borrower's account was standard as on August 31, 2017.
- iv. The amount from the borrower overdue as on September 1, 2017 and payments from the borrower due between September 1, 2017 and January 31, 2018 are paid not later than 180 days from their respective original due dates.
- v. A provision of 5% shall be made by the banks/NBFCs against the exposures not classified as NPA in terms of this circular. The provision in respect of the account may be reversed as and when no amount is overdue beyond the 90/120 day norm, as the case may be.
- vi. The additional time is being provided for the purpose of asset classification only and not for income recognition, i.e., if the interest from the borrower is overdue for more than 90/120 days, the same shall not be recognized on accrual basis.

RBI has reiterated the instructions in its Master circular on LBS dated 02.07.2018

3.8.2.6. Government of India has announced major schemes like Start up India, MUDRA, Stand up India, Make in India and Skill India to develop much required entrepreneurship in the country, the features of which are given below -:

Stand up India- Gol has launched the 'Stand up India' scheme to facilitate setting up of 'Greenfield' (new) enterprises by entrepreneurs from SC/ST and Women categories. The objective is to cover one SC/ST and one Woman per bank branch of Commercial and Regional Rural Banks through provision of loans from ₹ 10 lakh to ₹ 100 lakh, with borrower's contribution of minimum 10 % of TFO. An interactive portal www.standupmitra.in has been developed through which borrowers can submit applications. Handholding support is available through various institutions listed in the portal. Credit guarantee scheme for Stand up India (CGSSI) has been notified by Gol vide the notification dated 25.4.2016 to guarantee credit facilities sanctioned by banks under the scheme. The enterprise could be in manufacturing, service or trading sectors.

MUDRA:- Gol has announced the Micro Units Development & Refinancing Agency (**MUDRA**) Yojana for development and refinancing related activities of micro units. Under the Pradhan Mantri Mudra Yojana, three products signifying the stage of growth/development and funding needs of the beneficiary micro unit/entrepreneur are available viz. Shishu – covering loans upto ₹ 50,000/-, Kishor – covering loans above ₹ 50,000 and upto ₹ 5 Lakh, and Tarun – covering loans

above ₹ 5 Lakh and upto ₹ 10 Lakh.

Skill India:- With an objective to create opportunities, space and scope for the development of the talents of Indian youth with an emphasis to skill them in such a way that they get employment/or set up entrepreneurship, GoI launched the "National Skill Development Mission" on 15 July 2015 with an aim to train over 40 crore people in India in different skills by 2022. It includes various initiatives of the government like "National Skill Development Mission", "National Policy for Skill Development and Entrepreneurship 2015", "Pradhan Mantri Kaushal Vikas Yojana (PMKVY)" and setting up Sector Skill Councils under public-private arrangement.

Make in India: With the primary goal of making India a global manufacturing hub, by encouraging both multinational as well as domestic companies to manufacture their products within the country, "Make in India" initiative was launched by GoI on September 25, 2014. The Make in India program includes major new initiatives designed to facilitate investment, foster innovation, protect intellectual property, and build best-in-class manufacturing infrastructure.

Start-up India: GoI on 15 August 2015 announced the "Start-up India" initiative, which aims at fostering entrepreneurship and promoting innovation by creating an ecosystem that is conducive for growth of Start-ups. The objective is that India must become a nation of job creators instead of being a nation of job seekers. A start up India hub will be created as a single point of contact for the entire start up ecosystem to enable knowledge exchange and access to funding. GoI has created a website www.startupindia.gov.in wherein the list of incubators and funds available for startups are listed.

3.8.2.7. For ease of access to credit for MSMEs, Government has introduced providing of loans upto ₹ 1 cr for MSMEs within 59 minutes through a dedicated online portal.

3.8.2.8. Under the Interest Subvention Scheme for MSMEs, 350 crore has been allocated for FY 2019-20 for 2% interest subvention for all GST registered MSMEs, on fresh or incremental loans.

3.8.2.9. To create maximum employment through the MSME sector in Maharashtra, the State Government proposes to create industrial parks under a new scheme at each taluka level for MSMEs. As a pilot project, it is proposed to create such parks in 50 talukas initially. Out of the total plots developed under this scheme, 30 per cent will be reserved for women entrepreneurs. For 2019-20, an outlay of ₹ 300 cr will be reserved for this scheme (Excerpts from the State Government Budget Speech 2019-20).

3.8.3. The State Scenario

According to 73rd Round of National Sample Survey (NSS) (2015-16) the total number of MSMEs in the State of Maharashtra stood at 47.78 lakh, which is 8 per cent of the number of MSMEs in the country, employing 90.77 lakh persons in the state.

The sector is showing steady increase particularly in the last five years. The share of MSME in the overall priority sector increased from a meagre 8% during the year 2007-08 to 64 % in 2018-19, indicating the potential that exists in the State for the sector.

3.8.3.1. A perusal of Broad-sector-wise GLC Flow in the State indicates that MSME sector accounts for 64% of total GLC for priority sector during 2018-19. SLBC has prepared a credit plan of ₹

235,375.91 cr for the year 2019-20 under MSME sector including that for Mumbai City and Mumbai suburban districts.

3.8.3.2. Sector Specific State Bodies/Agencies - Maharashtra Industrial Development Corporation (MIDC) provides single window solution to the entrepreneurs for setting up and expansion of businesses in the state. Maharashtra Agro Industries Development Corporation (MAIDC) is the state nodal agency for development of food processing sector in the state. The District Industries Centre is the nodal agency to promote small scale industries in the district. KVIB acts a nodal office of KVIC in the district. The Board provides marketing and consultancy support for starting various SSI units. KVIC and KVIB have been supporting the artisans, entrepreneurs to set up units in the district, by imparting training and financial support under PMEGP.

3.8.3.3. Some of the major activities under MSME sector financed in Maharashtra are as follows- Textile- Garments, Automobiles, Transportation, Wholesale and Retail trades, Hotel- Catering, Basic metals, Construction, Chemicals, IT enabled services, etc.

3.8.3.4. A gist of the Industrial Policy and Innovative Start-Up policy of the State is presented below-

I. Industrial Policy of Government of Maharashtra- 2019

With an intent to make Maharashtra, USD One trillion economy in the country, the Government of Maharashtra has released Industrial Policy of Maharashtra -2019, which shall be valid for a period of five years from 1 April 2019. The primary targets of the policy are:

- To attain manufacturing sector growth rate of 12% to 13% to reach GSDP share of 25% by 2023-24.
- Attract investments worth INR 10 lakh crore by 2023-24.
- Create employment opportunities for 40 lakh people by 2023-24.

II. Maharashtra State Innovative Start up Policy 2018:

Department of Skill Development and Entrepreneurship, Maharashtra has come up with an Innovative Start up Policy 2018 on 05.02.2018, for guiding & facilitating startups in the State.

Table 3.7. District-wise clusters with potential for MSME Enterprises

S. No.	District	Product
1	Ahmednagar	Auto Components
2	Akola	Oil Mills (Cotton seed), Dal Mills
4	Aurangabad	Auto Components, Pharmaceuticals- Bulk Drugs
6	Bhandara	Rice Mills
7	Chandrapur	Roofing Tiles, Rice Mills
9	Dhule	Chilly Powder
10	Gadchiroli	Castings & Forging, Rice Mills
12	Gondia	Rice Mills
13	Jalgaon	Dal Mills, Agriculture Implements
15	Jalna	Engineering Equipment
16	Kolhapur	Diesel Engines, Foundry, Powerloom
19	Mumbai	Electronic Goods, Readymade Garments, etc.
20	Nagpur	Powerloom, Engineering & Fabrication, Steel Furniture, Food Processing
21	Nanded	Dal Mills, Steel Furniture
22	Nashik	Powerloom
23	Pune	Auto Components, Electronic Goods, Food Products
24	Ratnagiri	Canned & Processed Fish
25	Sangli	M S Rods, Powerloom
26	Satara	Leather Tanning
27	Solapur	Powerloom

28	Sindhudurg	Cashew Processing, Copper Coated Wires
29	Thane	Powerloom, Sea Food,
30	Wardha	Solvent Oil
31	Yavatmal	Dal Mills

3.8.3.6. The industrial clusters identified in various districts of Maharashtra in coordination with UNIDO which entail bank finance under the MSME sector are presented in Table 3.8.

Table 3.8. Industrial clusters identified in various districts of Maharashtra in coordination with UNIDO

S. No.	District	Cluster
1	Kolhapur	Power Loom, Machine tools, Foundry
2	Thane	Pharmaceuticals – Chemicals, Confectionery, Powerloom, Electronic goods, Pharmaceuticals,
3	Mumbai	Readymade Garments, Electronic goods, Pharmaceuticals, Hosiery, Hand tools, Packaging material, Engineering equipments, Powerlooms
4	Satara	Hosiery
5	Nasik	Machine tools, Steel furniture, Powerloom
6	Solapur	Engineering Equipment, Powerloom
7	Nagpur	Machine Tools, Steel furniture, Food processing
8	Aurangabad	Auto components pharmaceuticals – Bulk Drugs
9	Pune	Auto components, Electronic goods, Plastic toys
10	Chandrapur	Hosiery, Rice mills, Roofing tiles
11	Ahmednagar	Auto components
12	Amravati	Fabrication
13	Jalgaon	Agriculture Implements, Dal Mills

(Source- courtesy- BoM)

Table 3.9. Major Agro-production clusters of Maharashtra

Name of the Produce	Cluster covering districts
Pomegranates	Nashik, Jalna, Ahmednagar, Pune
Pigeon Pea	Latur, Akola, Buldhana, Amravati, Nanded
Capsicum	Amravati, Nashik, Pune, Solapur
Papaya	Nandurbar, Dhule, Akola, Jalgaon
Onion	Jalgaon, Nashik, Aurangabad, Ahmednagar
Milk	Pune, Satara, Sangli, Kolhapur, Sholapur, Osmanabad, Nashik
Banana	Akola, Jalgaon, Nanded, Pune
Fisheries	Thane, Raigad, Ratnagiri, Sindhudurg
Grapes	Nashik, Ahmednagar, Pune, Satara, Solapur and Osmanabad

3.8.3.7. Designated Food Parks in Maharashtra: In order to provide impetus to development of the food processing sector on a cluster basis in the country, reduce wastage of agricultural produce, create employment opportunities especially in rural areas, a special fund namely Food Processing Fund (FPF) of ₹ 2000 crore has been created in NABARD in 2014-15. Out of 263 notified Designated Food Parks (DFPs) in the country, 16 DFPs (Mega Food Park-3, Food Park-7 & Agro Processing Cluster – 6) are present in Maharashtra.

Under the fund, affordable credit is available to State Governments, entities promoted by State Govt. /GoI, Joint Ventures (JVs), Special Purpose Vehicles (SPVs), cooperatives, federations of cooperatives, FPOs, companies, partnerships, entrepreneurs etc. Eligible projects are Designated Food Parks notified by MoFPI (including Agro Processing Clusters) and Food Processing Units in DFPs. Types of projects are (i) Establishment of new DFPs (ii) Augmentation/ Modernization / Additional Infrastructure in DFPs (iii) Setting up new food processing units within DFPs (iv) Modernization of existing food processing units in DFPs.

Projects sanctioned will also be eligible for the financial assistance extended by the MoFPI or any other Central or State Government agencies in the form of subsidy or grant-in-aid as per the extant guidelines of the respective Government schemes.

3.8.3.8. Support from NABARD for facilitating development of the MSME sector is as under:-

- Support for NSDC affiliated Training Institutes, Government Agencies, Corporate Partners, NGOs/VAs for skill development
- Providing handholding support to the applicants under Stand Up India Scheme.
- Providing financial support under Pradhan Mantri Awas Yojana-Gramin.
- Supporting RSETI / RUDSETI for REDPs (Rural Entrepreneurship Development Programme) and

SDPs (Skill Development Programmes).

- Conduct of exhibition, fair etc., by NGOs/DRDAs/MAVIM/Banks for supporting marketing efforts of rural artisans / SHGs.
- Support for formation of Off Farm Producers Organisations (OFPOs).
- Credit Planning and Review.

3.9. Micro Credit

3.9.1. Informal Credit Delivery System and Financial Inclusion

As on 31 March 2019, there are more than 100.14 lakh SHGs with aggregate bank deposits of about ₹23,324.48 crore, annual loan take off at ₹ 58,317.63 crore and loans outstanding at ₹ 87,098.15 crore in the country whereas in Maharashtra state, there are 10.83 lakh SHGs with savings of ₹166.15 crore accounting for 7.12% of total SHGs in the country. During 2018-19, 127596 SHGs were disbursed loan to the extent of ₹1641.00 crore which accounts for 2.81% of the total loans disbursed in the country. Women Self Help Group Programme (WSHG) is being implemented in 6 districts of the State viz., Nandurbar, Gadchiroli, Chandrapur, Dhule, Nanded and Gondia since June 2012 and under the programme 11676 SHGs have been credit linked against a target of 14149 as on 31 March 2019. The interest subvention scheme under NRLM for eligible women SHGs in identified districts is being implemented by NABARD for RRBs and Cooperative banks.

3.9.2. Issues before microfinance sector in Maharashtra

In the last two and half decades, this initiative progressed not only in numbers so as to reach 10.83 lakh SHGs in the state of which 2.27 lakh are credit linked, but also evolved in its scale and scope. As a result, while the livelihood generation aspect has been taken up in a bigger way under the NRLM, the financial agenda of bank linkage has taken off into a record high scale.

There are, however, a few issues which need immediate attention of the stakeholders. They are as under:

- **Gaps in saving and credit linkage**

In Maharashtra State, there are 10.83 lakh SHGs having SB accounts as on 31-03-2019, but only 2.27 lakh SHGs are having outstanding loans, which is a matter of concern. Nearly 79% groups are waiting to be credit linked (fresh as well as repeat linkage) in Maharashtra. Further, RRBs' and Co-operatives' share in loan disbursement during 2018-19 was ₹135.57 Crore (8.27%) and ₹302.71 Crore (18.44%) respectively. This indicates that there is scope for more participation from the RRBs and Cooperatives in the State.

- **Ticket Size of SHGs**

Average loan availed during 2018-19 in Maharashtra is ₹1.28 lakh as compared to the national average of ₹ 2.16 lakh. Banks may encourage repeat linkages to increase the ticket size.

- **Rising NPAs**

SHG Loans NPAs - Agency wise NPAs in Maharashtra during last 2 years

Agency	As on 31-03-2018 (%)	As on 31-03-2019(%)
Public Sector Banks	23.93	21.77
Private Sector Banks	1.35	0.99
RRBs	13.50	17.44
DCCBs	14.79	10.88
Total Gross NPAs-Maharashtra	13.46	12.57
Total Gross NPAs - India	6.12	5.19

Agency-wise status of gross NPAs in SHG loans in Maharashtra is given in the table above. As can be observed there from, the Gross NPAs in Maharashtra as on 31-03-2019 at 12.57% are more than double of the same at all India level at 5.19%. Further, while Gross NPAs at all India level have declined to 5.19% as on 31-03-2019 from 6.12% as on 31-03-2018, we see a decrease to 12.57% as on 31-03-2018 over 13.46% as on 31-03-2018 in Maharashtra. This is an area of concern. Further, NPAs of PSBs have grown considerably. Although the RRBs & Cooperatives in the State have shown improvements in the Gross NPA figures, they continue to have Gross NPAs at a higher level than State's average. The increase in Non-Performing Assets in the SHG portfolio over the years has been flagged as a cause of concern. This, therefore, requires serious strategizing and we need to find the reasons and come out with a roadmap for bringing the NPAs to acceptable levels. While the generic contributors of NPAs are well known viz. poor quality of SHGs formed, lack of handholding support, targeted lending etc., more particular reasons are mostly related to local conditions, announcements of waivers by State Government etc. The strategy therefore, would require specific action planning taking into account other reasons for NPAs as also the local factors.

3.9.3. Digitization of SHGs - EShakti :

Efforts are being made by NABARD to leverage technology to bring qualitative change in SHG-BLP. For this purpose, project EShakti has been taken up on a pilot basis in seven districts of the State. Dhule and Wardha districts were covered in the first and second phase respectively. Encouraged by the success of the project, Kolhapur, Nagpur, Chandrapur, Aurangabad and Raigad have been added in the third phase. In the phase IV during 2019-20, 8 more districts viz. Ahmednagar, Jalgaon, Nanded, Nandurbar, Satara, Sangli, Sindhudurg and Washim from Maharashtra are being covered under the EShakti programme.

Under the project, the base data of all SHGs in the district and their members had been captured and subsequently updated at regular intervals. The base data will have socio-economic details of each of the members of all SHGs, including family income, family size, source of income, livelihood activities undertaken, bank account number, savings, details of meetings held, internal loaning, repayment, etc., and will help facilitate effective account keeping. It is expected that the intervention will enable the policy makers, banks, financial institutions, government departments, etc., to identify those SHGs and members who require assistance. It will also enable effective monitoring of the SHGs, help in main-streaming of SHG members access wider range of financial services, increase bankers' comfort in credit appraisal and linkage of SHGs, facilitate transfer of social benefits and Direct Benefit Transfer (DBT) through Aadhaar linked accounts and convergence with other Government benefits, facilitate suitable interventions and convergence

of other programmes for social and financial empowerment, identify suitable interventions and support for proper nurturing and strengthening of SHGs, etc. The data is being captured on the website on regular basis, viz., www.eshakti.nabard.org created by NABARD. The various MIS reports generated have been of help to the bankers in taking faster credit decisions. Exposure visit of CGM, RBI, Mumbai along with the Chiefs of Priority Sector Advances of Commercial banks to Nagpur during the year 2018-19 has highlighted the success of EShakti project in the state.

The flow of activities in the EShakti project are as under:

- Capture of master data (social & financial)
- Upload of data in EShakti portal
- Audit of data and data cleansing
- Regular updating of data in mobile through App
- SMS alerts to members and hosting of data
- MIS & loan application generation for banks & other stakeholders

EShakti enables effective monitoring of the SHGs, helps SHG members to access wider range of financial services, increase in bankers' comfort in credit appraisal and linkage of SHGs, transfer of social benefits and DBT, convergence with other Government benefits, social and financial empowerment, strengthening of SHGs, etc.

As a consequence of EShakti, 27605 SHGs have been digitized and 13735 SHGs have been provided credit.

3.10. Financing of Joint Liability Groups

Financing of JLGs was introduced as a pilot project in 2004-05 by NABARD in 8 States with the support of 13 RRBs. The scheme was later mainstreamed for the banking system in the year 2006. JLGs are informal groups of 4-10 members who are engaged in similar economic activities and who are willing to jointly undertake to repay the loans taken by the Group from the Banks. JLGs basically are Credit groups of small/marginal/tenant farmers/ asset less poor who do not have proper title of their farmland. Regular savings by the JLG members is purely voluntary and their credit needs are met through loans from financial institutions and such loans could be individual loans or group loans against mutual guarantee.

Apart from extending refinance support of 100% to the financing Banks, NABARD also extends financial support for awareness creation and capacity building of all stakeholders under the Scheme. NABARD also extends grant support for formation and nurturing of JLGs to Banks and other JLG Promoting Institutions (JLGPIs).

As on 31 March 2019, NABARD has extended grant assistance of ₹ 80.095 lakh to JLG Promoting Institutions (JLGPIs) for promoting 8038 JLGs across Maharashtra and enabling flow of collateral-free loans to tenants/landless farmers.

As RRBs have a huge rural network, NABARD encouraged RRBs to finance JLGs in a big way. In Maharashtra, NABARD entered into MoU with both the RRBs. Under this scheme NABARD has provided grant assistance to banks for using corporate BC/NGOs as JLGPIs and for capacity building to create a pool of trainers from among the bank staff for the formation, nurturing and financing of new JLGs.

3.11. Digitization of land records

In Maharashtra, records of rights has been computerized in all 36 districts. It is available for public on Government of Maharashtra website. The necessary software has been developed by National Informatics Centre. The number of land records available online and digitised as on 31 October 2019 are 2.48 crore. The banks can have online access (view) of record of rights through <https://mahabhulekh.maharashtra.gov.in>. However, banks cannot register their charges online. The constraints regarding site opening, downloading 7/12 extract, banks charge noting are being addressed. (Source: SLBC)

3.12. Financial Inclusion

Inclusion has been the focus of the development agenda of NABARD, which, since the early 1990's, envisaged that economic, social and financial inclusion must go hand in hand. As 'manager' of Financial Inclusion Fund (FIF), under the guidance of the FIF Advisory Committee, NABARD has been using the FIF to encourage the banks into digital initiatives with the overall objective of making available quality banking services in rural areas, supplement costs related to such initiatives as also help the banks to introduce systems and procedures prescribed as regulatory requirements.

3.12.1. Financial Inclusion Fund (FIF)

The emerging understanding amongst policy makers is achieving growth that is inclusive and sustainable. In order to help RFI make available their services to people, GOI had constituted two funds, viz., Financial Inclusion Fund (FIF) and Financial Inclusion Technology Fund (FITF) in 2007-08 in NABARD. In 2015, GOI merged FITF into FIF. The fund supports ICT interventions of RFIs so as to enable the RFIs to bring the disadvantaged population under the umbrella of financial services.

3.12.1.1. Financial Literacy Initiatives

A. Financial Literacy Centers (FLCs) : FLCs are an institutional set up within the banks, which facilitates the use of banking services, wherein the counsellor can advise customers on the schemes available, banking products suitable or help with the procedures involved. FIF grant has been extended to RRBs and DCCBs towards CAPEX and OPEX for the first year as also OPEX for second and third year. FLCs, through their outreach and access to remote areas, are instrumental to the eventual acceptance of digital payment systems by rural clients. In Maharashtra, ₹7.83 crore has been released to banks for 196 FLCs.

B. Financial Literacy Camps : To create awareness about the features and benefits of new digital payment methods, use of cards and POS machines, UPI, BHIM and Aadhaar based payments, among the users of banking services, NABARD has been supporting conduct of Financial and Digital Literacy Awareness Programmes by banks through their Financial Literacy Centres (FLCs) and rural branches. During 2018-19, ₹ 0.25 crore was released to RRBs and RCBs for conduct of 1023 camps.

C. Centres for Financial Literacy (CFL) : A pilot project for establishing CFLs in select districts is under implementation since 2017-18, under which 10 CFLs, i.e., 05 each in Ratnagiri and Washim districts have been set up by BoI and SBI respectively. The CFLs are managed by an agency, viz.

CRISIL in Maharashtra, on behalf of the banks. FIF grant of ₹1.50 crore has been sanctioned to these 02 banks (@ ₹15 lakh per CFL) towards CAPEX for first year and OPEX for 03 years. The CFLs have been instrumental in establishing linkages in terms of enrollments under PMSBY/ PMJJBY/ APY, mobile number linkage, bank account opening, MUDRA loans, BHIM app, etc., through conduct of Flip book based trainings, AV based trainings, awareness camps, etc. Till date, FIF grant amounting to ₹0.93 crore has been released towards CAPEX and OPEX support for 10 CFLs.

D. Mobile Van for demonstration of banking technology : To enhance the outreach of the DCCBs and RRBs beyond the FLCs, support for mobile van fitted with micro ATM/ ATM/ POS, display screens and hoardings, for demonstration of banking technology, has been extended, with support up to ₹15 lakh per van. These vans will be run as per schedule, in remote areas of the district, thereby familiarizing people with new banking technology. Out of the 21 mobile demo vans sanctioned in Maharashtra, grant support amounting to ₹2.21 crore has been released, till date, towards deployment of 18 vans.

E. RSETIs : RSETIs are Rural Self Employment Training Institutes, an initiative of Ministry of Rural Development to have dedicated infrastructure in each district of the country to impart training and skill upgradation of rural youth geared towards entrepreneurship development. RSETIs are managed by banks with active cooperation from GOI and State Governments. In Maharashtra, an amount of ₹1.024 crore has been released to Commercial Banks as one-time grant support towards CAPEX for purchase of training equipments, in respect of 35 RSETIs.

3.12.1.2. Technology support from NABARD

A. CBS : CBS being the backbone on which all other delivery channels ride, stabilization of CBS was necessary for the banks to provide RuPay Debit and RuPay Kisan Cards which can be used at ATMs, PoS, micro ATMs and at e-com sites, and enable banks to participate in online remittance platforms like RTGS/ NEFT, NACH, etc. To encourage the banks to stabilize CBS, NABARD supported the implementation of CBS, through WIPRO, in 8 DCCBs of the State viz., Aurangabad, Beed, Latur, Kolhapur, Parbhani, Nanded, Ratnagiri and Yavatmal, through a national level centralised initiative to enlist vendors and software solutions. This apart, financial support of ₹2.00 lakh per branch where CBS has been completed, was also made available to the banks. FIF support of ₹68.74 crore has been released to 27 RCBs towards CBS implementation.

B. ICT Based Solutions : Support under FIF has been made available to banks for issuance of RuPay debit cards against PMJDY accounts, RuPay Kisan cards, deployment of POS terminals/ micro ATMs, data migration from PACS to the CBS of DCCBs and cost of integrating micro ATMs to the CBS of the DCCBs as also ATM add-on cost of integrating ATMs with DCCB branches. Support has also been extended to banks for deployment of micro ATMs. Till date, FIF grant amounting to ₹7.90 crore has been released to 02 RRBs and 05 DCCBs towards deployment of more than 3900 micro ATMs. It is hoped that over time, these devices will encourage digital transactions, which in turn will lead to benefits of ease for the customers as also transparency and efficiency at the banks.

C. RuPay cards : DCCBs provide SMS alerts to their customers, most have onboarded to DBT and NACH, and are members of Credit Information Companies. The banks have also onboarded to the National Financial Switch and have issued RuPay Debit/ RuPay Kisan cards to their

customers, in order to make it possible for them to swipe directly at POS machines with the merchants or withdraw cash through ATM/ micro ATMs. NABARD has supported the issuance of RKC's with a reimbursement of upto ₹25 per card, after ensuring a 20% margin by the banks themselves. Under the scheme, FIF grant amounting to ₹6.35 crore has been released to banks towards issuance of about 25.40 lakh RKC's. Having largely facilitated the coverage of issuance of RKC's, NABARD now places emphasis on the activation of these RKC's so that rural customers get initiated into the use of card technology.

D. AUA/KUA : The Prevention of Money-laundering (Maintenance of Records) Second Amendment Rules, 2017 has made it mandatory for all Bank Account holders to link their accounts with the Aadhaar Number issued by UIDAI. For ensuring compliance with the above provisions, the banks are required to have access to the AUA / KUA facilities of UIDAI. RRBs and Rural Cooperative Banks are required to set up adequate infrastructure to provide Authentication services to their customers so that their accounts comply with the above provisions. Enabling these banks to have access to AUA/ KUA facility will provide an additional facility of AEPS transactions at micro ATMs deployed by these banks, thus allowing online interoperable financial transactions using Aadhaar Authentication and increasing digital transactions, especially in the rural areas. In Maharashtra, FIF grant of ₹2.097 crore has been sanctioned to RRBs and RCBs in the State.

E. Central KYC Records Registry : RBI vide its Master Direction dated 08 December 2016 had notified that all Regulated Entities (REs) other than Scheduled Commercial Banks (SCBs) are to upload the KYC data pertaining to all new individual accounts opened on or after from April 1, 2017, with Central KYC Registry. To encourage RCBs and RRBs to onboard to the CKYCR system, FIF supports banks up to a maximum of ₹3.60 lakh per RRB and ₹4.00 lakh per DCCB for onboarding to CKYCR. Till date, ₹40.62 lakh has been released to 11 banks towards onboarding to CKYCR.

F. Public Financial Management System (PFMS) : With a view to improve financial management in implementation of central plan schemes, GoI is progressively moving on to Public Financial Management System for disbursement under various subsidies and welfare schemes. In tune with GoI's directive on universalization of PFMS, NABARD advised all RCBs to onboard PFMS. To further facilitate this process, and to ensure that the account holders of RCBs are not denied of their share of government support, one-time grant assistance up to a maximum of ₹2.75 lakh is available to eligible StCBs and DCCBs for onboarding to PFMS. Of the 32 RCBs in the State, 22 RCBs have, so far, onboarded to PFMS and grant support amounting to ₹48.88 lakh has been released to 19 RCBs, as on date.

G. Aadhaar Enrollment Centres (AECs) : UIDAI vide its notification dated 14 July 2017 had directed Scheduled Commercial Banks to provide Aadhaar Enrollment and Updation facilities to their customers in at least 10% of the branches. Consequent to this, centers were opened in bank branches. In order to support the initiative of Banks to open AECs, FIF support upto a maximum of ₹1.00 lakh per AEC, is available to banks which have set up AECs in their branches on or before 31 March 2019. In Maharashtra, FIF grant amounting to ₹45.00 lakh has been released to the two RRBs towards setting up of 60 AECs as on 31 March 2019.

H. Dual Authentication : Business correspondents (BCs) provide financial and banking services

such as deposits, remittance and insurance to people living in far-flung rural and unbanked areas, and are a critical part of the government's financial inclusion initiative. At present, BCs are providing these services to sole account holders with single authentication. Although SHGs have become a noteworthy link between 1/3rd of the poor families and the formal banking system, the SHG accounts are operated jointly by two authorized members and these SHGs are conducting their banking transactions only at the bank branches, even though BCs are providing similar services close to their door steps. Thus, to provide an enabling eco-system for the SHGs to seamlessly operate at BC points with the proposed 'Dual Authentication' feature, FIF supports Scheduled Commercial Banks (SCBs) and RRBs for enabling Dual Authentication option in the microATMs for SHG transactions, by way of a onetime grant assistance towards development of software patch and its installation on microATMs, @ ₹7.00 lakh per Technical Service Providers (TSPs), for a maximum of 03 TSPs of SCBs and a maximum of 02 TSPs of RRBs. Both the RRBs have availed support under the scheme.

I. Support for BHIM UPI :

GOI has accorded high priority to financial inclusion for bringing the excluded population in far flung areas into the fold of formal banking so as to usher in faster economic growth. Digital payment infrastructure based on JAM trinity (Jandhan accounts, Aadhar Number and Mobile phone) is considered to be a promising and effective means to achieve the objectives of financial inclusion. As RRBs and RCBs are largely servicing rural population, it would be appropriate to encourage mobile based banking using the Bharat Interface for Money (BHIM) and Unified Payment Infrastructure (UPI) platform. FIF supports RRBs and RCBs upto a maximum of ₹5.00 lakh, for onboarding to BHIM UPI platform to better service rural population possessing mobile phones for conduct of banking transactions like transfer of money and payments for various products and services digitally through BHIM app. In Maharashtra, 03 banks have been sanctioned grant support totalling ₹15.00 lakh under the scheme.

3.12.2. Impact of PM Schemes

3.12.2.1. Prime Minister Jan Dhan Yojana (PMJDY) : Prime Minister Jan Dhan Yojana, which was launched on 28 August 2014, is being implemented by DCCBs, Commercial banks and RRBs. NABARD monitors the progress under PMJDY by RRBs and DCCBs, and plays an important role in monitoring the overall progress of the scheme at district and state levels. NABARD also makes efforts for generating awareness about PMJDY through its various financial literacy interventions. As on 30 October 2019, banks in Maharashtra have opened 2,63,32,756 accounts, of which 1,29,86,059 accounts pertain to beneficiaries at rural/ semi-urban centre bank branches. A total of 1,88,96,691 RuPay cards have been issued to the beneficiaries. The balance in the beneficiary account is ₹6,350.99 crore

3.12.2.2. Social Security Schemes : Three social security schemes Pradhan Mantri Suraksha Bima Yojna (PMSBY), Pradhan Mantri Jeevan Jyoti Bima Yojana (PMJJBY), and Atal Pension Yojana (APY) were launched by the Hon'ble Prime Minister on 9th May 2015. Implementation of these schemes by Cooperative Banks and RRBs is being monitored by NABARD.

Overall, NABARD has supported the rural cooperative banks in rendering banking services that support the overall development of the rural areas. It is imperative that cooperative banks align

themselves with the banking mainstream, which will ensure that the rural customers get the services and facilities that other banks offer. Therefore, through wide ranging support from the FIF, NABARD, in line with the national policy, encourages adoption of technology for digitization of banking transactions.

3.12.3. NABARD All India Financial Inclusion Survey (NAFIS)

NABARD All India Financial Inclusion Survey (NAFIS) with reference year of 2015-16 was conducted by NABARD on a pan-India basis drawing samples from as many as 2016 villages in 245 districts and 29 states that covered 40,327 rural households and a population of 1,87,518 in the process. The data was collected through the paperless method of Computer Aided Personal Interview. Some of the findings pertaining to Maharashtra, compared to All India, are as follows:

- Compared to all India, Maharashtra is characterized by more surplus, less savings, less incidence of indebtedness, low penetration of KCC, insurance and pension.
- Average Land owned by HH in Maharashtra is 0.69 hectare which is slightly higher than National average of 0.54 hectare.
- Monthly income of HHs in Maharashtra stood at ₹8,938 which is slightly above national average at ₹ 8,059.
- Average monthly income for agricultural households in Maharashtra is ₹10,268 compared to ₹8,931 at all India level.
- Proportion of HHs reporting to have taken any loan between the period under reference stood in Maharashtra is 31% which is below national average of 40%.

The above findings can be summarised into action points for Maharashtra as under:

1. Opportunity exists for banks to capture surplus in form of savings. This can be tapped by effectively utilizing existing branch network/ increasing branch BC network.
2. Need for increasing outreach of banks through effective financial inclusion catering to credit needs existing in the State.
3. Need to increase KCC penetration in campaign mode.
4. Creation of awareness through campaigns for better penetration of insurance and pension schemes.

The highlights of the survey commissioned in 2016 are presented in the following box.

Box 3.5. NABARD All India Financial Inclusion Survey (NAFIS)

NAFIS revealed that farm households register higher income than the families solely dependent on non-farm livelihood activities in rural areas and that the average annual income of an agricultural household is ₹1,07,172 compared to ₹87,228 for families engaged only in non-agricultural activities. The survey defined farm households as families having over ₹5,000 as value of produce from agricultural operations in the year preceding the survey. For all rural households, the average annual income stood at ₹96,708. The 48 percent of the rural families are agricultural households.

Apart from assessing the income levels of rural households, the survey mapped aspects like debt, saving, investment, insurance, pension and financial aptitude and behavior of individuals.

Incidence of Indebtedness (IOI), which is a proportion of households having outstanding debt on the date of the survey, was 52.5 percent and 42.8 percent for agricultural and non-

agricultural households respectively. All India IOI taking rural households together stood at 47.4 per cent.

While 88.1 per cent rural households and 55 percent agricultural households reported having a bank account, average savings per annum per household was ₹17,488. About 26 percent of agricultural households and 25 percent of non-agricultural households were found to have been covered under insurance. Similarly, 20.1 percent agricultural households as against 18.9 percent non-agricultural households have subscribed to pension schemes.

Dr. Rajiv Kumar, Vice Chairman, NITI Aayog appreciated NABARD for its multifaceted activities and emerging as knowledge partner. He highlighted that as per the NAFIS survey, the increase in income of agriculture household despite decrease in average landholding, is significant as it underlines the enhanced income level of farmers which can lead to reduction in absolute poverty. The farm income will further increase if they are able to develop value chain and provide marketing facilities at farm gate. The survey results also indicate that the vision of Hon'ble Prime Minister doubling of farmers' income is achievable. He emphasized the importance of animal husbandry as it contributed to farmers' income and it also reinforces the Government of India Dairy Infrastructure Development Fund of ₹8000 cr.

Dr. H K Bhanwala, Chairman NABARD underlined that the survey is a pioneering attempt to bring together Financial Inclusion and rural livelihood aspects. The findings reveal that there is an increase in agriculture household income significantly, with higher increase observed among marginal and small farmers. Dr Bhanwala also highlighted that the Survey was designed through a process of consultation with RBI and other key stake holders. He also shared that the survey is pointing towards greater financial inclusion and increasing share of formal credit in the borrowings of the agricultural households.

(https://www.nabard.org/auth/writereaddata/tender/1608180417NABARD-Repo-6_Web_P.pdf)

3.13. Transformation of Aspirational districts

Rural development is a multidimensional task that includes human development. The UNDP's Human Development Index (HDI) presently ranks India 129 out of 189 countries. In light of this, the NITI Aayog has identified 115 aspirational districts in 28 states for transformation. There are three core aspects that frame the structure of the programme – Convergence (of Central & State Schemes), Collaboration (of Central, State-level 'Prabhari' Officers & District Collectors), and Competition among districts. It aims to remove the high inter-state and inter-district heterogeneity in living standards through a mass movement to quickly and effectively create transformation.

Four districts viz., Osmanabad, Gadchiroli, Nandurbar and Washim have been identified as "Aspirational districts" in Maharashtra. The initiative, using mass movement approach, aims at overall transformation of such under developed districts. The key areas identified are Health & Nutrition, Education, Agriculture & Water Resources, Financial Inclusion, Skill Development and Basic Infrastructure including roads, potable water, rural electrification, individual household toilets, etc. which have a direct bearing on the quality of life and economic productivity of citizens. Concerted efforts are being made by the State Government agencies in the districts in coordination with NABARD DDMs for bringing improvement in these sectors and for overall development of the districts.

3.13.1. Support extended by NABARD in Aspirational Districts

3.13.1.1. Farm Sector Development – Watershed, Tribal Development and Climate Change Projects in Aspirational Districts supported by NABARD

Under Watershed Development Fund, in Nandurbar during 2017-2018 and 2018-2019, one new watershed development project and 3 climate proofing of watershed projects were sanctioned covering 3484 area. In case of Osmanabad, during 2017-2018 and 2018-2019, one new watershed project and 5 IWMS projects were sanctioned covering an areas of 1804 ha area. Cumulatively (as on 31.03.2019) in aspirational district under watershed development 16 projects (Osmanabad – 5, Nandurbar – 11) were sanctioned covering 13810 ha of areas whereas 12 SDP projects are implemented in Nandurbar district covering 7431 ha area, whereas 3 projects in Nandurbar were sanctioned covering 2484 ha under climate proofing of watersheds programme.

Under tribal development programme, 11 projects (Nandurbar -7, Washim- 1, and Gadchiroli 3) have been sanctioned covering 9500 families and 8750 acre under orchard plantation.

Under National Adaptation Fund for Climate Change (NAFCC) MOEF&CC, GOI has sanctioned 1 project viz. “Efficient Water Management and Agriculture Technology Adoption for Climate Adaptive and Resilient Farming System in 51 Villages of Nandurbar and Buldhana District of Maharashtra”. NABARD is the National Implementing Entity (NIE) for NAFCC. The project in Nandurbar district the project is being implemented in 37 villages in Navapur block, and aims to promote climate adaptive and resilient farming system through efficient water management and technology adoption for adaptive agriculture by rural families associated with agriculture and allied sectors. Specifically, it would seek to enhance adaptive capacity of farm families by introducing measures to tide over the adverse impacts of climate change on their food and livelihood security. The project will focus on farming communities and communities dependent on natural resources as livelihood options.

3.13.1.2. Farmer Producers’ Organisations in Aspirational Districts supported by NABARD

The support provided by NABARD is presented below:

Table 3.10. Support to FPOs in aspirational districts

(Amount in ₹ Lakh)

Name of district	No. of FPOs	Amt. Sanctioned during 2017-18 and 2018-19	Amt. Disbursed during 2017-18 and 2018-19
Gadchiroli	2	0.00	2.10
Osmanabad	5	57.20	12.73
Nandurbar	2	11.44	10.55
Washim	2	0.00	5.03
Total	11	68.64	30.41

3.13.1.3. Rural Mart in Aspirational Districts supported by NABARD

NABARD has sanctioned a grant of ₹ 2,58,000 to CMRC Karanja, district Washim, for setting up of a Rural Mart

3.13.1.4. Support by NABARD for SHG formation, Bank linkage and Capacity Building programmes in Aspirational Districts

The support provided by NABARD is presented in the tables below:

Table 3.11. Support for SHG formation and bank linkage in aspirational districts (2018-19)

(Amount in ₹ Lakh)

S. No.	District	Project	No of WSHGs to be promoted as per sanction	Total Amount sanctioned	No. of WSHGs saving linked as on 30.11.2019	No. of WSHGs credit linked as on 30.11.2019	Cumulative Amt. Released as on 31.03.2019
1	Nandurbar	WSHG	2199	219.90	1969	1429	122.00
2	Gadchiroli	WSHG	2600	260.00	2534	2354	219.53
	Total	WSHG	4799	479.90	4503	3783	341.53

Table 3.12. Support for capacity building and enterprise development programmes in aspirational districts (2017-18 and 2018-19)

(Amount in ₹ Lakh)

S. No.	District	Village Level Prog*		Capacity building Prog**		Enterprise Development Prog***	
		No. of Prog.	Grant Released	No. of Prog.	Grant Released	No. of Prog.	Grant Released
1	Gadchiroli	525	10.5	19	2.74	10	3.69
2	Nandurbar	283	5.66	13	0.96	1	0.76
3	Osmanabad	158	3.16	12	1.23	-	-
4	Washim	73	1.46	16	2.15	6	4.49
	Total	1039	20.78	60	7.08	17	8.94

* Village Level Prog. for interface between bank branch Managers and SHGs

** Capacity building Prog. include training of SHG leaders/members, sensitization of bankers' and training of SHPI functionaries

*** Enterprise Development Prog. include Micro Enterprise Development Prog. (MEDP) and Livelihood and Enterprise Development Prog. (LEDP).

3.13.1.5. Support by NABARD for Financial Inclusion and Banking Technology in Aspirational Districts

a) Support for conduct of Financial & Digital Literacy camps in Aspirational Districts, on Mission Mode, under Gram Swaraj Abhiyan :

In terms of DFS letter No. 29 May 2018, GoI had announced launch of Phase-II of Gram Swaraj Abhiyan; wherein banks were advised that a campaign on Financial Inclusion be organized from

01 June 2018 to 15 August 2018, in Aspirational Districts. Accordingly, 02 RRBs and 03 DCCBs conducted 185 camps on Mission Mode, details of which are given below:

Table 3.13. Support for Camps during Gram Swaraj Abhiyan in aspirational districts

(Amt. ₹ lakh)

S.No	Name of the Bank	Districts covered under the project	Grant released	No. of camps conducted
1	Osmanabad DCCB	Osmanabad	0.32	15
2	Dhule & Nandurbar DCCB	Nandurbar	0.53	24
3	Gadchiroli DCCB	Gadchiroli	1.71	38
4	MGB	Osmanabad & Nandurbar	0.95	52
5	VKGB	Gadchiroli & Washim	1.14	56
	Total		4.65	185

The camps covered more than 9500 participants and the banks (except Osmanabad DCCB) reported achievement of deliverables in terms of opening of new BSBD/ SB/ RD/ TD accounts, issuance of RuPay Debit cards/ RuPay Kisan Cards and customers who had enrolled for social security schemes.

Further, regular financial and digital literacy camps were also conducted by banks operating in the Aspirational districts during 2018-19, as per details given below:

Table 3.14. Support for Financial Literacy Camps in aspirational districts

(Amt. ₹ lakh)

Sr.	Name of the Bank	Districts covered under the project	Grant released	No. of camps conducted
1	VKGB	Various dists.*	0.43	113
2	Akola DCCB	Akola & Washim	0.27	30
3	Dhule & Nandurbar DCCB	Dhule & Nandurbar	3.23	72
4	MGB	Various dists.*	1.13	47
5	VKGB	Various dists.*	1.05	113
	Total		6.10	375

Details of FIF grant released during 2017-18 to banks operating in Aspirational districts are given below:

Table 3.15. Grant support to banks for organizing camps in aspirational districts

(Amt. ₹ lakh)

Sr. No.	Bank	Project area	Amount disbursed	No. of camps	Remarks
1	Akola DCCB	Akola & Washim	0.30	46	FI campaign (05 to 20 Feb. 2018) - Mission Mode
2	Dhule & Nandurbar DCCB	Nandurbar	0.44	22	
3	Akola DCCB	Akola & Washim	0.44	25	RBI FL Week - 05 to 09 June 2017
4	Dhule & Nandurbar DCCB	Dhule & Nandurbar	2.74	61	

Sr. No.	Bank	Project area	Amount disbursed	No. of camps	Remarks
5	Gadchiroli DCCB	Gadchiroli	4.15	83	Going Digital camps
6	Osmanabad DCCB	Osmanabad	1.29	67	
7	MGB	Various dists*	2.14	55	
8	VKGB	Various dists*	3.53	265	
9	VKGB	Various dists*	1.87	239	
10	Osmanabad DCCB	Osmanabad	1.06	73	
11	Gadchiroli DCCB	Gadchiroli	1.42	29	
12	MGB	Various dists*	3.66	69	
	Total		23.04	1034	

* Disaggregated data in respect of camps conducted in Aspirational districts has not been maintained.

b) Support to Commercial Banks for setting up of Centres for Financial Literacy at the Block Level:

A pilot project on setting up of Centres for Financial Literacy (CFL) is under implementation in Washim district, which is an Aspirational district; wherein State Bank of India has set up one CFL each in Mangrulpir, Malegaon, Risod, Manora and Karanja Blocks. The CFLs are managed by an NGO, viz. CRISIL. Grant support of ₹75.00 lakh was sanctioned to SBI in 2017-18, towards CAPEX (as one-time support) and towards OPEX for 03 years (i.e. ₹15.00 lakh per CFL). Total grant support released till date is ₹46.85 lakh. These CFLs were launched in October 2017 and have conducted a large number of Audio-Visual/ Flip Book based trainings and Awareness camps for rural folks and have been instrumental in achievement of deliverables in terms of enrollments under PMJJBY, PMSBY and APY and creating a demand for banking products and services.

c) Support towards issuance of RuPay Kisan Cards :

During 2017-18, grant support under FIF was released to the 04 DCCBs operating in Aspirational districts towards issuance of EMV chip based RuPay Kisan Cards, details of which are given below:

Table 3.16. Grant support to DCCBs for issuance of EMV – RuPay Kisan Cards in aspirational districts

(Amt. ₹ lakh)			
S.No	Name of the bank	Grant released	No. of RKC's issued
1	Gadchiroli DCCB	4.56	18226
2	Dhule & Nandurbar DCCB	13.25	53000
3	Osmanabad DCCB	22.97	91867
4	Akola DCCB	5.06	20224
	Total	45.83	183317

Disaggregated data in respect of RKC's issued by the DCCBs in Nandurbar & Washim districts is not available.

Besides the above banks, FIF grant amounting to ₹34.16 lakh was released to VKGB and MGB in 2017-18, towards issuance of 1.37 lakh RKC's. However disaggregated data on number of cards issued in the Aspirational districts is not available.

d) Deployment of Mobile Van :

During 2018-19, FIF grant of ₹15.00 lakh was released to Osmanabad DCCB for deployment of one mobile van. Further, during 2019-20, grant support of ₹30.00 lakh has been sanctioned to MGB for deployment of 02 mobile vans, one each in Osmanabad and Nandurbar districts and to Dhule & Nandurbar DCCB for deployment of one mobile van in Nandurbar district, involving grant support of ₹15.00 lakh.

e) Support for deployment of micro ATMs :

During 2018-19, FIF grant amounting to ₹311.15 lakh has been released 04 banks towards deployment of micro ATMs, details of which are given below:

Table 3.17. Support for deployment of micro ATMs in aspirational districts

(Amt. ₹ lakh)

S. No	Name of the bank	Grant released	micro ATMs deployed
1	MGB	208.76	1200
2	Gadchiroli DCCB	69.53	309
3	Akola DCCB	11.25	50
4	Osmanabad DCCB	21.62	100
	Total	311.15	1659

Akola DCCB has deployed 15 micro ATMs in Washim district and MGB has deployed 104 and 05 micro ATMs in Osmanabad and Nandurbar district respectively.

f) Onboarding to CKYC-R :

FIF grant of ₹8.00 lakh has been released to Gadchiroli and Akola DCCBs towards onboarding to CKYCR (@ ₹4.00 lakh per bank) and ₹7.20 lakh to VKGB & MGB (@ ₹3.60 lakh per bank).

g) Onboarding to PFMS :

FIF grant of ₹11.00 lakh has been released to Gadchiroli, Osmanabad, Akola and Dhule DCCBs towards onboarding to PFMS (@ ₹2.75 lakh per bank).

Box 3.6. CEO, NITI Aayog, visit to Nandurbar

Shri Amitabh Kant, CEO, NITI Aayog, accompanied by Dr B K Sinha, Joint Secretary, Department of Financial Services (DFS), Government of India, Shri Alok Ranjan, Advisor to NITI Aayog visited Nandurbar on 14th September 2019 for review of progress under Aspirational District Program.

A Mobile ATM van sanctioned by NABARD out of Financial Inclusion Fund (FIF) to Dhule and Nandurbar DCCB was inaugurated by CEO, NITI Aayog and Dr Heena Gavit, Hon. Member of Parliament, Nandurbar Constituency.

Sophisticated pre-fabricated steel carts were also distributed to tribal landless families supported under NABARD's Tribal Development Fund by them.

The CEO, NITI Aayog congratulated all the stakeholders for doing remarkable convergence work as envisaged in the programme of the Aspirational Districts, to bring the district from base line (March 18) delta ranking of 39 to latest (July end) ranking of 34 among all Aspirational Districts.



3.14. Doubling of Farmers' Income by 2022

3.14.1. GoI initiatives:

Union Finance Minister, in his Budget speech on 29 February 2016, announced that “We are grateful to our farmers for being the backbone of the country's food security. We need to think beyond food security and give back to our farmers a sense of income security. Government will, therefore, reorient its interventions in the farm and non-farm sectors to double the income of the farmers by 2022.”

Farmers' incomes have been reportedly lower after netting the every growing input costs. Considering the rising family expenses especially on health and education, there is a daunting task, before all of us, of improving incomes substantially. However, with proper strategies, we can achieve the goal. Based on certain estimates, farm incomes can be doubled in less than 6 years considering the past performance. In fact the incomes should more than double to neutralize impact of price rise. Income data from Situation Assessment Survey of NSSO for 2002- 03 and 2012-13 showed similar trend and improvement in the income of small holders has been slower, comparatively. Further there has been diversification towards livestock activities as also shift from food grains to horticulture produce. The relative shares of rural non-farm and wages in the total

incomes of the farm households has not been backed by a well enmeshed skilling plan. This is important as India, unlike the developed countries, could not reduce dependence of workers on agriculture even as share of agriculture in GDP declined steeply. Importantly, the doubling strategies should be region-specific given the diversity of agro-climatic conditions in the country.

Four-pronged strategy suggested by Hon'ble Prime Minister –

- 1) Reducing costs of cultivation – through neem-coating urea and soil health cards.
- 2) Fetching better prices for produce – through new cost plus-pricing MSP formula, reforming agri- markets through e-NAM and upgrading 22,000 village-markets.
- 3) Reducing wastages in value chain-through proper storage, logistics, food processing, and implementing Operation Greens-TOP (tomatoes, onions and potatoes) and
- 4) Diversifying sources of farmer incomes – through blue, organic, sweet revolution.

Some of the policy interventions of Central Government in this regard as under:

- Irrigation- “Per Drop, More Crop”
- Quality seeds - Improving seed replacement rate
- Soil test based nutrient management - Distribution of soil health cards
- Post-harvest crop losses - Large investments in warehousing and cold chains
- Value addition to farmers - Creation of a national agricultural market, removing distortions and e-platform across 585 markets.
- New Crop insurance scheme – Pradhan Mantri Fasal Bima Yojana-Minimum Premium and Maximum Security.
- Promotion of ancillary activities - poultry, sericulture, beekeeping and fisheries
- Skill India, Stand up India, MUDRA

3.14.2 Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) : It is a Central sector scheme, with 100% funding from Government of India, launched to augment the income of small and marginal farmers’ families across India. The family comprising of husband, wife and minor children who collectively own cultivable land upto 2 ha as per land records of the concerned State are eligible under the scheme. Beneficiaries for 2018-19 are decided on the basis of projections of Agriculture Census 2015-16 data. Under this scheme, financial benefit of ₹ 6,000 per year is being given to all beneficiaries in 3 equal installments in every 4 months of a financial year. First installment of ₹ 2,000 is being paid immediately after identification of beneficiaries. At the national level, by the end of April, 2019 an amount of ₹ 327.67 crore was credited in the 16.38 lakh beneficiaries bank accounts through DBT as a first installment and additional amount of ₹ 92.23 crore was credited in the 4.61 lakh beneficiaries bank accounts through DBT as a second installment amounting to total of ₹ 419.90 crore to 16.38 lakh beneficiaries.

3.14.3 Initiatives of GoM

Agriculture and allied activities sector is the primary constituent of the economy. About 25 percent of the workers in the State are cultivators and another 27 per cent are agricultural labourers. The aim of ‘Doubling of Farmers Income by 2022’ shall have a direct impact on this large share of population. It is, therefore necessary to accelerate growth in this sector, enhancing

the incomes of farmers and ensuring their income security.

3.14.4. Other Interventions at state level for doubling of farmers' income

- i. Reforms in Irrigation sector - In the State 10,625 Water Users Associations (WUA) with an area of 48.53 lakh ha have been formed upto the end of November, 2018 for management of irrigation system by farmers (Source: Economic Survey of Maharashtra 2018-19).
- ii. Jalyukta Shivar Abhiyaan – Under the Scheme of ‘a drought-free state by 2019’, the Jalyukta Shivar Abhiyaan is being implemented in the State since December 2014 with a view to permanently overcome the water scarcity situation. The main aim is to increase the ground water level by way of absorption of rain water in earth along with creation of sustainable irrigation facilities. Target was to cover 25000 villages over 5 years covering 5000 villages every year.
- iii. Magel Tyala Shet Tale Yojana – This is a scheme of farm ponds for which subsidy is given with priority to SF/MF to create farm ponds for conservation of water in their farms. The scheme envisages creation of permanent assets for holding water.
- iv. Sprinkler and Drip Irrigation
- v. Electrification of agricultural pumps
- vi. A holistic strategy for doubling farmers' income in Vidarbha region of Maharashtra and Bundelkhand region of Uttar Pradesh and identifying the potential consortium partners and funding agencies for implementing the strategy for doubling farmers' income needs to be addressed. To begin with, an experimental trial on pilot-basis for Vidarbha region of Maharashtra and Bundelkhand region of Uttar Pradesh as “sites of learning” are proposed and further will be extended to other regions of the country in a phased manner up to the year 2022. (Source: NITI Policy Paper No.1/2017).
- vii. The Project: KISAN MITRA: Doubling Farmers' Income in Vidarbha Region, Maharashtra (11 districts in Vidarbha region) is funded under the Project on Climate Resilient Agriculture (PoCRA), initiated by Government of Maharashtra with partners such as Research institutes, agricultural universities, Krishi Vigyan Kendras, NGOs, Farmer organizations, private companies, and ICRISAT.
- viii. The Government of Maharashtra and a consortium led by ICRISAT have signed a Memorandum of Understanding (MoU) for a bold initiative for science-led development of agriculture in the drought-prone drylands of Vidarbha Region of the state. The project will benefit an estimated 55,000 farmer families directly and over 200,000 families indirectly through a wider spill-over effect leading to a doubling of family incomes over the next five years.
- ix. GoM has initiated Unnat Sheti-Samruddha Shetkari Campaign from Kharif 2017-18 with the objective of Doubling Farmer's Income by 2022. The campaign is mainly to increase the income of farmers through increasing the productivity of major crops and maximum participation of farmers in the crop insurance schemes to protect them from the losses incurred due to natural calamity. From 2017-18, taluka has been decided as a basic planning unit for agricultural development & increase in productivity. Under the campaign, thrust of government is on efforts to increase the productivity of major crops up to the genetic yield potential, diversification of crops, reduction in cost of cultivation, farmers awareness to the

method of marketing considering the ups and downs in the rates, to encourage ancillary activities of farming, to create association of farmers through farmers' productive companies and to develop their commercial capacity, post-harvest handling of farm produce and value addition etc. Integration of various schemes is being done for awareness and publicity.

- x. Farm Mechanization Initiative by Govt. of Maharashtra
- xi. The Govt. of Maharashtra has launched a new scheme called as Farm Mechanization Scheme to make sure that the farmer's income is doubled by 2022 and they can save on their labour and other expenses. Further, during 2017-18, in all 48,573 farmers have been benefited with ₹ 358.62 crore subsidy for purchase of improved agriculture implements (ESM 2018-19).
Benefits and Highlights of the Farm Mechanization Scheme (FMS)-
 - Small, marginal and SC/ST farmers: 35 % subsidy on Tractor and 50% subsidy on purchase of other implements
 - Other farmers- 25% subsidy on Tractor and 40% subsidy on purchase of other equipment
 - The Govt. has made a provision of ₹50 Crores for the FY 2018-19 and the same will be continued for the next year FY 2019-20.

3.14.5. Initiatives taken and strategies suggested by NABARD:

NABARD has supported various farm sector initiatives aimed at enhancing farmers' income. Also, NABARD has insisted for inclusion of the issue in the agenda of the SLBC meetings and has participated in the discussions thereon. The findings of various studies initiated by NABARD are also presented in Box 3.6.

3.14.5.1. NABARD has been supporting the watershed and tribal development programmes with an aim to create sustainable livelihoods for farmers and tribal families. These programmes are aimed to improve overall income of the farmers.

Watershed project implementation, which aims to improve the soil, water and vegetation regime of a hydrological unit of around 1000 ha is seen to have improved farmers' income in dryland farming areas. NABARD has been supporting these programmes under its Watershed Development Fund. Watershed programme under WDF has now been expanded to include the climate proofing measures as well as sustainable farming practices. During the year 2017-18 and 2018-19, NABARD has sanctioned 17 new watershed projects covering an area of about 9196 ha; 50 new projects for climate proofing of watershed covering 44,456 ha; 11 Sustainable Development Projects covering area of 36195 ha; 4 springshed based watershed programmes in 1174 ha as well as 4 Integrated Watershed Management Schemes (IWMS) with 555 ha area. The projects are expected to augment farmers' income in a substantial way due to soil and water conservation measures as well as climate resilient and sustainable farming practices.

Cumulatively (as on 31.03.2019), under watershed development programme, NABARD in Maharashtra has supported 330 projects covering 4.17 lakh ha area benefiting 2.96 lakh families.

Tribal development programme of NABARD aims to promote orchard based livelihood for tribal families which helps in creating sustainable livelihood opportunities and augmentation of their income. During the year 2018-19, two new projects were sanctioned covering 1000 tribal families. Cumulatively, in Maharashtra as on 31.03.2019, 50 TDF projects are implemented covering 45847 families and an area of 42000 acres.

3.14.5.2. NABARD through its developmental efforts on one side and credit planning on the other side, suggests a few inputs for the strategies which can be implemented in the State aligning with the policy interventions of the State and Central Government.

- i. Creation of separate fund for Agriculture Infrastructure – Covering Expansion of irrigation facilities through drip and sprinkler, plugging leakages in the value chain through construction/modernization of warehouses, cold storages, marketing infrastructure for grading, quality testing, connectivity (last mile projects) for reaching from land to market – Identifying from the block level / district level and aggregating to State Level (with every sector, there could be leakages in the infrastructure itself where the intervention of the State Government or public finance is required)
- ii. Value chain for particular product or crop under Plantation & Horticulture (Important factors are aggregation, availability of infrastructure, use of information and technology)
 - Identification of produce – Provision of equipments, inputs, training – suppliers
 - Production – Grow, Harvest – Primary producers – Aggregation
 - Direct selling or otherwise – Transformation – Processing, packing, trade -buyers
 - Logistics support – Transportation, Plantation & Machinery, Quality testing, Branding
 - Final sale – Retailer - Consumer point
- iii. Food & Agro Processing - Improving post-harvest management through better infrastructure and logistics to prevent losses, as well as facilitate farmers to reach better markets. Better price discovery mechanism through modern mandis linked with eNAM portal shall open up the farmers' outreach and increase income.
- iv. GIS registration of certain crops shall facilitate branding and better pricing among others.
- v. Acceleration of agriculture credit both in physical and financial terms – Short and long term- Penetration, Coverage, Timely institutional credit has an impact – Sector specific area based bankable schemes.
- vi. Skill Development – Identifying the sectors for skill development, aligning it with required competencies
- vii. Credit : Address the glaring inter-regional disparities in agri-credit; thrust on agri-term loans; use of Jandhan Aadhaar Mobile (JAM) approach to plug leakages and hasten the lending process; regular review in SLBC and DCC
- viii. Synergy in Government Programmes : PMKSY, e-NAM, PMFBY, DBT, FDI in food processing sector.
- ix. Land Issues: Innovative models for resource pooling through Farmer's Producer Organisations (FPOs), digitization of land records in all states; amendment of land leasing laws of states in accordance with the recommendations of the Report of the Expert Committee on Land Leasing of NITI Aayog.
- x. Reduction in Farmers' Expenditure: Farmers incur avoidable expenditure on litigation in land disputes. The State Government need to examine the aspect and take necessary steps including counselling of farmers as a part of financial literacy drive.
- xi. Pathways to increase farmers income – Farmer level interventions
 - Reducing cost of cultivation and increasing productivity :

- Reduction in input cost for agriculture operations – simple interventions like bridging the gap in the recommended seed rate for certain crops and the actual seed rates observed in field conditions will help reduction in cost of inputs.
 - Balanced use of fertilizers as per recommended ratio can have an effect on the reduction of costs,
 - Early warning systems – weather, pests, diseases, change in cropping pattern
 - Soil Health Management - Cards to farmers, use of proper technology, Testing
 - Farm mechanization – equipment based on crop, area, custom hiring, add on services
 - Water use efficiency and electricity consumption – Switching to drip / sprinkler, solar pump sets.
- Allied sectors – Dairy:
- Induction of animals, Identifying milk routes, Underutilized plants, Package of practices, Marketing modes and techniques
- Aggregation (various models viz., input, horticulture, floriculture)
- Formation of groups – FPO, JLG mode, Identified activity – expansion, Availability of credit, Marketing (along with e-NAM other marketing reforms)
- xii. Remedies proposed under Doubling of farmer's income
- Introduction of integrated farming system (IFS) – Alternate sources of income
 - Better soil and water management
 - Training on skill development. viz. production of enriched vermin compost from cattle dung, low-cost soil water conservation technology, integrated farming techniques and repair & maintenance of farm machinery.
 - Mechanizing farm –Establishing custom hiring centers in different clusters
 - Small scale processing of farm produce and by-products at the farm level
 - Realization of good price for the produce
 - Precision farming – for enabling techno-green revolution. This would lead to need based application of agri. inputs so as to reduce the cost of production and increase profitability.
 - Thrust of ACABC finance (Agri Clinic and Agri Business Centre)
 - Focus on financing to post harvest technologies, pre cooling and value addition units.

Box 3.7. Doubling of Farmer's Income (DFI) – Studies by NABARD

In connection with Doubling of Farmers' income, NABARD initiated a number of studies on a pilot basis at national and state level. The excerpts of the findings are presented below -

A. NABARD had engaged the Food & Agribusiness Strategic Advisory and Research (FASAR) division of YES BANK Limited to analyse the key issues and conceptualize actionable strategies for doubling farmers' income in the State of Maharashtra. **Yes Bank under the aegis of Department of Economic Analysis and Research (DEAR) of NABARD, Mumbai** and in close coordination with other stakeholders like Agriculture Department, Horticulture Department, Fisheries Department, Forest Department, Krishi Vigyan Kendra, Agricultural Technology Management Agency, Agricultural Produce Market Committee and Animal Husbandry Department had conducted a study in four districts of the State of Maharashtra viz. Akola, Latur, Nashik & Sangli on **"Issues and Strategies for Maharashtra"** on the aforesaid subject and recommended few measures which may be adopted by the Banks and other stakeholders to achieve this feat of Doubling of Farmer's Income by 2022.

One of the important findings of this study was 'Cluster Wise Recommendations and Strategies for enhancing the farmers' income in Maharashtra', which are enumerated as follows:

i. Prosperous regions of Western Maharashtra and Khandesh

1. Improved Access to Farm Level Storage Infrastructure for Fruits and Vegetables
2. Development of FPCs through commodity based cluster model

ii. Distressed regions of Vidarbha and Marathwada

1. Development of end to end Dairy Value Chain in distressed districts of Vidarbha and Marathwada.
2. Promotion of scientific Goat Meat Value Chains in distressed districts of Vidarbha and Marathwada
3. Development of Sericulture Clusters in Marathwada & Vidarbha Regions

iii. Dry Land Clusters 1. Promote Crop Diversification

2. Promote Micro Irrigation Management

iv. General Recommendations (Applicable to all the Clusters)

1. Strengthening of MSP Procurement Support in Maharashtra
2. Connect Farmers to Electronic Markets for Better Price Discovery and Access to Large number of buyers
3. Improve the Penetration and Administration of Crop Insurance
4. Promote Warehouse Receipt Financing (WRF)
5. Enhancement of Institutional Credit
6. Capacity Building, Skill Building & Extension Services
7. Promote Common Service Centre Model

The key recommendations and action plans to improve the non-farm income include:

1. Promote Agri/Rural based Tourism in Potential Regions
2. Setting of Rural Transformation Centers (Taobao Model)

B. Excerpts from the state specific recommendations of NABARD studies on DFI for Maharashtra

- There is need for a substantial increase in resource allocation by government to the agricultural sector for public investments to generate benefits along with institutional credit to cover larger number of farmers.
- Private sector initiatives should be promoted through re-allocation of the existing resources.
- There is a need to shift from a price-based support policy to an income support policy in agriculture.
- Coordination between private and public sectors should be strengthened through suitable policy interventions.

(Source- Annual Report- 2018-19, NABARD)

3.15. Skill India Scheme

National Skill Development Mission includes various initiatives of the government like “National Skill Development Mission”, “National Policy for Skill Development and Entrepreneurship, 2015”, “Pradhan Mantri Kaushal Vikas Yojana (PMKVY)” and setting up Sector Skill Councils under Public Private Partnership. Sector Skill Councils are set up as autonomous industry led bodies by National Skill Development Corporation (NSDC). The NSDC Board has approved proposals for 38 Sector Skill Councils of which agriculture is one of them. Further, Government of India has launched Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU – GKY) which aims to target youth for generating youth employment, under the age group of 15-35 years. Government of Maharashtra has announced Pramod Mahajan Kaushalya Vikas Yojana aimed at empowering rural youth which may lead to generation of self-employment / jobs in the state.

3.15.1. Agriculture Sector Skill

Agriculture Industry employs a large number of people in the organized and the unorganized sector and it is estimated that around 0.20 Million and 1.95 Million are employed in organized and unorganized sector, respectively.

The demand for agriculture produce and food products is continuously on the rise with increase in population which is presently not matched by the production and supply as the growth in agriculture sector is stagnant at 3%. There is a clear need to increase the productivity given that the available arable land is constant at 161 million hectares. As the low productivity in India is predominantly due to improper farm management practices and loss in post-harvest handling, there is a requirement for specific set of skills in the field of Agriculture.

The Gross State Domestic Product (GSDP) of Maharashtra at current prices for 2016-17 was estimated at ₹2257032 crore which is 13.6% more than the previous year’s GSDP. The state boasts of a very vibrant industrial sector and rapidly growing services sector. Both these sectors presently contribute about 88.1% of the state’s domestic product. As such, the State offers ample potential for development of skills to absorb the opportunities in the above sectors. Further, a Research & Training institute has been set up at Sewagram in Wardha district to promote rural artisans and handicrafts.

The Vidarbha and Marathwada regions faced agrarian distress due to natural calamities and climate change in the past few years which has impacted most of the agriculture sector. As such there is a need to explore the possibilities for diversification of agriculture and change in cropping

pattern. More climate resilient cropping patterns are to be adopted by the farming community in a bid to withstand the vagaries of the nature. The new and emerging areas in agricultural sector may need to be explored to improve the productivity and production. The available existing infrastructure viz., Agriculture Universities, ATMA, Agriculture Research Institutes, KVKs etc., may provide requisite skills needed in this regard.

3.15.2. Non – Agricultural Skills

The primary objective of the National Policy of GoI on Skill Development and Entrepreneurship 2015 is to meet the challenge of skilling with speed, standard (quality) and sustainability. The policy links skill development to improved employability and productivity in paving the way forward for inclusive growth in the country. The skill strategy is complemented by special efforts to promote entrepreneurship in order to create ample opportunities for the skilled workforce. The mission of the policy is to:

- Create a demand for skilling across the country
- Correct and align skilling with required competencies
- Connect the supply of skilled human resources with sectoral demands
- Certify and assess in alignment with global and national standards and
- Catalyze an ecosystem wherein productive and innovative entrepreneurship germinates, sustains and grows for creation of a more dynamic entrepreneurial economy and more formal wage employment

The agrarian distress in Vidarbha and Marathwada regions can be appropriately addressed by deploying the traditional agricultural farmers who get impacted by the agrarian distress in the productive non-farm activities which can be taken up during lean agriculture seasons which would provide sustainable incomes to the farmers in a sustainable way. The RSETIs established by banks have been organizing Rural Entrepreneurship and Skill Development Programmes for the youth in the villages to encourage them for remunerative farming activities.

The State Government may proactively ramp up the initiatives on promoting and delivery of skills - institution based skill development including Vocational schools / technical schools / polytechnics / professional colleges; learning initiatives of sectoral skill development organized by different ministries / departments; formal and informal apprenticeships and other types of training by enterprises;

With a view to reaching this goal doubling of farmers' income by 2022, more pragmatic and well-conceived programmes need to be put in place which will eventually lead to changes in the productivity and production and other sustainable non-farm incomes. The PLPs prepared by NABARD for the districts for 2020-21, have also indicated the strategies to achieve the goal.

3.15.3. NABARD's initiatives for Skill development

Skilling and promotion of an entrepreneurial culture among the rural youth to encourage enterprises in the rural off farm sector has been a thrust area of NABARD for more than three decades. NABARD developed a structured approach for addressing the skill gap in rural India

Box 3.8. NABARD sponsored Krantijyoti Self Help Group, Village - Butibori, District Nagpur, Maharashtra won “NATIONAL ENTREPRENEURSHIP AWARD 2019, Ministry of Skill Development and Entrepreneurship, GOI.

Krantijyoti Self Help Group from Village - Butibori, District Nagpur (Maharashtra) has won “National Entrepreneurship Award 2019” of Ministry of Skill Development and Entrepreneurship, Govt. of India under A1 and SC/ST category in a function held at New Delhi on 9 November 2019.

Krantijyoti Self Help Group is a BPL group formed under NABARD sponsored SHG-BLP implemented by SHPI; Tejaswini Bahuuddeshiya Sevabhavi Vikas Sanstha, block Hingana, Nagpur during March 2015. The group was credit linked by NABFINS, Nagpur. Initially, women started selling vegetables in nearby Haat (Bazar). The SHG members had been trained under NABARD’s Micro Entrepreneurship Development Training Programme (MEDP) on Stitching and Designing by Tejaswini Bahuuddeshiya Sevabhavi Vikas Sanstha, Nagpur in January 2017. After undergoing training through MEDP, 10 women in the group purchased three stitching machines and started their business of stitching baby wear, small bags, cushion covers etc., which they marketed through maternity hospitals. Taking advantage of withdrawal of polythene bags, the group developed an innovative product called “Compartment Vegetable Bags” which attracted huge market. SHG women started marketing through Social media. They also developed their “Facebook Page” which gave them access to online marketing all over India. All SHG women members are presently earning ₹ 6000-8000 per month. Krantijyoti SHG was “digitized” on EShakti portal under the “EShakti –SHG Digitisation Project” launched in Nagpur district.

Constant efforts, proper coordination, patience, hard work, innovative ideas and self-confidence of poor SHG women resulted in their National honor and the SHG bagged “NATIONAL Entrepreneurship Award 2019” of Ministry of Skill Development and Entrepreneurship, GOI.



OFDD, HO had requested to popularize the awards and seek entries/application for the awards. Under guidance of CGM, MRO & CGM, OFDD, Smt. Maithili Kowe, DDM, NABARD, Nagpur handheld the group in submission of their application for the NEA competition. These combined efforts helped a small but deserving group of SHG women get recognition at the National Stage and get a cash award of ₹ 5 lakh. This will enthuse other groups and also boost efforts of NABARD.

through demand based and outcome oriented programmes through Rural Development and Self Employment Training Institutes, NGOs/Voluntary Agencies, training institutes affiliated with the National Skill Development Corporation, government agencies and corporate partners. NABARD sanctioned ₹ 57.65 lakh during 2018-19 towards Skill Development Programmes (SDPs) for training of 1,832 participants in entrepreneurship and skill development.

To promote collectivization of rural artisans so as to make them strong enough to take up business activities, through capacity building, business planning and development of marketing linkages, Off Farm Producers Organisations (OFPOs) were promoted. During 2018-19, NABARD has sanctioned ₹ 20.96 lakh to one such project under OFPO in Kudal block of Sindhudurg district to Lupin Human Welfare and Research Foundation (LHWRF), for manufacture of wooden toys, designing and production of Souvenir wood carvings, handicrafts, etc.

NABARD also participates in the meetings of academic advisory councils of the RSETIs and has been providing guidance inputs on need based skill development training programmes to be conducted. Skill Development Programmes are also supported by NABARD for SHGs on a large scale in the state. Further, NABARD DDMs are associated with the monitoring of the Stand Up India Scheme. The Potential Linked Credit

Plans (PLP) prepared for all districts in the state have duly identified the emerging credit potentials in the sphere of skill development pertaining to agriculture and non-agriculture sectors.

3.16. Other State Government Initiatives

Some of the schemes brought out by the State Govt. to impart thrust to agriculture entail the need for bank finance in a supportive role suiting to the component/features of the scheme which are summarized below:

3.16.1. Project on Climate Resilient Agriculture (PoCRA)

Scarcity or drought situations are witnessed more frequently by Maharashtra affecting the rate of agricultural growth and causing distress among farmers leading to their suicides. Inequitable distribution of rainfall, longer dry spells in monsoon, unseasonal rains, hailstorms and such unexpected events have been affecting the agricultural output for the past few years. Government of Maharashtra has decided to make focused efforts to initiate measures that will help farmers in the long run as far as resilience to climate change is concerned. As many as 5,142 villages of the State including 2,054 villages from Vidarbha region have been chosen for implementation of the ambitious Project on Climate Resilient Agriculture (PoCRA), also known as 'Nanaji Deshmukh Krishi Sanjeevani Prakalp'. The basic idea behind the project is to equip farmers to face the vagaries of nature. This project is initiated to protect the farming from drought in selected districts of Vidarbha & Marathwada through World Bank (WB) assistance in six years period with 70:30 share of WB and GoM. The project will cover 5,142 villages of Maharashtra including 932 from saline belt (spread over Akola, Jalgaon, Buldana, and Amravati districts), and 4,210 villages from drought-prone areas. The villages from Vidarbha are from six districts namely Amravati, Akola, Buldana, Washim, Yavatmal, and Wardha which are affected by farmers' suicides and were included in the relief package announced by the Prime Minister in 2006. The project will be implemented between 2018- 19 and 2023-24. Under the project, the Government plans to

initiate measures including water conservation works, maintaining productivity of water and land, effecting changes in cropping pattern in response to climate change, efficient use of available water, strengthening of farmer producer companies to ensure better market linkage for agricultural produce etc.

3.16.2. State of Maharashtra's Agribusiness and Rural Transformation (SMART) Project

Maharashtra Government has launched the World Bank assisted State of Maharashtra's Agribusiness and Rural Transformation (SMART) Project to transform rural Maharashtra. This project aims to revamp agricultural value chains, with special focus on marginal farmers across 1000 villages. The objective of the project is to create and support value chains in post-harvest segments of agriculture, facilitate agribusiness investment and stimulate SMEs within the value chain. It will also support resilient agriculture production systems, expand access to new and organised markets for producers and enhance private sector participation in the agribusiness.

The project will be implemented in 10,000 villages in the state with an objective to achieve sustainable farming within next three years. It will cover almost one-fourth of Maharashtra. Its focus is on villages which are reeling under worst agriculture crisis compounded by lack of infrastructure and assured value chains to channelize farm produce.

The project is a giant step towards transformation of rural economy and empowerment of farmers and also sustainable agriculture through public-private partnership (PPP). It seeks to ensure higher production of crops and create robust market mechanism to enable farmers to reap higher remuneration for the yield. It unites agriculture-oriented corporates and farmers by providing them a common platform.

3.16.3. Group Farming Scheme

The scheme intends to promote group farming as a model to double farm production by 2022 by making agriculture economically affordable and sustainable especially among the small and marginal farmers. Group farming would be significant in view of shrinking landholding in the agriculture sector as also since it would help individual farmers to collectively shoulder the investment expenditure. Every year, 200 farmers would be shortlisted for group farming with financial incentives up to ₹ 1 crore to each group. According to the group farming policy, it would be mandatory for at least ten farmers to come together with a cumulative land holding of 100 acres. To make group farming a success, there would be guidance on the crop pattern and technique of farming. Technology would be adopted to promote scientific farming. A total of 196 groups in 2017-18 and 204 groups in 2018-19 were formed under the support of this scheme (ESM 2018-19).

3.16.4. Bhausaheb Fundkar Falbaug Lagwad Yojana : This scheme includes plantation of sixteen perennial horticulture crops. Plantation of grafts of all the crops except coconut, clustered apple and lemon seedlings is permitted. Installation of drip irrigation set for the plantation scheme and soil testing for the citrus crops like kagzi lime, orange and sweet lemon is made compulsory. Under the scheme, plantation on 4,446.18 ha area covering 5,099 beneficiaries was completed and expenditure incurred was ₹ 8.75 crore.

3.16.5. Chief Minister Agriculture and Food processing scheme : GoM has launched the Chief

Minister Agriculture and Food Processing Scheme during 2017. In all 340 proposals were received and 67 proposals were approved during 2018-19. By the end of March, 2019 grants of ₹ 9.98 crore were distributed.

3.17. Role played by NABARD in development of the State

NABARD has been an active partner in carrying forward government programmes aimed at agriculture and rural development. For instance, it proposes to scale-up interventions through convergence for the aspirational districts. NABARD has been implementing various programmes for income generation, poverty reduction and livelihood improvement of rural people with the aim of supporting the attainment of the goals of GoI. For this, NABARD has been providing refinance for various activities under agriculture and allied sectors, GoI programmes/schemes implementation, financial assistance for promotion/development programmes such as, watershed development, water conservation & management, rejuvenation of water bodies, water campaign, Natural Resource Management, climate adaptation and mitigation, Tribal development, micro irrigation, Producer Organisations (POs), SHG- Bank linkage programme for women development, skill development, etc. Further, NABARD has also been providing financial support for infrastructure development related to agriculture, irrigation, roads/connectivity, warehouses, social sector and market infrastructure etc. which would help towards attaining the goal. Also, NABARD has been popularizing the schemes of the State Govt. through its DDMs and also through several schemes where the synergy between various projects including the World Bank assisted projects and NABARD's own schemes could be established.

Inauguration of mobile van launched by Satara DCCB by CGM, Shri U D Shirsalkar



CGM, Shri U D Shirsalkar addressing the RO during NABARD Foundation Day Programme



Launch of IMPS facility at Akola DCCB by CGM, Shri U. D. Shirsalkar



Inauguration ceremony of the Yellow Ribbon Fair by CGM, Shri U. D. Shirsalkar



CGM addressing the State Level Bankers Committee meeting on Awareness Generation and Ideation



Inauguration of rural mart supported by NABARD in Washim by CGM, Shri U. D. Shirsalkar



GM, Shri L L Raval during the Investor's meet for Food Processing Fund at Aurangabad



GM, Shri L.L Raval's visit to Agro Mall established by FPC in Ahmednagar



GM, Shri L.L Raval's NABARD, meeting with officials of Ahmednagar DCCB



GM, Shri. A. C. Jena, guiding the deliberations during the Inception Workshop of NAFFCC Project workshop



DGM, Dr. Alaka Padhi's visit to JLG supported by NABARD in Nagpur



DGM, Dr. P. Ushamani inaugurating the Farmers and Women's meet in Ahmednagar



As an annual exercise, NABARD has been preparing the Potential Linked Credit Plan (PLP) for each district which provides the details of the potential (both physical and financial) for development in different sectors of the rural economy through credit. The potential estimates for the year 2020-21 have been prepared taking into account the policies & priorities, changes in the infrastructure facilities and other support services available as well as planned and also various macro policy guidelines and thrust areas identified by Gol, Government of Maharashtra, RBI, NABARD and the sectoral ecosystem. The present document contains an aggregated picture of credit potentials estimated for the year 2020-21 for Maharashtra, based on the assessment made in the Potential Linked Credit Plans (PLPs) prepared for all the 36 districts of the State.

The aggregate credit potential so arrived at for the Priority Sector for the year 2020-21 in Maharashtra has been estimated at ₹ 547521 crore after considering the existing and emerging opportunities, showing an increase of ₹ 46090.75 crore (9.19%) over previous year.

Of the SFP projections of ₹ 547521 crore, the projections for agriculture sector have been estimated at ₹ 110640 crore, for the MSME sector at ₹ 314133 crore, and the remaining ₹ 122748 crore to priority sectors like Export, Education, Housing, Renewable Energy, Social infrastructure and Others.

The details of the projections made in the SFP for financing priority sector activities in the State for the year 2020-21 are presented in Table 4.1.

Table 4.1. Potential Linked Credit Plan (PLP) Projections for 2020-21

(₹crore)

Sn.	Sector	SFP - 2019-20	SFP 2020-21	% rise over SFP 2019-20	% of Total Priority Sector 2020-21
1	Crop production, maintenance & marketing	69666.34	74875.18	7.48	13.68
2	Investment Credit for Agriculture & Allied Activities	32611.34	35765.20	9.67	6.53
3	Total Agriculture & Allied Activities (1+2)	102277.68	110640.38	8.18	20.21
4	Micro, Small and Medium Enterprises	276071.86	314132.92	13.79	57.37
5	Other Priority Sectors- Including Export credit, Education, Housing, Renewable source of energy Social infrastructure and Other	123080.71	122748.38	-0.27	22.42
	Total Priority Sector (3+4+5)	501430.25	547521.68	9.19	100

- The total projections for priority sector stand at ₹ 547521.68 crore which is 9.19 % more than last year projections at ₹ 501430.25 crore. The potential arrived at is 29.12% more than the ACP target (₹ 424029 crore) of 2019 - 20.
- Crop loan potential has been assessed at ₹ 74875 crore which is 7.48% more than the projections of 2019 - 20 and 25.28% more than the ACP target of 2019 - 20.
- The total agriculture including investment credit has been assessed at ₹ 110640 crore which is 8.18% over and above the last year projections, and 26.70% more than the ACP target 2019 - 20.
- The share of Crop loan potential (₹ 74875 crore) in total Agriculture projections is 67.67% and that of Agriculture Term Loans is 32.32 %.
- MSME sector is projected at ₹ 314133 crore which is 13.79% more than the last year projections, and 33.46% more than the ACP target of 2019 - 20.
- The major share of MSME sector has been reflected in the projections of Mumbai City and Mumbai Suburb, due to more concentration of the sector in these districts forming 74.75% of the total MSME projections.
- The projections in Other Priority Sector has been assessed at ₹ 122748 crore which is slightly less (0.27%) than last year projections, and 34.93 % less than the ACP target of 2019 - 20.

Table 4.2. Region-wise PLP projections for 2020 - 21

(₹ lakh)

Region	Western Maharashtra (5 dist.)	Vidarbha (11 dist.)	Marathwada (8 dist.)	North. Maharashtra (5 dist.)	Konkan (5 dist.)	Mumbai (2 dist.)	Total for the State (36 dist.)
Crop Loan	1846229	1835003	1807705	1736611	261971	0	7487519
% of Total	25%	25%	24%	23%	3%	0%	100%
Agri Term	1288462	559368	468150	681834	190544	388160	3576519
% of Total	36%	16%	13%	19%	5%	11%	100%
Total Agriculture	3134691	2394372	2275855	2418445	452514	388160	11064038
% of Total	28%	22%	21%	22%	4%	4%	100%
MSME	3371964	836826	944392	1029964	1747316	23482830	31413292
% of Total	11%	3%	3%	3%	6%	75%	100%
OPS	1486105	535768	442764	586972	700816	8522413	12274838
% of Total	12%	4%	4%	5%	6%	69%	100%
Total Priority Sector	7992761	3766966	3663011	4035381	2900647	32393403	54752168
% of Total	15%	7%	7%	7%	5%	59%	100%

- In respect of Crop Loan projections, the share of Western Maharashtra is highest at 24.66% of the total crop loan projections, followed by Vidarbha and Marathwada at 24.51% and 24.14% respectively.
- Western Maharashtra also leads in Agriculture Term Loan projections with share of 36.03%, followed by Northern Maharashtra and Vidarbha with 19.06% and 15.64% respectively.

- As far as projections in respect of total agriculture is concerned, the share of Western Maharashtra is 28.33% of the total projections followed by Northern Maharashtra and Vidarbha with 21.85% and 21.64% respectively.
- The share of Mumbai City and Mumbai suburb is 59.16% of the total priority sector projections, obviously due to its large share in MSME projections at 74.75%. Only one sector (fisheries) under agriculture is prominent in these districts.
- In the Total Priority Sector projections, the share of Mumbai is highest at 59.16%, followed by Western Maharashtra (14.59%). In remaining four regions the share is almost same in the range of 5.29% to 6.88%.

The sector-wise/sub-sector-wise projections for the year 2020-21 are given below:

4.1. Credit Potential for Agriculture

According to the Priority Sector Lending guidelines, the Agriculture Sector is divided into the three sub sectors viz, (i) Farm credit (ii) Agriculture infrastructure and (iii) Ancillary activities. The potential under each of these sectors is discussed below:

4.1.1. Farm Credit

i. Crop production, Maintenance and Marketing

The major crops grown in the State and their region wise coverage are shown in Table 4.3.

Table 4.3. Region wise coverage of major crops in Maharashtra

Western Maharashtra	Sugarcane , Bajra, Jowar, Groundnut , Paddy, Cotton, Wheat, Soybean
Vidarbha	Soybean, Cotton, Tur, Paddy, Gram
Marathwada	Cotton, Soybean, Maize, Sugarcane, Jowar, Tur , Wheat
North Maharashtra	Maize, Sugarcane, Cotton, Bajra
Konkan	Paddy, Ragi

The ground level credit disbursement for Crop Production, Maintenance & Marketing during the last three years i.e. 2016-17, 2017-18 and 2018-19 was ₹ 42,172.78 crore, ₹ 25,321.93 crore and ₹ 31,233.65 crore respectively. Thus, while there was a sharp decline in the disbursement of credit under crop loans during 2017-18, there is a rise in 2018-19, which however has not reached the level of 2016-17. As per the State Credit Plan prepared by SLBC, a target of ₹ 59766 crore has been fixed for crop loans for the year 2019 - 20.

Taking into account the area under cultivation under different crops in the State and the scale of finance fixed by District Level Technical Committees, the production credit requirement is worked out. Also, as per the KCC guidelines, 30% additional limit (10% towards post-harvest and consumption requirements of the farmers, and 20% for repairs and maintenance of farm assets) is taken in estimation of the potential. The estimate of the actual crop acreage to be covered through bank finance is a significant factor in the estimation. The actual demand/availment also varies as per the land holding pattern of the farmers (SF/MF/OF). Hence, the estimation takes into account the coverage of the crop area- Kharif & Rabi acreage, the SoF, the credit demand, GCA growth, and the past trends in crop loan disbursements.

Accordingly, the credit potential for Crop Production, Maintenance & Marketing has been worked out for the year 2020-21 at ₹ 74875 crore.

The district wise potential worked out for the sector in the respective PLPs is presented in Annexure I.

The observations and concerns regarding the crop production and the issues required to be addressed to ensure smooth flow of credit in this sector are presented below:-

- While the area under Kharif crops remained almost same during 2017-18 (150.96 lakh Ha) and 2018-19 (151.03 lakh Ha), there was a sharp decline of 50% in the Rabi coverage from 67.99 lakh Ha during 2017-18 to 33.83 lakh Ha during 2018-19 mainly due to deficient rainfall in September and October, 2018 (Economic Survey of Maharashtra 2018-19).
- The State Govt. on 31 October 2018 had declared drought in 151 blocks of 26 districts (severe in 112 blocks of 21 districts, and medium in 39 blocks of 16 districts). These blocks are spread in the 5 regions as follows: Marathawada – 47, North Maharashtra – 39, Vidarbha- 38, Western Maharashtra – 24 & Konkan – 3.
- The State suffered with heavy rains during July-August 2019 causing floods in various parts of 14 districts, thus affecting Kharif 2019 crops.
- There are 1.53 crore operational holdings in the State covering an area of 205.06 lakh Ha, of which 79.52 % operational holdings belong to marginal and small farmers (with land holding less than or equal to two Ha) that cover 44.96 % of the total area.
- It is observed that there are wide variations in the scales of finance for a given crop approved by the DLTCs of adjacent districts falling under the same agro climatic zone. SLTC may deliberate on such issues and guide DLTCs suitably.
- There is a need to cover credit requirements of farmers for agricultural production and investment as also for allied activities and consumption purposes under a single line of credit i.e. KCC. This, coupled with complete coverage of all farmers and ensuring qualitative improvement in the implementation, would enlarge credit flow sizeably.
- There is a need to create adequate storage/post-harvest infrastructure, especially for perishable and price sensitive crops, with a view to ensuring not only proper handling of agri-produce but also for checking distress sales by the small farmers. The Warehouse Receipt Scheme also needs to be popularized.
- There is a need to make efforts by banks to increase the coverage of crop loans by financing new farmers, particularly SF/MF, tenant farmers, share croppers, etc., presently not coming under the ambit of the banking system. The credit requirements of this segment may be considered by organizing them into JLG/SHG.
- Under the CSMSSY-2017 (the Debt waiver/ relief scheme), 43.75 lakh number of accounts of farmers were extended the benefit of ₹ 18569.37 crore as on 30.06.2019 (Dept. of Cooperation, GoM). Fresh loans should be extended to the farmers as a consequence of CSMSSY.
- The mechanism to implement, monitor and review the Pradhan Mantri Fasal Beema Yojana (PMFBY) that covers crop insurance in correlation with the scale of finance and the acreage with reasonable well-defined premia should be strengthened.
- Agro-processing and Export units need to be encouraged in order to give value and price addition to the agricultural produce
- It is necessary to set up a Quick Response Mechanism whereby the problems of the farmers in the field are urgently addressed by scientific/ research bodies like KVK/ Agricultural universities and the solutions are given to the farmers.
- Large number of marginal and small farmers do not have clear title to land, which acts

as a deterrent in availing institutional credit. Banks may like to resort to alternative modes of lending viz., Joint Liability Groups (JLGs) to reach to these segments of the farming population

- A marked preference towards only a few crops is observed in the crop acreage indicating lesser agricultural crop diversification. Promotion of a variety of crops is necessary for a balanced and profitable agriculture as also from the viewpoint of national goals.

ii. Water Resources

Irrigation with focus on water-use efficiency “Per drop more crop” is the national mission for which strengthening water resources is of paramount importance. About 80 per cent of the cultivated land in the state is rain fed. While large number of major, medium and minor irrigation projects have been initiated by the Water Resources Department (WRD) of the State to maximize area under irrigation, there is a need to support the individual demand through bank loans in the sector of water resources. Some of the major activities envisaged under the sector for which the credit potential has been envisaged are dug well/ bore well, drip, sprinkler, lift irrigation, pipeline, deepening and renovation of wells

The credit requirement for the year 2020-21 for this sector has been estimated at ₹ 5670.46 crore.

The observations and concerns regarding water resources and the issues required to be addressed to ensure smooth flow of credit in this sector are presented below :-

- There is a need to increase water-use efficiency of lift irrigation schemes by adopting micro irrigation systems and cultivating high value crops in their command. Especially, flood irrigation for sugarcane, banana and cotton crops may be discouraged so that surplus water can be used for other high value crops. Drip irrigation should be promoted for these crops in particular.
- Artificial recharge measures through construction of rain water harvesting structures like rain water storage tanks, percolation tanks, farm ponds, check dams etc., will have to form an integral part of the minor irrigation development.
- Jalyukta Shivar Abhiyaan is being implemented in the State since December 2014 with a view to permanently overcome the water scarcity situation by increasing ground water level through absorption of rain water in earth along with creation of sustainable irrigation facilities.
- Under the Magel Tyala Shet Tale Yojana, the State Govt subsidy is given with priority to the small & marginal farmers to create farm ponds for conservation of water in their farms.
- Micro irrigation systems like drip and sprinkler need encouragement especially for vegetable and horticulture crops.
- The major reasons for less irrigation utilization are (i) Low water yield in the reservoirs, (ii) Irrigating higher percentage of crops that require more water, (iii) Irrigation through flood irrigation method resulting in low efficiency, (iv) Poor maintenance of the infrastructure due to financial constraints, (v) Non participation of beneficiaries in water management.
- There are about 42.02 lakh agricultural pumps in the State. Electricity is supplied to the agricultural pumps at subsidized rates. Against the target of one lakh agricultural

pumps, 66,174 have been energised by MAHAVITARAN in 2017-18. Against the target of 75,000 agricultural pumps, 53,126 have been energised by MAHAVITARAN in 2018-19, (upto September, 2018, ESM 2018-19). The capacity of the MAHAVITARAN to extend new connections and to remove the backlog of electrification of agricultural pumps in backlog notified districts is one of the factors for assessing the physical projection for new MI works.

- As per the assessment of dynamic ground water resources presented in the 'Report on the dynamic groundwater resources of Maharashtra' (2017) prepared by the Groundwater Survey and Development Agency (GoM) and the Central Ground Water Board (GoI), there are 11 overexploited blocks in 6 districts (Ahmednagar, Amaravati, Buldhana, Jalgaon, Sangli and Solapur) and 9 critical blocks in 3 districts viz. Ahmednagar, Nasik and Pune. In these blocks, the projections for Dugwells/ Borewells have not been made.

iii. Farm Mechanization

Depending upon the size and spread of land holdings and other factors like crop pattern, irrigation facilities etc., the credit potential for the period 2020-21 is assessed at ₹ 3962.94 Crore for farm mechanization. Some of the major activities under the sector for which the credit potential has been envisaged are tractors, trolleys, power tillers, threshers, reapers, combine harvesters, paddy transplantors, cultivators, rotavators, sugarcane harvesters and other agricultural implements.

The observations and concerns regarding the sector and the issues required to be addressed to ensure smooth flow of credit in this sector are presented below –

- The agricultural implements suitable and affordable for Small and marginal holdings (below 2 Ha) would be the ones with smaller unit costs up to ₹ 1.00 lakh like MB ploughs, disc ploughs, reversible ploughs, cultivators, harrows, seed drills, seed cum fertilizer drills, etc. The agricultural implements suitable for the farmers with medium holdings (2-10 Ha) would be like threshers, power-tillers, reapers, rotavators, old tractors, potato planters, power harrows and the ones with larger unit costs in the range of ₹ 3.00 lakh. Farmers having more than 4 Ha of land can be most suitable for financing higher cost machines like tractors. The agricultural implements of higher prices like Combine Harvester are suitable for the farmers with bigger holdings (more than 10 Ha).
- Financing agro-service centres and custom hiring may address the problems of mechanization of smaller holdings.
- The Govt. of Maharashtra implemented Farm Mechanization Scheme during 2018-19 and 2019-20 with subsidy component, for purchase of tractors and other implements. Such a scheme coupled with credit flow may enhance farm mechanization.
- Agricultural mechanisation centres for provision/ marketing/ lending/ service / repairs/ training / demonstration on traditional and innovative agricultural implements need to be established at the block level for intensive farm mechanization.

iv. Plantation and Horticulture including Sericulture

Horticulture and plantation sector covers a broad spectrum of activities like production, postharvest management, processing, marketing and export of fruits, vegetables, flowers, medicinal & aromatic plants, plantation crops, spices, bamboo, mushroom, apiculture and sericulture.

Table 4.4. Major horticultural crops grown in the State and their region – wise coverage

Western Maharashtra	Pomegranate, Grape, Mango, Cashew, Grapes, Banana, Floriculture, Vegetables, Cultivation in Shadenet/ Polyhouse
Vidarbha	Orange, Lime, Lemon, Pomegranate
Marathwada	Capsicum, Pomegranate, Mango, Grape, Cultivation in Shadenet/ Polyhouse
North Maharashtra	Banana, Pomegranate, Floriculture, Vegetable, Mango, Grape, Cultivation in Shadenet/ Polyhouse
Konkan	Mango, Sapota, Cashew, Medicinal/Herbal Plants, Coconut

Available research support with four agricultural universities & 78 agriculture colleges, four National Research Centres - grapes, citrus, onion-garlic and pomegranate, 82 research institutes, horticulture training centre (Talegaon), strong crop based growers' organizations (15 growers' associations), cooperative network, innovative farmers, etc. have made horticulture sector vibrant in the State.

The GoM has undertaken a programme to promote horticulture development through establishment of nurseries and granting capital subsidy to small & marginal as well as SC & ST farmers, to encourage them to grow selected fruit crops. This programme has been linked with Employment Guarantee Scheme (EGS) since 1990-91.

During 2018-19, the area under horticulture crops was 16.43 lakh ha and production was expected to be 224.17 lakh MT as against area of 17.22 lakh ha and production of 248.53 lakh MT during 2017-18. (ESM 2018-19). Grapes (₹ 2,106 crore), Mango (₹ 309 crore), Banana (₹ 149 crore) and Pomegranate (₹ 412 crore) are the major fruits being exported from the State (figures for the year 2017-18, Source Economic survey of Maharashtra 2018-19).

Sericulture is an agro- based industry which has potential to generate employment opportunities in rural areas. Mulberry silk development programme is implemented in 24 districts of the State. Tasar silk development programme is implemented in four districts viz. Gadchiroli, Bhandara, Gondia and Chandrapur. During 2017-18, production of raw Tasar silk was 19.33 MT, while during 2018-19 it was 22.68 MT (ESM 2018-19).

Weather Based Crop Insurance Scheme for Fruit Crops: In the State, weather based fruit crop insurance scheme is being implemented for grapes, pomegranate, banana, orange, sweet orange, guava, chikoo, mango and cashew. The premium is being shared in the ratio of 25:25:50 Central Govt.: State Govt.: farmer as per Gol norms. Nearly two lakh ha area is targeted to bring under insurance protection to minimize the future economic losses of the farmers (ESM 2018-19).

Mission for Integrated Development of Horticulture (MIDH): launched for the holistic development of horticulture. The mission is being implemented in 34 districts from 2015-16 with 60:40 fund sharing pattern of Gol & GoM for the support extended including subsidies.

Since inception up to March 2019, the Maharashtra State Horticulture & Medicinal Plant Board (MSHMPB), which was established in 2005 to implement schemes of NHM and National Medicinal Plants Board (NMPB), received total grants of ₹ 1,911.13 crore under MIDH and the total expenditure incurred was ₹1,865.13 crore (ESM 2018-19).

In Maharashtra, 8 Agri Export Zones have been notified and the details are given in Table 4.5, presented below.

Table 4.5. Agri Export Zones in Maharashtra

Product	Districts/ Area Covered	State Nodal Agency
Grapes/ grape wine	Nasik, Sangli, Pune, Satara, Ahmednagar, and Solapur	MIDC
Flowers	Pune, Nasik, Kolhapur and Sangli	MIDC
Alphonso Mango	Ratnagiri, Sindhudurg, Raigad and Thane	MSAMB
Kesar Mango	Aurangabad, Jalna, Beed, Latur, Ahmednagar and Nasik	MSAMB
Onion	Nasik, Ahmednagar, Pune, Satara, Solapur and Jalgaon	MSAMB
Pomegranate	Solapur, Sangli, Ahmednagar, Pune, Nasik, Osmanabad and Latur	MSAMB
Banana	Nanded, Parbhani, Jalgaon, Dhule, Nandurbar, Buldhana, Hingoli and Wardha	MSAMB
Mandarin (Nagpur Orange)	Nagpur and Amaravati	MSAMB

Table 4.6. Kisan Sampada Yojana- Identified districts for promoting horticultural processing

District	Fruit	Vegetable
Nashik	Grape, Pomegranate, Guava	Onion, Tomato, Brinjal
Jalgaon	Banana, Sweet Orange, Lemons, Papaya	Onion, Brinjal, Green Chilli
Pune	Grape, Pomegranate, Banana	Onion, Tomato, Potato, Vegetables, Cauliflower, Cabbage, Brinjal
Ahmednagar	Pomegranate, Limes, Lemons, Banana	Onion, Tomato, Cucumber
Aurangabad	Sweet Orange, Pomegranate, Banana	Onion, Brinjal, Tomato

Table 4.7. Major Exportable Horticultural Crops from Maharashtra identified by NAFED

Sr. No.	Hort. crop	Districts
1	Grapes	Nasik, Solapur, Sangli, Ahmednagar, Pune, Satara.
2	Onion	Nasik, Solapur, Ahmednagar, Pune.
3	Mango	Ratnagiri, Raigad, Sindhudurg

Table 4.8. Potential Clusters identified by APEDA in Maharashtra

Vegetables (fresh/IQF/dehydrated)	Pune, Satara and Nasik
Pomegranate	Solapur, Sangli, Ahmednagar, Pune, Nasik, Latur , Aurangabad, Beed and Osmanabad
Banana	Kolhapur and Solapur

Keeping in view the opportunities in the sector as underlined by the clusters identified under various programmes as outlined above, the credit potential under plantation and horticulture including sericulture for the year 2020-21 is estimated at ₹ 4479.86 crore.

Opportunities for Financing: The activities which could be financed under the Plantation/Horticulture sector are listed below:

- Rejuvenation of old orchards
- High density orchards
- Low cost poly houses/ Shadenets
- Horticulture nursery
- Medicinal and Aromatic Crops
- Plant health clinics
- Micro irrigation for horticulture crops
- Contract Farming Arrangements and Export
- Postharvest management of horticulture crops
- Horticulture Processing
- Value chain financing
- Dry land horticulture for climate change adaptation

Thrust areas to address the problems faced by the sector and to harness the potential:

a) Mixed cropping and high density planting of fruit crops
b) Setting up of commercial tissue culture units
c) Vegetable and flowers F1 hybrid seed production under poly houses for export
d) Cultivation of flowers and high value vegetables under shadenets
e) Large scale cultivation of high value fruits & vegetables with marketing arrangements with processing and export houses.
f) Cold chains for grapes/ pomegranates and other crops mainly for export
g) Organic farming of horticultural crops.
h) Horticulture clinics

Suggestions and action points

- Banks and the nodal agencies like National Horticulture Board (NHB), Department of Horticulture have to work in close coordination to register a faster progress.
- The State-owned wasteland/ fallow land can be effectively utilized through a PPP model by leasing it for dry land farming / horticulture.
- Though the State Government has amended the APMC Act, the contract farming under statutory agreement is lacking. Awareness about the contact farming needs to be created on a large scale.
- Meeting of corporates along with line departments/banks could be convened to firm

up contract farming area.

- Promotion of high density planting for mango, orange, guava and cashew will ensure better returns to the growers.
- There is scope to promote nurseries - public and private, as also commercial tissue culture units.
- Flower Growers' Associations may be promoted at local levels so as to develop the floriculture sector in an organized and phased manner.
- Agriculture Universities may identify Medicinal and Aromatic crops that can be popularized locally through effective extension works.
- Creation of postharvest infrastructure such as pack houses, ripening chambers, cold chains is necessary for meeting the needs of various horticulture crops through public-private partnership.
- Value chain management approach, as piloted for onion, can be replicated for other major horticulture produce of the state like mango, pomegranate, oranges, grapes, banana, etc.
- There is a need to develop quality testing/certification system, for horticulture crops.
- Installation of processing units will ensure forward linkage to the horticultural produce.
- Grading, packing and marketing facilities, establishment of block level fruit ripening units using organic/ non - hazardous methods and establishment of more number of Mandis for direct interface between producers and consumers will give an impetus to the sector.
- Advanced training programmes on Pomegranate, Citrus crops - Orange and Lime, and the Tuberous crops for the cultivators need to be arranged in collaboration with the NRC Pomegranate (Solapur), NRC Citrus (Nagpur).
- Area expansion programme for premium fruit crops of the State needs to be promoted with adequate backward and forward linkages. Horticulture Directorate and the State Agriculture Universities may provide the necessary extension services and popularize such package of practices.
- The Government can play a catalytic role in popularization of contract farming of medicinal and aromatic plants and development of standard package of practices for organic cultivation and medicinal plants.
- Minor horticulture crops like Wood apple, Kokam, Aonla, Tamarind, Charoli (Buchanania lanzan) etc., having good economic significance, besides providing valuable source of nutrition, may be popularized in the State.
- Growers' Associations such as Farmers' clubs/ Producer organizations may play a key role in identifying beneficiaries and coordinating with banks for encouraging institutional finance. Growers' Associations may also help the banks in ensuring recoveries of loans.
- There is scope to improve mulberry cultivation, rearing/reeling techniques and genetic stock as high productivity is the key for survival and popularizing this activity. The demand pattern being around 80% for quality yarn, sericulture promises to be a profit making venture or at least one which could generate supplementary income to the poor farmer.
- Cluster approach, being adopted in a few districts, may be spread throughout the state,

which ensures availability of technical and financial inputs to the sericulture farmers. NGOs may be involved by the Department for social mobilization.

- Adequate programmes for generating awareness amongst farmers about the economic benefits of sericulture and training them on raising feed plantations and rearing silk worms may be arranged.
- Soil testing, quality control laboratories and testing facilities for residual limits at one place may be set up at least at taluk level. The agriculture graduates may be motivated to take up such activities as self-employment ventures and bankers may support them through the ACABC subsidy scheme.
- There is a need for intensifying efforts for technology transfer in respect of proper harvesting and handling of produce, promoting bulk handling systems like pre-cooling and controlled atmosphere or modified atmosphere structures at the production and marketing centres, improvement in transportation infrastructure.

v . Forestry and Wasteland Development

The State Govt has promoted Social Forestry through MNREGA, National Bamboo Mission, Plantation programme on non-forest community land in select watersheds and a massive plantation programme during 2016-19. Some of the major activities under the sector for which the credit potential has been envisaged are farm forestry, plantation of species like bamboo, neem, karanj, shisham, sandalwood, teak etc., waste land development and setting up the nurseries, for which the credit potential for the year 2020-21 is assessed at ₹ 270.51 crore.

Suggested Action Points

- Reduction in exploitation of woodlots for fuel wood through strategies like commercial plantation with a mix of timber/ industrial material and fuel wood.
- Promotion of nitrogen-fixing trees which are known for high calorific value.
- Extension programme to promote afforestation should be based on well tested technical and economic data to guide the farmers in the right direction.
- Promotional scheme for development of non-forest waste Lands.
- Awareness creation about various forestry and wasteland development programmes among bankers and beneficiaries.

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

Livestock plays an important role in the development of agrarian rural economy. It supplements farm income, resulting in growth of rural economy by creating employment opportunities. Of the Nominal Gross State Value Added (GSVA) of ₹ 21 lakh crore at current prices during 2017 -18 (First Revised Estimates, Economic Survey of Maharashtra 2018-19) ₹ 0.58 lakh crore was contributed by livestock sector. In percent terms it is about 2.76% and there is immense scope to increase it.

During 2017-18, the annual milk production in the state was 11.1 million MT. The annual egg production and wool production in Maharashtra during 2017-18 was 5699 million and 1436 MT respectively. Annual meat production in the state including poultry in 2017-18 through registered slaughter houses was 9.24 lakh MT (ESM 2018-19).

As per the Provisional Key Results of 20th Livestock Census, Maharashtra has a total livestock population of 33 million showing a rise of 1.61% over 19th Livestock census, 2012. The

livestock population comprises 13.9 million cattle (decreased by 10.07%), 5.6 million buffaloes (increased by 0.17%), 2.7 million sheep (increased by 3.87%), 10.60 million goats (increased by 25.72 %) and 74.3 million poultry (decreased by 4.49%). The overall livestock population recorded a rise of 1.61% over the previous livestock census conducted in 2012, which was due to increase in the buffalo, goat and sheep population of the state. However, the state registered a decline in the cattle and poultry numbers over the 19th Livestock Census. Breeding policy of the state aims at increased productivity of cows by genetic improvement. It also aims at conservation of native breeds and ensuring adequate supply of quality bullocks for animal draught power in rural areas.

A three-pronged strategy is adopted to achieve this genetic up-gradation -:

- a. Genetic improvement of low productive non-descript cattle population in targeted herds /areas through crossbreeding programme using exotic breeds; in the home/ breeding tracts of identified indigenous breeds of the state, the non-descript animals to be upgraded with better performing suitable indigenous breeds viz. Deoni, Dangi, Red Khandari, Gaulao and Khillari.
- b. Pure bred indigenous animals in home/ breeding tracts.
- c. Use suitably pedigreed germplasm of indigenous cattle, viz. Gir, Sahiwal and Red Sindhi. For buffaloes, an area specific breeding policy shall be adopted taking into account agro climatic zones, available fodder resources, prevalent buffalo breeds, etc.

Buffaloes of descript breeds (viz. Murrah, Jaffrabadi, Pandharpuri, Marathwadi, Nagpuri and Surti) should be bred only with semen of bulls of respective breed. Non-descript buffaloes should be bred with germplasm of anyone of the identified breeds Murrah, Jaffrabadi, Pandharpuri, Marathwadi, Nagpuri and Surti. As a strategy, subsequent selective breeding will be aimed at increasing inheritance level of the first selected breed. For this, superior germplasm of higher pedigreed bulls of respective breed will be used. Conservation of Pandharpuri, Marathwadi and Nagpuri buffaloes will be practiced especially in their home tracts and delineated / extended tracts and in other areas having similar agro-climatic conditions. These breeds will be used for up-grading non-descript buffaloes. Development of suitable buffalo breed for beef purpose will be promoted through scientific research and by involving Breeders Associations/NGOs.

As on March 2019, a network of 33 veterinary poly clinics, 168 mini poly clinics, 1740 Gr I veterinary dispensaries and 2841 Gr II Veterinary dispensaries, 65 mobile veterinary clinics and 34 district AI centres are functioning in the state (Economic Survey of Maharashtra, 2018-19).

The state's veterinary infrastructure comprises of 1 cattle breeding farm, 2 bull rearing centers, 7 bull mother farms, 3 frozen semen labs, 33 district artificial insemination centers, 4847 AI centers (Veterinary dispensaries and clinics) for giving impetus to dairy development. Apart from these, BAIF, JK trust and Cooperatives extending AI facilities through 2154 AI centers. As on 31st March, 2018, there were 12,376 co-operative dairy societies and 73 co-operative dairy unions in the State. During 2017-18, there were 111 milk processing plants and 154 chilling centres with capacity of 96.13 lakh litre and chilling capacity of 44.42 lakh litre per day respectively under government and co-operative sector. The average daily collection of milk by the government and co-operative dairies was 0.89 lakh litre and 49.16 lakh litre respectively during 2017-18. Of which, 219 cold storages with capacity of 11,299.65 MT were with private sector (ESM 2018-19).

The state with 18 Intensive Poultry Development Blocks (IPDBs) has 4 central hatcheries in Aurangabad, Kolhapur, Nagpur and Pune and a duck breeding farm mainly focusing on promotion of low input technology birds (as on March 2017, Statistical Booklet, AHD). Punyashlok Ahilyadevi Maharashtra Mendhi Sheli Vikas Mahamandal is a Government of Maharashtra undertaking, working for overall development of Sheep and Goat population and to improve the economic condition of Shepherd Community of the State. The corporation has 9 Sheep and Goat Development Farms for producing superior quality of Rams / Bucks for crossbreeding and up gradation of local sheep and goats.

The state has good network of livestock markets covering all the districts. There are 135 livestock markets. Most of the markets are conducted in APMC controlled market yards. There are 316 slaughter houses in the state.

Dairying in the State is presently passing through a rough time. Milk procurement prices have drastically come down and are not even sufficient to take care of cost of production. This, if continues, will have a significant impact on milk production, which is being reflected in some districts.

Coverage of Working Capital for Animal Husbandry and Fisheries under Kisan Credit Card (KCC) : The Union Government in the Budget 2018-19 had announced to extend the facilities of Kisan Credit Card (KCC) to Animal Husbandry farmers and Fisheries (AH & F) to help them meet their working capital requirements. In pursuance of the said budget announcement, it has been decided by RBI to extend the KCC facility for working capital requirement for activities related to Animal Husbandry and Fisheries.

Vision of the State AH department:

- Converting 9 sheep & goat farms of state into commercially viable Genome resource farms
- Mapping of minerals / trace-minerals deficiency pattern.
- Setting up of export zone for buffalo meat and eggs
- Self-sufficiency in liquid nitrogen storage
- Promotion of CARI approved suitable poultry breeds for rural back-yard poultry
- Genetic improvement of cattle & buffalo up to 80%
- Controlling the disease incidences of FMD, PPR, HS, BQ, RD, Sheep-pox and Anthrax.
- Promulgating the Feed Order (as envisaged by GOI) for regulation of the quality & prices of Cattle & Poultry Feed.
- Establishing Fodder banks for combating fodder scarcity situation.
- Introducing Animal Traceability Systems for effective disease control, breeding & data management.
- Supporting backyard poultry production through infusion of identified low input technology poultry birds, besides promoting Duck, Quails & Desi poultry farming.
- Putting in place a suitable legislation for regulating poultry farming practices & ensuring bio-security measures from public health point of view.

The estimated credit potential projection for the year 2020-21 is ₹ 6905.93 crore which consists of ₹ 4111.50 crore for Dairy Development, ₹ 1144.09 crore for Poultry Development and ₹ 1650.34 crore for Sheep, Goat and Piggery Development.

Some of the major activities under the AH sector for which the credit potential has been envisaged are cross breed cow and indigenous buffaloes, bulk milk cooler, milk transport

trucks, dairy parlour, mini/commercial dairy, broilers /layers, hatchery, broiler dressing, poultry feed, retailer dressing, breeding farm, backyard poultry, commercial units, goat and sheep rearing, stall fed goater, marketing and dressing units, goat breeding, etc.

Suggestions and action points

- There is a need to address the issues in the dairy sector related to milk procurement prices, cost of production, especially fodder, glut in dry milk powder production in international market etc.
- Incentives may be made available to milk unions, farmer producer organizations, etc., for implementing programmes like field progeny testing for enhancement of productivity of milch animals.
- There is need for strengthening the existing breeding programmes / breeding farms of State Govt. while encouraging PPP mode of developing ultramodern breeding farms & infrastructure.
- It is reported that large number Govt. dairy plants / chilling centres were either operating below their installed capacity or closed and many village dairy cooperative societies are closed / defunct. Efforts are needed to put this infrastructure to maximum use.
- The Sheep and Goat Development Corporation may identify private farmers and encourage commercial goat farming involving credit. This activity can also be promoted as contract farming.
- Credit flow to small ruminant sub sector remained a constraint and innovative credit products promoted by NABARD viz., SHGs, JLGs and FPOs may be used in by banks for expanding the credit for rearing of small ruminants.
- Promoting green fodder cultivation as one of the multiple crops to bridge fodder gap and avail fodder during drought. Fodder type to be selected according to the suitability of the agro-climatic zone where it will be grown.
- There is a need to promote the private investment for augmenting feed and fodder resources through technologies like hydroponics, cultivation of improved varieties, silage making, enrichment of crop residues by alkali treatment etc. Conservation of forest grasses, especially in rainy and winter seasons, by making hay to meet the demand during summer seasons.
- The state fodder seed farms must augment the supply of fodder seed of improved varieties.
- Shrinking and degrading pastures coupled with severe short supply of green fodders during summer season needs to be addressed. Common Property resources may be used by milk unions for establishing silvipasture system.
- Organized slaughtering facilities in the state are inadequate. Strategic investments are needed to create such infrastructure.
- Creation of modern livestock based food processing plants, cold chain infrastructure along the value chain, improved packaging, building of the market channels and brand building must be the focus for promoting the exports of milk and meat products.

vii. Fisheries- Inland, Marine, Brackish, etc.

The State has a coastline of 720 km with 173 fish landing centres and the area suitable for marine fisheries is 1.12 lakh sq. km. There were 16,894 marine fishing boats in operation, of which 13,548 were mechanized in 2017-18. In addition to this, the area suitable for inland and brackish water fishing in the State is 3.17 lakh ha and 0.10 lakh ha respectively. There are 30 fish seed production centres in the State with 2,414 lakh spawn production capacity per year catering to inland fishing.

The marine fish production was 4.75 lakh MT, whereas inland fish production was 1.31 lakh MT during 2017-18. There were 3,038 primary fisheries co-operative societies, working in the State as on 31st March, 2018. In addition, there were 36 fisheries co-operative unions and two federations (ESM 2018-19).

The credit projection for the year 2020-21 is estimated at ₹ 956.80 crore for various activities under fishery such as construction/ renovation of ponds, prawn farming, composite fish culture, fresh water prawn culture, carp rearing, shrimp farming, brackish water prawn culture, fishing equipment etc.

viii. Other activities under Farm credit-

Some of the major activities under the sector for which the credit potential has been envisaged are bullock, bullock carts, two wheelers for agricultural purpose etc., for which the credit projection for the year 2020-21 is estimated at ₹ 643.92 crore.

4.1.2. Agriculture Infrastructure

The following activities with an aggregate sanctioned limit of ₹100 crore per borrower from the banking system are covered under Agriculture Infrastructure- Loans for construction of storage facilities (warehouses, market yards, godowns and silos) including cold storage units/ cold storage chains designed to store agriculture produce/products, irrespective of their location, soil conservation and watershed development, plant tissue culture and agri biotechnology, seed production, production of bio pesticides, bio fertilizers, and vermi composting(RBI - Master Directions on Priority Sector Lending).

i. Construction of storage facilities

NABARD, under its WIF portfolio extends finance to the warehousing and cold chain activities in the State, with institutions such as State Governments, Agencies owned/ sponsored by State Govt., Panchayati Raj Institutions (through respective State Governments), Agencies owned/ sponsored by Government of India, Special Purpose Vehicles (SPVs) set up under the projects in Public-Private Partnership (PPP) mode, Cooperatives (and their Federations), Farmers' Producers' Organizations (FPOs), Federations of Farmers' Collectives, APMCs, Apex Marketing Boards, Private Companies, etc., eligible for NABARD loan assistance.

Gol has launched the revised Agricultural Marketing Infrastructure scheme (Sub scheme of ISAM) for the period 22.10.2018 to 31.03.2020 for promoting infrastructure for various purposes like storage, primary processing, common facilities in market yards, direct marketing, farmer facilitation centres, cold storage units, integrated value chain projects, farmer consumer markets & rural haats, etc., with a component of subsidy. This is expected to trigger the credit flow in the sector.

The credit projections for the sector during the year 2020-21 is estimated at ₹2955.99 crore. Some of the major activities for which the credit potential has been envisaged are

storage godowns, cool storage units, chilling plants, infrastructure for marketing, grading, standardization, agri. marketing structures, Sortex grading machines, market yards, pack houses, etc.

Suggestions and action points

- Implementation of WDRA norms for scientific storage, Accreditation of warehouses as per the Warehousing Development and Regulatory Authority (WDRA) norms for issuing Negotiable Warehouse Receipts may be ensured. (NABARD Consultancy Services (NABCONS) facilitates the same as an accreditation agency.)
- There is a need for creation of awareness among the entrepreneurs and farmers regarding the Negotiable Warehouse Receipt System and availability of pledge loan facility.

ii. Land Development, Soil conservation, Watershed development

Land Development covers a broad sector of activities undertaken by farmers and the same may be summarized as under:

Table 4.9. Broad sector of activities under Land Development, Soil conservation, Watershed development

Sn.	Sector	Activities
1	Land Levelling and On-Farm Development (OFD) Works	Changing land-use pattern by going for plantation and horticulture crops, Integrated farm development, OFD works under commands of RIDF projects, OFD works under well commands, LI commands and other MI structures.
2	Reclamation and Soil Improvement	Reclamation of waterlogged lands, Reclamation of cultivable virgin lands, permanent fallow and other waste lands, Reclamation of acidic soils, Reclamation of flood-prone area, Improvement of soil and drainage measures, Silt application and fencing for both field and horticulture crops, Application of organic manure, bio-fertilizers, etc.
3	Integrated Farm Development	Any of the above activities along with basic developments such as barbed-wire fencing, implements / inputs / store-shed etc.
4	Water Management	Lining of channels, Laying of pipe distributaries, Water harvesting / conservation structures
5	Fodder Development	Land management for fodder cultivation
6	Soil and Water Conservation	Building & trenching, Renovation of pits, Contour stone walls, Construction of bench terraces, Stream-bank erosion control, Construction of farm bunds, nala bunds, weirs etc.
7	Watershed Development	Improved rain-fed agricultural practices, Using any of the above measures depending on location, Moisture conservation practices, Crop diversification

Jalyukta Shivar Abhiyaan is being implemented in the State since December 2014 with a view to permanently overcome the water scarcity situation by increasing ground water level through absorption of rain water in earth along with creation of sustainable irrigation facilities. The ambitious programme involves construction of a series of check dams, rejuvenation of old check dams, repair of percolation tanks, desilting village percolation

tanks, connecting stream/nullahs with water storage bodies and repair of Kolhapur Type (KT) weirs and storage tanks. It is targeted to make 5,000 villages every year and 25,000 villages in five years free of water scarcity. During 2017-18, under 'Jalyukta Shivar Abhiyaan', out of 5,028 villages selected, 4,298 villages have been made water neutral by creating water storage of 4,763.7 lakh cubic metre. Under the Abhiyaan 6,072 villages have been selected for 2018-19. (ESM 2018-19).

Magel Tyala Shet Tale Yojana: GoM has launched a flagship programme viz. 'Farm Pond On Demand', under which, subsidy is given with priority to the small & marginal farmers to create farm ponds for conservation of water in their farms. This scheme has helped the farmers to save water in their own farm and use it for agriculture. Individual farmers or a group of farmers having minimum 0.60 ha farm area are eligible for the benefit of maximum subsidy of ₹ 50,000 under this scheme. In the first phase (2016-17 and 2017-18), it is targeted to create 1,12,311 farm ponds. Up to the end of March, 2019 in all 1,20,439 farm ponds were completed (ESM 2018-19).

Banks may proactively finance for credit requirements in the areas indicated above since there exists a credit demand at the level of farmers particularly in the form of various equipments/technologies to address the problems of water logging, green fodder shortage, unsuitability of land for crop diversification/ horticulture, water shortage in Rabi and excess water flooding in rainy season. Creation of awareness among farmers about benefits of soil and water conservation may be attempted more vigorously through institutional mechanism. Focused research on appropriate technologies and farm machinery to conserve resources in agricultural crop ecosystems is necessary.

The Projection for credit flow to the sector for the year 2020-21 has been estimated at ₹1286.27 crore for the activities such as land levelling, land shaping, land reclamation, farm ponds, percolation tanks, polythene mulching, organic farming, field drainage, land bunding etc.

iii. Other Agricultural infrastructure

A holistic approach involving integrated nutrient management, integrated pest management, enhanced input use efficiency and adoption of region-specific cropping systems would be the best farming strategy. Keeping this in view, the credit projections for the year 2020-21 are estimated at ₹ 567.49 crore for the activities such as tissue culture labs, bio fertilizer and bio pesticide units, seed production units, vermi composting units, waste composting units etc.

Under the NPOF Subsidy scheme, there is a provision of subsidy of maximum of ₹ 40 lakh @25% of capital for bio-fertilizers/ bio pesticide units, and the subsidy of maximum of ₹ 63 lakh @33% of capital for Compost of fruit and vegetable wastes.

Commercial production of organic inputs viz. Bio fertilizer, Vermi compost / vermi hatcheries & Compost from vegetable and fruits, etc., may be taken up by farmer aggregates like PACS, Producer Organizations. Banks may proactively finance for fresh investment credit requirements particularly in the following areas- NADEP and Vermicomposting/ Organic / Natu-eco farming, Seeds development, and under NPOF scheme. The marketing linkage for quality seeds, bio pesticide and bio fertilizer need to be strengthened. State Government while expanding opportunities in biotechnology education & research may take steps to expand the flow of benefits from lab to field and also protect traditional knowledge and practices based on their merit. Promotion of PPP involving NGOs, FIGs, commercial organizations and corporate may facilitate rapid progress in the sector. Establishment of quality control and certification laboratory would standardize the developments occurring in

the sector

4.1.3. Ancillary Activities

Ancillary activities cover the following items - Loans up to ₹ 5 crore to co-operative societies of farmers for disposing of the produce of members, Loans for setting up of Agri-clinics and Agri- business Centres, Loans for Food and Agro-processing units up to an aggregate sanctioned limit of ₹ 100 crore per borrower from the banking system, bank loans to Primary Agricultural Credit Societies (PACS), Farmers' Service Societies (FSS) and Large sized Adivasi Multi-Purpose Societies (LAMPS) for on-lending to agriculture, Loans sanctioned by banks to MFIs for on-lending to agriculture sector as per the conditions specified by RBI.

i. Food and Agro Processing

Post-harvest technology and management (food and agro processing) play a crucial role in value addition to agriculture. Due to lack of adequate agro-processing facilities, the post-harvest losses are very high in agriculture, especially under horticultural crops. The value addition in dairy sector is minimal, processing and value addition of meat is negligible. Similarly the spoilage loss is very high in fisheries sector due to lack of processing. Government of India have therefore identified Food and Agro Processing sector as one of the thrust areas. The establishment of AEZs, Food Parks and efforts made under Contract Farming are steps towards popularization of Agro/ Food processing sector in India. However, investments in Agro/ Food processing sector have not been commensurate with the large potential available and as a sequel, linkages between production, post-harvest management, processing and marketing including export largely remain weak. Against the back drop of the WTO agreement and opening up of international markets, in addition to a huge domestic market, agro food processing has assumed greater significance and has thrown open new opportunities and challenges.

As per the RBI guidelines, credit to food processing units with investment in plant & machinery up to ₹ 10 crore shall be treated as priority sector advance. Further, loans for food & agro- processing units up to an aggregate sanctioned limit of ₹100 crore per borrower from the banking system would qualify as priority sector advance.

Rice, wheat, soybean, jowar, grapes, pomegranates, cashew and mangoes are the main crops that are available in Maharashtra for primary and secondary processing. The main agro processing industries in the State are in the sectors of cotton, sugar, poultry, rice mill, flour mill, meat, edible oil, vanaspati, milk processing units, etc. Most of these units are on small and medium scale. Ahmednagar, Jalgaon, Pune, Kolhapur, Solapur, Nashik, Sindhudurg, Latur, etc., are the major districts where food and agro processing activities are concentrated.

Share of food processing industry in the total share of the industrial sector in the State is 11.1 percent. 90 percent of the wine industry of the country is located in Maharashtra. Eight notified Agri Export Zones for products like mangoes, grapes, pomegranate etc., are located in the state. The state has two wine parks- Nashik and Sangli.

Food Parks: Eight Specialized Food Parks with facilities like cold storage, warehousing, advanced packaging, tera packaging & food testing laboratory located at: Butibori (Nagpur), Shendra (Aurangabad), Nevasa (Ahmednagar), Latur, Osmanabad, Nanded, Chiplun (Ratnagiri) and Satara.

Wine Parks: MIDC has set up three Wine parks at : Vinchur , near Nashik , Addn Vinchur near Nashik , Palus near Sangli.

Floriculture: Three Floriculture Parks are developed as world class facility for production of flowers of different types and varieties. MIDC provides nursery, post-harvest, infrastructure and logistic facilities. The parks are located in Talegaon (Pune), Mudkhed (Nanded) and Osmanabad.

Under its Mega Food Parks Scheme, Ministry of Food Processing Industries (MoFPI) has sanctioned four Mega Food Park projects in Jain Agro Trading Company Private Limited, Wardha ("In-principle" approval), Vinay Tiwari Agro Estates & Farms Pvt. Ltd. Ahmednagar, Paithan Mega Food Park Ltd., Aurangabad and Satara Mega Food Park Pvt. Ltd., Satara.

MoFPI has supported eight Agro Processing Clusters (APC) under its scheme aimed at development of modern infrastructure and common facilities to encourage group of entrepreneurs to set up food processing units based on cluster approach by linking groups of producers/ farmers to the processors and markets through well-equipped supply chain with modern infrastructure.

Under the scheme for Setting up of New/ Modernization of Existing Abattoirs of Ministry of Food Processing Industries (MoFPI), Maharashtra has been sanctioned 2 Abattoirs Projects so far - Ahmednagar Dist. Goat Rearing & Processing Co-operative Federation, Ahmednagar has been completed and Aurangabad Municipal Corporation, Padegaon, Aurangabad under PPP mode has been approved by the Approval Committee. Commercial operations are expected to commence shortly.

Maharashtra Agro Industries Development Corporation (MAIDC) is the state nodal agency for development of food processing sector in the state.

Maharashtra Industrial Development Corporation (MIDC) provides single window solution to the entrepreneurs for setting up and expansion of businesses in the state.

The State Government provides financial assistance to societies for setting up agro-processing units. Sugar factories, cotton ginning & pressing mills, spinning mills, handloom & powerloom units, dairy, fisheries, rice mills, oil mills and other processing units are constituents of agro-processing co-operative societies. As on 31st March, 2018 there were 25,634 agro-processing co-operatives having 53.09 lakh members.

Chief Minister Agriculture and Food Processing Scheme: GoM has launched the Chief Minister Agriculture and Food Processing Scheme during 2017. In all 340 proposals were received and 67 proposals were approved during 2018-19. By the end of March, 2019 grants of ₹ 9.98 crore were distributed.

Potential Areas for Investment - Maharashtra

Based on raw material availability in the state, the following activities hold potential in the state.

- Food grains (rice, jowar, bajra etc.): Noodles, Flours (fortified), Biscuits & bakery, Breakfast cereals & Mixes
- Maize: Flour, corn flakes, corn meal, corn oil, starch and its derivatives (like glucose, starch), ethanol, alcohol, poultry feed, etc.
- Pulses: Ingredient to various mainstream processing items such as snacks

- Potato: Chips, Flakes, Powder, Fries, Starch etc.
- Oil seeds: Refined oil, cattle feed
- Vegetables like okra, carrot, chili, peas, beans etc.: Fresh cut, Frozen and assorted products
- Tomato: Puree, Juice, concentrate, ketchup, sauce etc.
- Guava: Juice, concentrate, Fruit drinks, frozen halves, candies
- Citrus Fruits like orange: Juice, candy, Powder
- Grapes: Wine
- Banana: Chips, other processed products
- Mango: Pickle, Aam Papad, Chutney, Candy, dried mango powder etc.
- Milk: Butter, crème, ghee, cheese, flavoured milk, milk powder, ice-cream, curd, buttermilk etc.

Table 4.10. Major production clusters of Maharashtra are given below

Name of the Produce	Cluster covering districts
Pomegranate	Nasik, Jalna, Ahmednagar, Pune
Pigeon Pea	Latur, Akola, Buldhana, Amravati, Nanded
Capsicum	Amravati, Nasik, Pune, Solapur
Papaya	Nandurbar, Dhule, Akola, Jalgaon
Onion	Jalgaon, Nashik, Aurangabad, Ahmednagar
Milk	Pune, Satara, Sangli, Kolhapur, Sholapur, Osmanabad, Nasik
Banana	Akola, Jalgaon, Nanded, Pune
Fisheries	Thane, Raigad, Ratnagiri, Sindhudurg
Grapes	Nasik, Ahmednagar, Pune, Satara, Solapur and Osmanabad

The Projections for credit flow to the Food & Agro-processing sector for the year 2020-21 have been assessed at ₹ 6905.59 crore for the activities such as flour mills, cashew processing, spices, jaggery khandsari, rice mills, oil mills, cotton ginning and pressing, dal mills, milk processing, starch units, oil extraction, poha mills, fish processing, onion processing, papad soya products, pickles, noodles etc.

Suggestions and Action Points

- Lack of adequate post-harvest handling infrastructure like grading, pre-cooling, packing and cold storage facilities and marketing infrastructure for fruit and vegetables have been the major impediments in the growth of this sector. The Maharashtra State Agriculture Marketing Board (MSAMB) may make all out efforts to promote post-harvest technologies among farmers.
- Contract farming by processing industries, farmers' groups, producers' organizations for aggregation and value addition needs to be encouraged on large scale to overcome the long and fragmented supply chain, which is a critical bottleneck in the growth of the sector.
- There are many units working in unorganized sector in the district. Due to their obsolete technology and under-capacity utilization, the quality/quantity of the finished products is not to the desired extent. Orientation programs needs to be organized so that the prospective entrepreneurs are made aware of the latest technology used in the post-harvest processing. Capacity building of the entrepreneurs is the need of the hour.

ii. Other ancillary activities

In addition to Food and Agro processing, as per the RBI guidelines, the following activities qualify for priority sector lending which are included in Other ancillary activities under agriculture:

- Loans up to ₹ 5 crore to co-operative societies of farmers for disposing of the produce of members.
- Loans for setting up of Agriclincs and Agribusiness Centres.
- Bank loans to Primary Agricultural Credit Societies (PACS), Farmers' Service Societies (FSS) and Large-sized Adivasi Multi-Purpose Societies (LAMPS) for on-lending to agriculture.
- Loans sanctioned by banks to MFIs for on-lending to agriculture sector as per the conditions laid down by RBI.

In this context, the projected loans to the above areas during the year 2020-21 have been estimated at ₹ 1159.43 crore.

Out of the activities indicated above, two significant activities which should be supported by bank finance are presented below-

1. Farmers Producer Organizations - FPOs

Indian producers are unable to realize optimal value from their produce and progress further due to fragmentation of land holdings and lack of organization. The State has around 197.67 lakh landholdings out of which around 79.52% are small and marginal farmers (with land holdings of less than 2 hectares). The average size of land holding is 1.34 hectare. Due to this fragmentation and disorganization, it is not economically viable for the farmers not only to adopt latest technology but also to use high yielding varieties of inputs like seeds and fertilizers. They are also unable to realize good value for their marketable surplus by individually selling their produce. Through better collective organization, producers can utilize scale to procure inputs at a lower price and gain more selling power for their produce/product. Forming a producer organization can also provide access to timely and adequate finance, build capacity and provide linkages to markets. Typically, the producer organization refers to any registered legal entity of primary producers engaged in farm/ off-farm economic activities. They work for the benefits of shareholder members and share portion of profits among the members.

2. Agriclinic and Agribusiness Centres (ACABCs) by Graduates of Agriculture & Allied Subjects Modernization of agricultural practices demands augmented support and extension services for agriculture. For this purpose, a scheme for setting up Agriclinic and Agribusiness Centres (ACABCs) by agriculture graduates was launched with the support of NABARD. The ACABCs would provide a package of soil and input testing facilities and other consultancy services and would strengthen transfer of technology and extension services and also provide self-employment opportunities to technically trained persons. The basic concept of the Agriclincs is to provide expert services and advise to farmers on cropping practices, technology dissemination, crop protection from pest and diseases, market trends and prices of various crops in the markets and also clinical services for animal health etc., which would enhance productivity of crops/ animals. Similarly, the basic concept of Agribusiness Centres is to provide input supply, farm equipment on hire and other services. The Loans on attractive terms for setting up these centres will be provided by banks with refinance from NABARD. The ceiling of project cost for individual projects stands revised to ₹ 20.00 lakh and

for group projects it has been enhanced to ₹ 100.00 lakh @ ₹ 20.00 lakh per trained graduate). Repayment Period will depend on the nature of activity and will vary between 5 to 10 years including a maximum grace period of two years. Rate of Interest on term loan shall be as per guidelines and declared policy of the bank. In case of loans up to ₹ 5.00 lakh no margin money is required. Time limit for completion of the project would be a maximum of six months from the date of disbursement of the first installment of loan. Capital subsidy will be back-ended with minimum three years lock-in period. Subsidy pattern has been revised from “capital and interest subsidy” to “Composite Subsidy” which will be back-ended in nature. It will be 44% of project cost for women & SC/ST and 36% of project cost for all others.

4.2. Credit Potential for Micro, Small and Medium Enterprises (MSME) – Term loans and Working capital

Majority of people living in rural areas draw their livelihood from agriculture and allied sectors. However, the growth of other sectors such as manufacturing and services is also necessary to sustain the balanced development of the economy. Development of MSME helps in capital formation, growth of entrepreneurship among local people, reduced migration and ensures inclusive growth.

Bank loans to micro, small and medium enterprises in both manufacturing and service are eligible to be classified under priority sector.

As per the revised Priority Sector Lending guidelines by the RBI, all the loans to MSME would be classified as priority sector lending by banks. All the loans to units in the Khadi and Village Industries sector are classified under the sub-target of 7.5% prescribed for the micro enterprises. Loans to entities involved in assisting the decentralized sector, in the supply of inputs to and marketing of outputs of artisans, village and cottage industries form part of MSME. The priority sector guidelines also state that in order to ensure that the MSMEs do not remain Small or Medium units merely to claim eligibility for priority sector status, the MSME units will continue to enjoy the priority sector lending status upto three years, even after they grow out of the MSME category concerned.

With the increasing prominence of services sector in the economy, RBI has issued guidelines on removal of the loan limits per borrower to Micro/ Small and Medium Enterprises (Services) for classification under priority sector. Accordingly, all bank loans to MSMEs, engaged in providing or rendering of services as defined in terms of investment in equipment under MSMED Act, 2006, shall qualify under priority sector without any credit cap.

For ease of access to credit for MSMEs, Government has introduced providing of loans upto 1 crore for MSMEs within 59 minutes through a dedicated online portal. Under the Interest Subvention Scheme for MSMEs, 350 crore has been allocated for FY 2019-20 for 2% interest subvention for all GST registered MSMEs, on fresh or incremental loans (Union Budget Speech 2019-20).

To create maximum employment through the MSME sector in Maharashtra, the State Government proposes to create industrial parks under a new scheme at each taluka level. As a pilot project, it is proposed to create such parks in 50 talukas initially. Out of the total plots developed under the scheme, 30 per cent will be reserved for women entrepreneurs. For 2019-20, an outlay of ₹300 crore is proposed to be reserved for this scheme (Excerpts from the State Government Budget Speech 2019-20).

The Broad-sector-wise GLC Flow in the State is presented in Table 4.11. which shows the extent of disbursement under MSME sector vis-à-vis other priority sectors

Table 4.11. Extent of disbursement under MSME sector vis-à-vis other priority sectors

₹ Crore

S.n.	Sector	2015-16	2016-17	2017-18	2018-19	2018-19 (% of Total PS)
1	Short term credit for Production & Marketing – Crop loans	40581	42173	25322	31237	10
2	Investment Credit for Agriculture & Allied Activities (ATL) *	32284	54605	25691	36677	11
3	Total Agriculture & Allied Activities (1+2)	72865	96778	51013	67914	21
4	Non-Farm Sector (MSME)	104488	117748	142338	201940	64
5	Other Priority Sector (Including export credit, housing, education and social infrastructure)	23078	29884	26290	46901	15
	Total Priority Sector	200431	244410	219641	316755	100

The ground level credit flow to the sector during the last three years i.e. 2016-17, 2017-18 and 2018-19 was ₹ 117,748 cr, ₹ 142,338 cr and ₹ 201,940 cr respectively. SLBC has prepared a credit plan of ₹ 235,375.91 cr for the year 2019-20 under MSME sector including that for Mumbai City and Mumbai suburban districts. During the year 2018-19, the disbursements under MSME sector (₹ 201940 cr) were substantial in the State of Maharashtra with 64 % of the total achievements under priority sector (₹ 316755 cr).

The details of ACP target and Achievements under MSME sector during the past 3 years- 2016-17, 2017-18 and 2018-19 are presented in the table below. The achievement in disbursement against the target has come down from 99% in 2017-18 to 82% in 2018-19, however, the disbursement in the year 2018-19 has grown by 42 % over the previous year. The Commercial Banks have as much as 99% share in disbursement for MSME sector, with very negligible share of RRBs and Cooperatives.

Table 4.12. ACP target and Achievements under MSME sector in the past 3 years-

(Amount in ₹ crore)

Sector/ Agency	2016-17				2017-18				2018-19			
	Tgt	Ach.	% Ach.	% Share of agency	Tgt	Ach.	% Ach.	% Share of agency	Target	Ach.	% Ach.	% Share of agency
CBs	112929	117313	104	99.63%	139646	141829	102	99.64	241980	200950	83	99.51
Coop	2462	69	3	0.06%	2805	124	4	0.09	3322	382	11	0.19
RRBs	715	365	51	0.31%	750	384	51	0.27	826	608	74	0.30
Total	116106	117747	101	100%	143202	142338	99	100.00	246128	201940	82	100.00

During the year 2018-19, the disbursements under MSME sector (₹ 2,01,940 crore) form 63.75% of total priority sector disbursement (₹ 316755 crore) of the State, which continues to be prominent for the second consecutive year after 2017-18 during which 65 % of the total achievements under priority sector was due to MSME sector (₹ 142338 crore).

SLBC has prepared a credit plan of ₹ 2,35,376 crore for the year 2019-20 under the MSME

sector. In the State Focus Paper, the credit projections for MSME activities during the year 2020-21 are estimated at ₹ 3,14,132.92 crore.

Critical Interventions and Suggested Action Points:

- Common Facility Centres may be established and job oriented training programmes for skill development need to be conducted.
- Awareness may be created by various agencies amongst the entrepreneurs about the opportunities in the MSME sector and about the government incentives for promoting this activity.
- Banks to consider the credit requirement of traditional sub-sectors of handlooms, handicrafts, village artisans, KVI units to protect the livelihood of the sector and their employment generation potential.
- Working capital is critical for the small enterprises. Banks may extend adequate working capital for the small scale enterprises. Adequate and timely availability of working capital is the most important factor for successful working of any enterprise.
- An Integrated infrastructure package for rural tourism with all the necessary components such as travel, transport, lodging, boarding, communication, power supply, advertisement, security, sight- specific characteristic facilities for exploration/ trek/ adventure/ sports etc., would impart a thrust to service sector
- Private participation in creating infrastructure facilities may enhance opportunities in manufacturing sector
- Banks / Govt Depts may provide information to the customers about various schemes / facilities provided under service sector
- For facilitating the Standup India scheme, an interactive portal www.standupmitra.in has been developed through which borrowers can submit applications. Handholding support is available through various institutions listed in the portal. The concerned banks and agencies should offer necessary support to the prospective entrepreneurs. Commercial Banks and Regional Rural Banks should keep the target of SUI in focus to cover one SC/ST and one Woman borrower per bank branch.

4.3. Export Credit

The new Foreign Trade Policy for 2015-2020 announced by the GoI on 1st April 2015, aims at increasing India's export of merchandise and services from \$466 billion in 2013-14 to around \$900 billion by 2019-20 and to raise India's share in world exports from 2% to 3.5%. The new Foreign Trade Policy for 2020-2025 is under preparation.

The total exports from Maharashtra during 2017-18 and 2018-19 was to the tune of ₹ 4,49,508 Crore and ₹ 5,09,012 crore respectively, as compared to the total export from India at ₹ 19,55,541 crore and ₹ 23,03,898 crore respectively. The main products exported from Maharashtra are gems & jewellery, petrochemicals, readymade garments, cotton yarn, metal & metal products, agro- based products, engineering items, drugs & pharmaceuticals and plastic & plastic items. The State is also taking various measures to promote export of fruits and vegetables (ESM 2018-19).

Maharashtra, which accounts for about a quarter of India's total exports, has a policy to focus on valueadded exports in sectors such as textiles, agriculture and dairy. In the following commodities exported from India, the state of Maharashtra is one among the top three states- Pearl, Precious and semi-precious stones, Petroleum products, Drug formulations, Biologicals, Gold and precious metal jewellery, Iron and steel products (Source: FIEO).

Banks play an important role in providing the much needed credit for financing exports. Export credit by banks is included in the priority sector lending as per the priority sector guidelines issued by the RBI since 2015-16.

Bank assistance as an export credit is mainly under two categories.- 1 Pre-shipment credit, also known as 'Packing credit', is a loan granted to an exporter for financing the purchase, processing, manufacturing or packing of goods prior to shipment. Packing credit can also be extended as working capital assistance to meet expenses such as wages, utility payments, travel expenses etc.; to companies engaged in export or services. 2. 'Post-shipment credit' refers to any loan or advance granted or any other credit provided by a bank to an exporter of goods and services from India from the date of extending credit after shipment of goods/ rendering of services to the date of realization of export proceeds.

The projections for Export Credit during the year 2020-21 are estimated at ₹ 61363.59 crore.

Critical Interventions and Suggested Action Points

- Availability of infrastructure for exports like grading and packing units, quality testing labs, certification issuance at local level, packing houses, pre-cooling units, cold storages, etc., need to be ensured.
- Agriculture Department / APEDA may arrange sensitization workshops for agri-exporters to make them aware about current export regulations/policies of importing countries, domestic and international demand and supply situation, price competitiveness, quality concerns, various certifications required, Sanitary & Phytosanitary (SPS) requirements, etc.
- Settling the Pre-shipment credit within the stipulated time after the dispatch of goods or converting them into Post Shipment credit may be ensured.
- The banks should put in place a control and reporting mechanism to ensure that the applications for export credit are disposed of within the prescribed time frame.
- Exporters may be encouraged to avail the export credit insurance facilities extended by ECGC.
- Micro, Small and Medium Exporters should be properly trained by MSME / export organizations with technical assistance from banks regarding correct filling up of forms.
- APEDA/ Regional centres may be established at more places which can function for developing agro products and agro industries having export potential, fixing of standards and specifications for the scheduled products for the purpose of exports, training in various aspects of industries connected with the scheduled products, updating exporters regarding various central government schemes.
- A nodal agency for exports needs to be created which can disseminate trade related useful information to exporters, identify buyers' market and take up exporters' queries.
- Lack of awareness about overseas buyers is one of main reasons for fewer exports from various districts despite the potential. There are more traders and less number of direct exporters. There is very little awareness about international exhibitions. In many districts, only a few bank branches have forex facility, as a result of which exporters at times have to rush to bigger cities for getting their formalities done.
- Organization of exports through consolidation of production data, identification of target markets and authentication of foreign buyers needs to be attempted.
- Concerns on the issues such as Certification becoming expensive to small exporters have been expressed.
- Industries may be set up for value added product of agricultural produce (like Soyabean,

e.g. Soya Papad, Soya chips, Soya instant mix, Soya flour, Soya milk, Tofu etc.).

- Incentives in various forms will enable exporters to reduce their cost and sustain competition from other countries.
- Training institutes should be set up to provide training and guidance so as to develop adequate manpower in the sector.
- Cluster based approach in financing by bankers for enhancing exports.
- There is a need for diversification of export products as the present range is mostly limited to rice, marine products, buffalo meat and cotton.
- There is a need for transition from low value unprocessed/semi-processed and bulk material (which has 85% share in the total agricultural exports) to sophisticated value added products.
- There is a need for diversification of export destinations as 40% of exports are only to US and Vietnam.
- Capacity building of SF & MF for exports.
- Enhancing bank finance towards infrastructure and post-harvest technology.
- Integration of bank finance with contemporary developments like Mega Food Parks and promotion of various clusters.
- Need for financing commodity specific MSMEs.
- Banks to extend higher export credit taking advantage of the guarantee cover provided by ECGC for pre and post shipment credit.

4.4. Education

Maharashtra (with 4,631 colleges affiliated to 44 universities as of 2011) has the enviable distinction of having the highest number of colleges in the country, according to a report on higher education compiled by the University Grants Commission

The districts with a large number of schools/colleges/ universities/ higher education institutes are in certain need of financial impetus for acquiring higher educational qualification. In some other districts, in absence of adequate facilities for college education within the district due to limited seats, students seek opportunities in other districts that require financial provision. In terms of RBI guidelines on Priority Sector advances, educational loans granted to individuals for educational purposes up to ₹ 10.00 lakh for studies in India and ₹ 20.00 lakh for studies abroad would be classified as Priority Sector advances.

In order to standardize the loan facilities for this sector, the IBA has formulated a model educational loan scheme which is being implemented by all the banks. Interest subsidy during the moratorium period is also available.

GLC flow to the sector in the State in the past 3 years i.e. 2016-17, 2017-18 and 2018-19 was ₹ 1350.03 crore, ₹ 1356.11 crore and ₹ 1525.34 crore respectively (Source- SLBC).

While the banks may pro-actively finance new cases to deserving candidates, a mechanism may have to be worked out to address the concerns of NPAs in the previous cases, if any, expressed by bankers.

Credit potential for Education Sector for the year 2020-21 has been estimated at ₹ 7816.17 crore.

4.5. Housing

The housing sector is one of the prime engines of economic growth as it satisfies the social needs, generates employment and stimulates economy with its spill-over effects. GoI has resolved 'Housing for all by 2022' and accordingly has encouraged the Housing Sector through budgetary announcements such as Affordable Housing that gives tax relief and Pradhan

Mantri Awas Yojana – Gramin (PMAY-G) that aims at providing 1.95 crore houses in the second phase of PMAY-G (2019-20 to 2021-22).

As per the RBI guidelines, the housing loan limits for eligibility under priority sector lending are revised to ₹ 35 lakh in metropolitan centres (with population of ten lakh and above), and ₹ 25 lakh in other centres, provided the overall cost of the dwelling unit in the metropolitan centre and at other centres does not exceed ₹ 45 lakh and ₹ 30 lakh, respectively. Furthermore, the existing family income limit of ₹ 2 lakh per annum, prescribed for loans to housing projects exclusively for the purpose of construction of houses for Economically Weaker Sections (EWS) and Low Income Groups (LIG), is revised to ₹ 3 lakh per annum for EWS and ₹ 6 lakh per annum for LIG, in alignment with the income criteria specified under the Pradhan Mantri Awas Yojana.

NABARD has recognized rural housing as an eligible activity for extending refinance to the eligible banks and entities such as State Housing Boards/ Corporations.

GLC flow to the sector in the State in the past 3 years, i.e. 2016-17, 2017-18 and 2018-19 was ₹ 16477.46 crore, ₹ 11351.43 crore and ₹ 18049.72 crore, respectively (Source- SLBC).

Banks may adopt a flexible approach in relation to credit appraisal and ensure speedy processing of the loan applications.

The credit projections for the year 2020-21 are estimated at ₹ 44742.28 crore for this sector.

4.6. Renewable Energy

The contribution of renewable energy (RE) to the power sector has increased and is expected to increase in the future. It is reported that wind energy will continue to dominate the future capacity addition from RE in India and the country is expected to harness around 88% of its available potential of wind by 2022. Small Hydro Power (SHP) sector is also expected to be harnessed up to 43% of its potential. However, the potential for each of the RE technologies is expected to change (increase) in future with more resource assessments and technological advancements.

The Jawaharlal Nehru National Solar Mission aims to generate 20,000 MW of solar power by 2022, creating a positive environment among investors keen to tap into India's potential.

Kisan Urja Suraksha evam Utthaan Mahabhiyan (KUSUM)

With an aim to promote use of solar power among farmers, the scheme launched by Gol would enable farmers to obtain solar water pumps under the following modes: 1) Installation of grid-connected solar power plants each of capacity up to 2 MW in the rural areas; 2) Installation of standalone off-grid solar water pumps to fulfill irrigation needs of farmers not connected to grid; 3) Solarisation of existing grid-connected agriculture pumps to make farmers independent of grid supply and also enable them to sell surplus solar power generated to DISCOM and get extra income; and 4) Solarisation of tube-wells and lift irrigation projects of Government sector.

Department of Financial services has instructed all Public Sector Banks to encourage home loan/ home improvement loan seekers to install rooftop solar PV plants and include cost of system in their home loan proposals. The rooftop solar systems from 1 kWp upto 500 kWp or in combination can be set up on the roofs. About 10sq.m area is required to set up 1 kWp grid connected rooftop solar system.

As per revised priority Sector guidelines issued by RBI vide their Circular dated 23 April 2015, bank loans up to a limit of ₹15 crore to borrowers for purposes like solar based power generators, biomass based power generators, wind mills, micro-hydel plants and for non-

conventional energy based public utilities viz., street lighting systems and remote village electrification will come under Priority Sector. For individual households, the loan limit of Rs10 lakh per borrower will be considered under priority sector.

The credit projections for various activities under renewable sources of energy and waste utilization for the year 2020-21 are estimated at ₹ 1180.28 crore.

4.7. Infrastructure

Infrastructure- Public Investments- Infrastructure facilities are the catalysts for development. Rural infrastructure covers the basic facilities, services and installations needed for the functioning of a community or society residing in rural areas. Rural connectivity and power are some of the critical infrastructure that require either direct investment by the State or in the PPP mode. RIDF support from NABARD has emerged as an important source of fund for public investments. Investment in rural infrastructure creates new economic opportunities and activities, generates additional employment and income, improves delivery of other rural services and enhances skills of the rural poor even while strengthening the foundation of agriculture.

Social Infrastructure involving bank credit - Though infrastructure development in general improves the standard of living of the people, there are certain types of investment which have a direct bearing on the social lives of the people, especially in the rural areas. Investments in schools, health centers, drinking water and sanitation facilities are examples of some such sectors, which can be termed as Social Infrastructure. Both large survey-based studies as well as case studies have repeatedly shown that education and health services in India are characterized by (i) inadequate and inferior infrastructure; (ii) poor public service delivery; (iii) lack of quality choices and (iv) lack of access especially for the poor due to a high dependence on relatively expensive privately provided services. The gap between the demand and supply pertaining to social infrastructure has been widening over the years. The recent changes in the priority sector guidelines by the RBI has encouraged private participation through bank credit for this sector.

A projection of ₹ 2935.05 crore has been made for creation of social infrastructure through bank credit during the year 2020-21.

4.8. Other priority sectors

As per the RBI guidelines, the following activities are covered under the sector 'Others' under priority sector lending.

- a) loans not exceeding ₹50,000/- per borrower provided directly by banks to individuals and their SHG/JLG, provided the individual borrower's household annual income in rural areas does not exceed ₹100,000/- and for non-rural areas it does not exceed ₹1,60,000/-.
- b) Loans to distressed persons [other than farmers already included under loans to distressed farmers indebted to non-institutional lenders] not exceeding ₹100,000/- per borrower to prepay their debt to non-institutional lenders.
- c) Overdrafts extended by banks upto ₹5,000/- under Pradhan Mantri Jan-Dhan Yojana (PMJDY) accounts provided the borrower's household annual income does not exceed ₹100,000/- for rural areas and ₹1,60,000/- for non-rural areas.
- d) Loans sanctioned to State Sponsored Organisations for Scheduled Castes/ Scheduled Tribes for the specific purpose of purchase and supply of inputs and/or the marketing of the outputs of the beneficiaries of these organizations.

The loans to the above areas during the year 2020-21 have been estimated at ₹ 4711.02 crore.

4.9 Informal credit delivery system

In Maharashtra, as on 31.3.2019, the SHGs with SB account stand at 10.84 lakh (Source: Status of Microfinance in India 2018-19, NABARD) and 3.85 lakh SHGs have outstanding loan of ₹ 4299 crore (SLBC). During its 27 year journey, SHG BLP has been empowering the rural poor, especially rural women. It has emerged as a powerful intervention for poverty alleviation through holistic financial inclusion.

Deepening of the SHG-Bank Linkage Programme

Increased coordination with the National Rural Livelihood Mission (NRLM) resulted in synergizing the training efforts and support to the SHGs and understanding each other's views. Promotion and nurturing of SHGs by existing and new partners continued to be supported to encourage financial inclusion, increasing bank outreach, credit linkage, handholding and livelihood promotion. Redoubling the efforts of capacity building of stakeholders and improving interface besides organizing Award Ceremonies in all states for recognizing good performance, further energized the SHG-BLP movement.

Promotion of WSHGs in backward / Left Wing Extremism affected districts

In all, 14,188 WSHGs have been savings linked and 11,676 of these have been credit linked under the scheme for promotion of WSHG in 06 backward / Left Wing Extremism (LWE) affected districts spread across Maharashtra.

Though SHG-Bank linkage programme has been recognized as an effective route for reaching the unreached and unequivocally endorsed as "profitable banking proposition", the ground level feedback reveals some startling facts regarding the past experience. While it is recognized that the Banks have enormously contributed to the growth of the programme, there have been cases of reluctance by banks to accord priority to this programme owing to various reasons including staff shortages and increasing NPAs under SHG financing.

Project E-Shakti

Realizing that SHGs were left out of the digital initiatives in the banking ecosystem, NABARD launched a pilot project for the digitization of SHGs in 2015, in Dhule district in Maharashtra and Ramgarh district in Jharkhand.

The E-Shakti platform captures demographic, social and financial information of SHGs and their members, enables proper credit appraisal of SHGs and consequently, formal lending institutions have greater confidence in giving these SHGs access to a wider range of financial services.

E-Shakti project has been implemented in 07 districts of Maharashtra viz., Dhule, Wardha, Chandrapur, Nagpur, Aurangabad, Raigad & Kolhapur. As on 31 March 2019, total 26,641 SHGs were digitized capturing data related to 3.18 lakh members across Maharashtra. NABARD Head Office has accepted and promoted Raigad Model of E-Shakti in the entire country. NABARD is currently working with credit information companies to provide a linkage between E-Shakti software and the reporting mechanism of credit information companies through the CBS of respective banks. As per initial reports, E-Shakti has enabled banks to step up credit flow to SHGs, as it provides bank branches access to the monthly grading of each SHG that has a savings account with them. The quality of book-keeping by SHGs has substantially improved. The SHG members also get an SMS alert about their savings and loan transactions. Banks may come forward to avail the facility in these 07 districts and credit link

the SHGs. Eshakti Phase IV would be rolled out this year in 08 districts of Maharashtra viz. Sindhudurg, Ahmednagar, Jalgaon, Nanded, Satara, Sangli, Nandurbar and Washim.

The JLG mode of financing serves as collateral substitute for loans provided to the small, marginal, tenant farmers, oral lessees, share croppers etc. It enables the banks to reach farmers through group approach, adopt cluster approach, and facilitate peer education and credit discipline. Hence the banks may increase their financing to small, marginal, tenant farmers and oral lessees through JLG mode of financing.

NABARD encouraged RRBs to finance JLGs in a big way. In Maharashtra, NABARD entered into MoU with both the RRBs. Under this scheme NABARD provided grant assistance to banks for using corporate BC/NGOs as JLGPIs and for capacity building to create a pool of trainers from among the bank staff for the formation, nurturing and financing of new JLGs.

गाव गाव में बढ़ते कदम - महाराष्ट्र के जिलों में नाबाई



NEA Awareness Gen. Prog., Kolhapur



PLP launching in DLCC, Palghar



Rural Mart in Nandurbar



RIDF monitoring, Jalgaon



Sustainability Development Programme, Nashik



Study on High Tech. Agri., Aurangabad

गाव गाव में बढ़ते कदम - महाराष्ट्र के जिलों में नाबाई



Launch of PLP in Raigad



Vigilance Awareness, Nagpur



Talk on GSS, Sangli



Sorted Semen Tech. Project, Wardha



Study on Turmeric cultivation, Washim



RIDF monitoring, Jalgaon

गाव गाव में बढ़ते कदम - महाराष्ट्र के जिलों में नाबार्ड



DEDS workshop, Parbhani



DEDS workshop, Akola



RIDF monitoring visit, Jalna



RIDF monitoring, Chandrapur



Sorted Semen Tech. Project, Osmanabad



Mobile van launch, Satara

गाव गाव में बढ़ते कदम - महाराष्ट्र के जिलों में नाबार्ड



VWC meeting, Nanded



NGO workshop, Gondia



Watershed monitoring, Nandurbar



DEDS workshop, Amravati



Fin. Lit. Prog., Ratnagiri



Bhandara, NEA Awareness creation

गाव गाव में बढ़ते कदम - महाराष्ट्र के जिलों में नाबार्ड



GIZ Project monitoring, Ahmednagar



JMI, Yavatmal



SHG Leadership Dev. Prog., Latur



Watershed monitoring, Nashik



PLP Launching, Dhule



RIDF monitoring visit, Akola

Maharashtra's infrastructure sector overall has grown significantly over the last decade, with a substantial rise in the number of industrial clusters and public-private partnership (PPP) projects. This has significantly impacted the rural economic scenario also. However, due to fiscal constraints as also demand from various sectors, prioritising and completing the projects by avoiding time and cost overrun has been a challenge for the State, especially when it comes to rural infrastructure projects.

To focus on completion of such projects, various funds were created in NABARD over a period of time, the earliest being the Rural Infrastructure Development Fund (RIDF) followed by NABARD Infrastructure Development Assistance (NIDA). To align with the national and state priorities, sector specific funds were created for exclusively focussing on certain sectors, viz., micro irrigation, dairy, agri marketing and fisheries.

The chapter talks about these various funds and the NABARD's involvement in accelerating Maharashtra's economic growth through supporting and supplementing the rural infrastructure development and improving the quality of rural masses in the State.

A. Rural Infrastructure Development Fund (RIDF)

Rural Infrastructure Development Fund (RIDF) which was created during the year 1995-96, serves as the 'bridge over the gap', as RIDF over the years, has evolved into a dependable and timely source of funding for rural infrastructure projects. NABARD, over a period of 25 years, since inception of RIDF, has facilitated the State of Maharashtra for creation of rural infrastructure through implementation of 21830 projects involving an investment of over ₹16703.59 crore. Of this, an amount of ₹11990.20 crore has been disbursed as on 31 March 2019. The current running tranche of RIDF is XXV with a corpus (*Normative Allocation*) allocated to the State at ₹1500.00 crore. Out of the country wide RIDF sanction at ₹3.26 lakh crore made till date, the share of Maharashtra was 5%.

Thirty seven broad sectors/activities are approved by Government of India for financing under RIDF covering almost all aspects of rural infrastructure, with the latest entrant being *custom hiring centres* under farm mechanisation. The eligible activities are classified under three broad categories *i.e.*, (i) Agriculture and related sectors which are eligible for loans upto 95 per cent of eligible project cost, (ii) Social sector, where loans can be upto 90 per cent of eligible project cost in North eastern and hilly States and 85 per cent of project cost in all other States and (iii) Rural connectivity where loans are extended upto 90 per cent of eligible project cost in North eastern and hilly States and 80 per cent in all other States.

Government of Maharashtra has availed assistance, since inception of RIDF from Tranche I, for Irrigation, Roads and Bridges, Rural Water Supply, Fisheries, Kharland development, Anganwadis, Construction of Check dams, Waste Water management, Watershed Development and Rural Warehousing. Power generation and system improvement in power sector, construction of primary and middle schools, residential schools in tribal areas or rural health institutions are other areas in which scope exists for the State Government to create infrastructure using funding under RIDF.

The details of projects so far assisted under various tranches of RIDF in Maharashtra along with estimated benefits are given in Table 5.1.:

Table 5.1. Projects supported under RIDF in Maharashtra as on 31 March 2019

(₹ crore)

Sector/Activities /Projects	Projects sanctioned	RIDF loan sanctioned	RIDF loan disbursed	Benefits
Irrigation (MI, Checkdams)	868	6945.87	4804.54	6.26 lakh ha area brought under irrigation, changing cropping pattern and production
Rural Water Supply Schemes	240	304.33	279.98	15.22 lakh people benefited in 564 villages
Anganwadi	5000	170.00	126.70	Setting up of 5000 anganwadi Kendra
Salinity Reclamation Kharland	104	84.55	76.14	Reclamation of 12188 Ha of salinity affected land on sea coast.
Watershed	30	162.80	86.60	Treatment of 1.40 lakh ha through various watershed treatment
Fisheries	43	408.41	195.55	Setting up of 43 fish landing centres and construction of retaining walls and other infrastructure.
Roads and Bridges	14923	7996.82	6114.56	23720 Kms roads laid/strengthened; 46154 villages and 17354 marketing centers connected
Warehousing	594	533.46	266.68	595080 MT capacity creation
Waste Water Management	28	97.35	39.45	122 villages to get benefit covering 10.30 lakh population
Total	21830	16703.59	11990.20	

Figure 5.1. Sectoral share of RIDF loan sanctioned

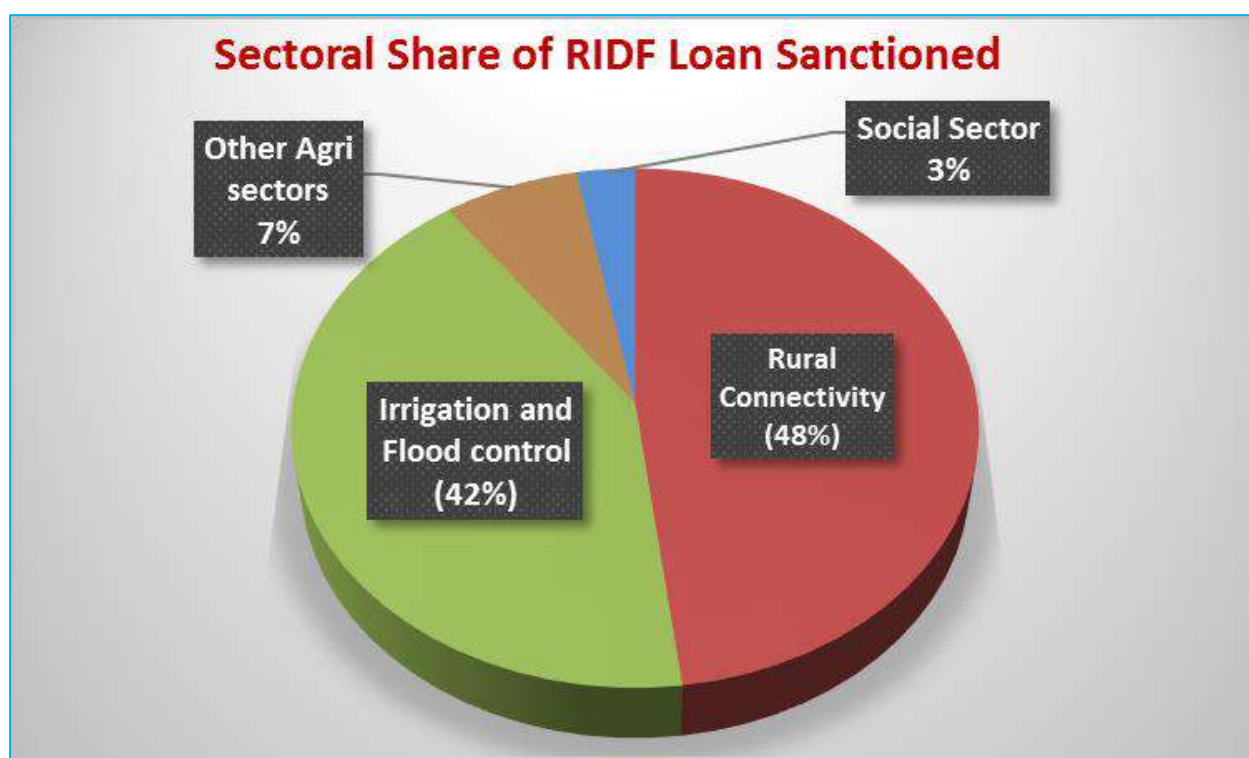
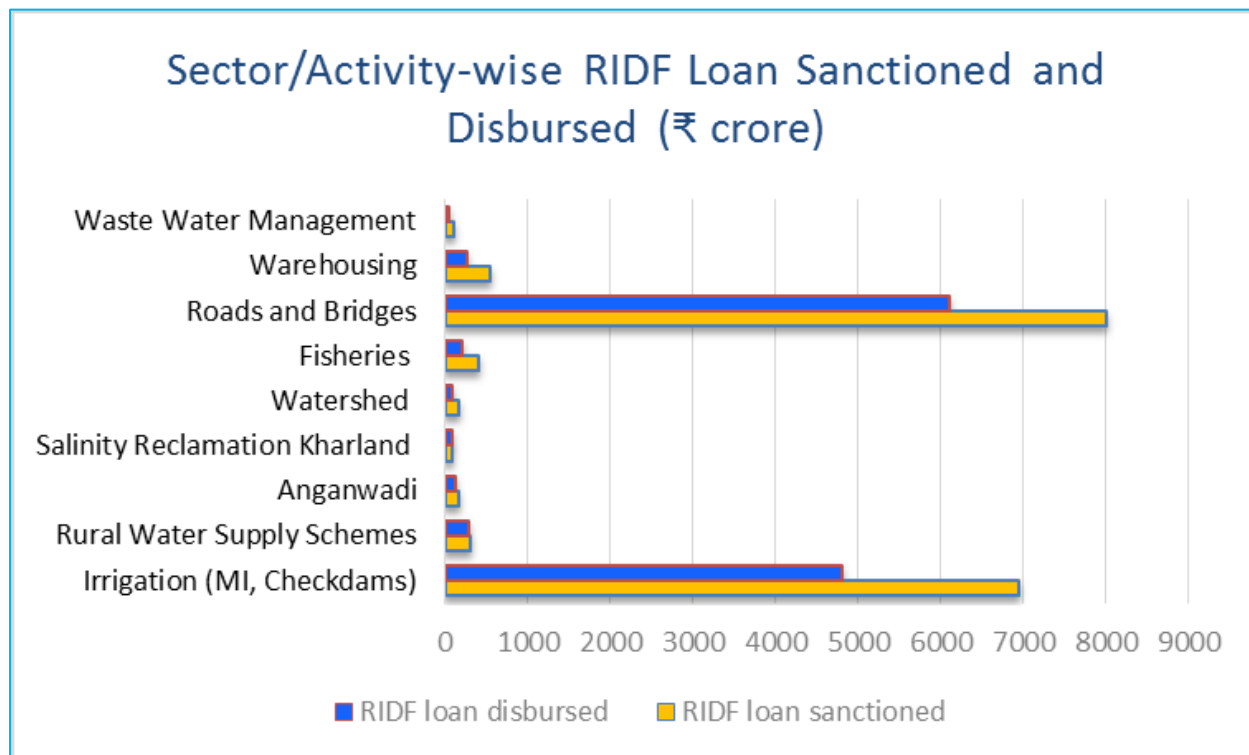


Figure 5.2. Sector/Activity-wise RIDF Loan Sanctioned and Disbursed (₹ crore)



The following aspects are relevant with regard to RIDF projects being implemented by the State Government:

Gap in fund availment: As against a drawable amount of ₹4249.14 crore as per phasing for all ongoing projects at the beginning of the year, i.e., 01.04.2019, the State Govt. has been able to draw only to the extent of ₹2537.76 crore (including savings) i.e., 60%. During the year 2019-20, as on date, as against the Borrowing Power of ₹2000 crore under Article 293(3) of the Constitution, and gap as per phasing of ₹1711.38 crore, the State Govt. has drawn funds only to the extent of ₹345.56 crore (*figures as on 31 October 2019*). The pace in implementation of the projects have been slow to moderate, especially in the sectors of irrigation and fisheries. State Govt. may take necessary steps to ensure that the projects are completed a scheduled and that the utilization of the funds is justified so that the benefits of the projects are reaching the farmers and other beneficiaries in a timely manner.

Budgetary allocation: Planning/Finance departments of the State Government to ensure that adequate budgetary allocations are made in respect of the projects sanctioned under RIDF, LTIF and NIDA.

Flow of Funds: Timely release of funds to the implementing offices at the grass root level is to be ensured by the implementing departments and also monitoring by the nodal department, i.e., Finance Department at Mantralaya so that progress in physical work of projects sanctioned under various funds is not hampered for want of funds.

Land Acquisition and Settlement of Claims: The procedural delays and settlement of compensation to the Project Affected Persons (PAPs) in irrigation projects result in undue delay in completion, leading to cost and time overrun and consequent delay in benefits accruing to the people. Suitable measures for quick settlement, acceptable to all concerned, need to be urgently taken.

Monitoring: The implementing departments may monitor the progress on a regular basis to ensure that the projects are implemented as per the phasing and that the benefits are reaching to the beneficiaries for which the projects are being implemented. For the purpose, suitable technology may be adopted to ensure that the projects being implemented are progressing as per phasing and be able to complete timely. The Public Works Department (PWD) and the Rural development Department (RDD) has been monitoring the projects on a regular basis. Similar strategy may be adopted by other departments. Finance Department, being the nodal department, may also review the projects at their level. Due to the efforts by NABARD, the Finance Department has issued instructions to all the District Collectors to include RIDF projects as regular agenda in the District Planning Committee Meetings.

B. Long Term Irrigation Fund (LTIF)

The Hon'ble Union Finance Minister, during his Budget speech 2016-17, has announced creation of a dedicated Long Term Irrigation Fund (LTIF) in NABARD with an initial corpus of ₹ 20,000 crore by way of budgetary resources and /or market borrowings by NABARD (both under GoI fully serviced bonds and own borrowings) for funding and fast tracking of the incomplete major and medium irrigation projects identified by Ministry of Water Resources, River Development and Ganga Rejuvenation (MoWR, RD&GR), GoI.

In Maharashtra, State Government has availed state share from NABARD against which loan amount of ₹15637.98 crore has been sanctioned under LTIF for completion of 25 projects as on 31.03.2019. A cumulative disbursement of ₹8178.42 crore has been made under this fund

for these projects. During the current year, the sanction against these projects have been enhanced keeping in view the cost escalation, etc., and the extant sanction of these projects stand at ₹17909.24 crore. With readily available funds, it is expected that these projects which were ongoing for the past few decades would be completed by 2019-20 and bring an area of 8.65 lakh ha under irrigation.

C. NABARD Infrastructure Development Assistance (NIDA)

NIDA offers flexible long terms loans to well managed State Governments /State owned Institutions/Corporations on both on-budget as well as off-budget for creation of rural infrastructure outside the ambit of RIDF borrowing and aids in easing state budget constraints. Infrastructure projects largely benefiting rural areas and covered in a harmonized list of projects as approved by the GOI/RBI and activities covered under RIDF and “Rurban” mission are eligible for funding under NIDA. Funding under NIDA has also been broadened by covering PPP and non-PPP projects by registered entities like cooperatives, companies, etc. During 2018-19, NABARD and Government of Maharashtra has entered into an agreement for completion of 68 incomplete minor and major irrigation projects to create irrigation potential of 1.82 lakh ha across 14 drought prone districts of Vidarbha and Marathwada under the Baliraja Jal Sanjeevani Yojana, with a term loan facility of ₹6655.00 crore. Against this ₹939.19 crore has been disbursed so far.

D. Rural Infrastructure Promotion Fund (RIPF)

Over a period of 25 years, NABARD has sanctioned various projects across the 3 sectors covering 37 activities to the States under RIDF. However, a need was felt for creation of experimental/critical infrastructure of smaller investments with focus on last mile connectivity to benefit the rural people. Recognising the need for addressing the above issues, NABARD has set up a separate fund titled ‘Rural Infrastructure Promotion Fund (RIPF)’ with a corpus of ₹ 25 crore with an objective to support innovative and last mile infrastructure through grant support. Under this, so far an amount of ₹ 145.29 lakh has been sanctioned in the State as grant to support critical infrastructure in villages. Activities sanctioned include construction of rural haat, cement nala bunds, milk collection centre and biogas unit, Reverse Osmosis (RO) water treatment etc. In view of the success of the projects, the State Government may consider supporting such projects on a larger scale to benefit the rural population.

New Initiatives towards strengthening the Rural Infrastructure scenario

Micro Irrigation Fund

With a view to provide impetus to the micro irrigation, in the Union Budget 2017-18, Hon’ble Finance Minister announced setting up of a dedicated Micro Irrigation Fund (MIF) to be instituted with NABARD with an initial corpus of ₹ 5000 crore for facilitating the States to mobilize additional resources for expanding coverage of Micro Irrigation. The main objective of the fund shall be to facilitate the States in mobilising the resources for expanding coverage of Micro Irrigation by taking up special and innovative projects and also for incentivising micro irrigation beyond the provisions available under PMKSY-PDMC to encourage farmers to take up micro irrigation systems. The loans will be extended by NABARD to the State Governments during 2018-19 and 2019-20 with an allocation of ₹ 2000 crore and ₹ 3000 crore respectively. The fund is to be accessed by the State Government on behalf of farmers. For the purpose, MoU needs to be entered into by the State Government with NABARD and GoI. The MoU has

since been finalised by the Gol.

Dairy Processing and Infrastructure Development Fund

In line with its announcement in the Union Budget 2017-18, Government of India created a Dairy Processing and Infrastructure Development Fund (DIDF) in NABARD with a total corpus of ₹ 8004 crore to be implemented / utilised over a period of five years. The objectives of the Scheme are modernisation and infrastructure augmentation for milk processing and value addition and to ensure optimum price realisation by the primary producers. Under DIDF, the National Dairy Development Board (NDDB) / National Cooperative Development Corporation (NCDC) will borrow money from NABARD for on-lending to eligible end borrowers such as cooperative milk unions, state cooperative dairy federations, milk producer companies, multi-state milk cooperatives and NDDB subsidiaries.

In Maharashtra, a total of ₹256.35 crore has been sanctioned so far to three entities, i.e., Pune Milk Union (₹59.51 crore) Godavari Khore Milk Union (₹41.58 crore) and Panchmahal District Cooperative Milk Union (₹155.26 crore). The loan extended to Pune Milk Union was for expansion of their dairy plant capacity which is expected to add 100 TLPD through increasing the pourer member base from 44980 to 56600 so as to enhance coverage of villages from 1025 to 1242. For Godavari Khore Milk Union also, the loan was extended for expansion of capacity from 150 TLPD to 300 TLPD. The Panchmahal District Cooperative Milk Union was sanctioned loan for the purpose of establishment of new dairy plant as well as additional infrastructure in the form of curd, butter milk and paneer plants.

Agri Market Infrastructure Fund

To bridge the gap in agri-market infrastructure, Hon'ble Finance Minister in the Union Budget 2018-19 announced the Agri Market Infrastructure Fund with a corpus of ₹2000 crore for developing and upgrading the agri marketing infrastructure in the 10000 Gramin Agricultural Markets (GrAMs) and linking them with 585 APMCs to bring them under e-NAM.

Fisheries and Aquaculture Infrastructure Development Fund

In line with its announcement in the Union Budget 2017-18, Government of India created the Fisheries and Aquaculture Infrastructure Development Fund (FIDF) with a total corpus ₹7522.48 crore to be implemented over a period of five years from 2018-19 to 2022-23. FIDF establishes establishment of 10 fishing harbours, 10 fish landing centres, 10 integrated cold chains, 500 modern fish markets, 15 fish processing units and other infrastructure facilities. NABARD shall fund the public infrastructure components under FIDF for each State Government.

Animal Husbandry Infrastructure Development Fund

Government of India has also announced the Animal Husbandry Infrastructure Development Fund (AHIDF) with a total corpus of ₹2477.52 crore over a period of three years, i.e., 2018-19 to 2020-21.

The above announcements / initiatives by Government of India covering a total budget of ₹10000 crore will help the rural economies and rural incomes to grow and improve quality of rural lives.

- ❖ NABARD supported rural road construction in Raigad under RIDF



- ❖ NABARD's support for construction of rural bridge in Wardha under RIDF



- ❖ Rural bridge project in Wardha supported by NABARD under RIDF



- ❖ NABARD's support under RIDF for construction of rural road in Jalgaon district



- ❖ Major bridge project in Wardha supported by NABARD under RIDF



- ❖ Irrigation project at Akola supported by NABARD under RIDF



- ❖ Farm bunding under Watershed Development Project of NABARD in Nanded



- ❖ Shramdaan by villagers in Watershed Project supported by NABARD in Nasik



6.1 Introduction

High-tech farming mainly refers to agricultural operations involving the latest technologies. It is a capital intensive agriculture since large capital outlay is required towards purchase of specialized equipment, maintenance of assets, training of labour, etc. Hi-tech agriculture mainly relates to commercial farming system aimed at catering to the needs of both, domestic as well as export markets. It uses farming technology to increase yields, ensures high quality (usually pesticide-free) and realizes increased market value. Growing temperate vegetables in a tropical climate and developing disease-resistant plants through genetic engineering are common examples of hi-tech agriculture.

Hi-tech agriculture aims to address the challenges faced by agriculture sector and food security needs, synergizing of technology, engineering, and farming. The concept aims to use modern technology to increase the quantity and quality of agricultural products. With technological advancement and reach, farmers have access to GPS, soil scanning, data management, and Internet of Things technologies. By precisely measuring variations within a field and adapting the strategy accordingly, farmers can greatly increase the effectiveness of pesticides and fertilizers, and use them more selectively. Similarly, under animal husbandry, using high tech agriculture for smart farming, farmers can better monitor the needs of individual animals and adjust their nutrition correspondingly, thereby preventing disease and enhancing herd health. The Hi-Tech farming systems has its application in fisheries sector also.

The agricultural sector needs to employ a wide range of evolving technologies and farm practices across many different farming systems and structures to meet a variety of changing and heterogeneous demands from consumers and the public for food, fibre and other goods and services provided by agriculture, often with uncertain outcomes in terms of their effects on sustainability.

6.1.1 Need for Hi-Tech Agriculture

Considering the challenge related to predominance of small and marginal land holdings, low productivity of soils, dependence on monsoon, decreasing labour availability there is need to apply appropriate modern technologies and tools to improve productivity, resource efficiency, sustainability and farming income.

Recent advances in the areas of precision farming, remote sensing, GIS-GPS, Variable Rate application (VRA), protective cultivation, use of precision equipments/tools, etc., offer opportunity for use of these technologies and promotion of Hi-Tech agriculture for Indian farming systems. As indicated by NITI Aayog¹, rising concern for sustainability and efficiency of agricultural operations necessitate harnessing of natural resource management technologies and improved farm practices. Modern machinery such as laser land levellers, self-propelled sprayers, precision seeders and planters, transplanters for rice and vegetable seedlings, multi-crop threshers, harvesters for cereals and sugarcane, available today allow technically, highly efficient farming and resource conservation. Public extension agencies and

¹ *Raising Agricultural Productivity and Making Farming Remunerative for Farmers, An Occasional Paper NITI Aayog, Government of India, 2015*, <https://niti.gov.in/content/raising-agricultural-productivity-and-making-farming-remunerative-farmers>

development departments need to change their orientation from supplying farm inputs to other areas like resource-conserving technologies, farm mechanization, post-harvest management and marketing. India must also keep an eye on the use of Nano technology applications in agricultural inputs to enhance input use efficiency.

Considering the large scale rainfed farming area (more than 80%) in Maharashtra there is increasing need to ensure resource efficiency in terms of per unit of available water, land and time. This calls for use of advanced technology in the areas related to production of short duration, resilient varieties, precision / high density planting, better nursery management, use of variable rate application approaches, micro fertigation, cultivation of off-season vegetables through protective cultivation, better clearing, sorting and grading and post-harvest management, etc.

6.1.2 Advantages of high-technology farming

- Increase in yield up to 5 to 8 times – high productivity per unit area
- Significant saving in key inputs like water (up to 50%), fertilizers (25%) and pesticides.
- Better growth and uniformity in quality
- Feasible even in undulating terrains, saline, water logged, sandy & hilly lands

6.1.3 Potential areas for Hi-tech agriculture

- Urban and peri-urban areas to meet requirements of fresh produce like vegetables, fruits and flowers round the year
- Areas with limited land and water resources
- Areas where availability of land for cultivation is restricted because of snowfall and where low temperature is prevalent restricting cultivation of crops under open field conditions.
- Small and marginal land holdings for adopting intensive production technologies
- As an agri-business enterprise for enterprising youth in rural and urban peripherals

A summary of the hi-tech agriculture activities having potential for productivity enhancement and investment is given in Table 6.1.

Table 6.1. Hi-tech agriculture activities having potential for productivity enhancement and investment

S.No.	Activity	Details
1	Soil less agriculture/ Hydroponics	The concept behind hydroponics is to eradicate imminent barriers that exist between the roots, water, nutrients and oxygen for proper growth. It is a method of growing plants without soil using water soluble mineral nutrients. The nutrients used in hydroponic systems can come from different sources, including (but not limited to) fish excrement, duck manure or purchased chemical fertilizers. Plants commonly grown hydroponically include tomatoes, pepper, cucumber and lettuces. Hydroponic vertical farm uses 70% less water than typical farming operation since it utilizes a closed-loop ebb and flow system where water with nutrients floods the beds of sprouts few times a day and then is recycled through a reservoir and reused.

2	Protected cultivation under green house	A greenhouse together with solar and photovoltaic systems, Pumps, UV filters and lighting can be sustainable and environment friendly through the use of modern solar technology and can be supported and operated independently. The aquaponic solar greenhouse allows the simultaneous production of vegetables, fish and solar power. This leads to a very low or even negative CO2 footprint (CO2 sink) for the food produced.
3	Aeroponics	Aeroponics is the process of growing plants in air or mist environment without the use of soil or an aggregate medium. Unlike hydroponics, which uses a liquid nutrient solution as a growing medium and essential minerals to sustain plant growth or aquaponics which uses water and fish waste, aeroponics is conducted without a growing medium.
4	Vertical farming	Vertical farming, with vegetables grown in temperature, moisture and nutrition-controlled indoor environments can also guarantee improvements in yield while at the same time limiting environmental externalities. Main characteristics of vertical farming is given below : i.) It is one step higher than greenhouse technology and open field cultivation. ii.) It is being progressively practiced in mushrooms, hydroponic fodder, strawberry, leafy-vegetables particularly lettuce, herbs, ornamental horticulture and other crops production.

6.2 High Value Crops (HVC)

High Value Crops (HVCs) are those, which give significantly higher value productivity or net income per unit of resources used for production, compared to other competing activities. Diversification towards high-value crops such as fruits, vegetables, especially in a country like India where demand for high-value food products has been increasing faster than for staple crops, has proven to increase income level of farmers. Some of the important activities under HVC are indicated below:

- Fruit and vegetable cultivation especially catering to urban and metro markets (in the urban peripheral)
- Cultivation of off-season and exotic vegetables under greenhouse for exports (asparagus, celery, bell pepper, sweet corn, green and lima beans)
- Floriculture- open and greenhouse production for domestic and export markets
- Exclusive production of crops for processing/ specific to user industry needs/ under contract farming arrangements- i.e. gherkins, potato, fruits and select vegetables for processing, flowers (for extracts), medicinal and aromatic plants
- Mushroom cultivation
- Hi tech nursery units for fruit crops, vegetables, flowers, etc.

6.2.1 Prospects for High Value Crops

Urbanization is a key determinant of demand for HVCs because of higher per capita income, change in tastes and preferences and greater participation of women in labor markets. About 28% of India's population lives in urban areas, which is expected to become 35% by 2020, leading to rapid growth in demand for high value food commodities. The consumption pattern in rural areas is also fast changing in similar way.

6.2.2 Export prospects of Hi-tech Agriculture

- **Fresh fruits and vegetables** - India's exports of fresh fruit and vegetable during 2018-19 stood at ₹ 10062.93 crore. An increasing acceptance of new products with market development efforts has been witnessed lately given the fact that there is a good international demand for certain fruits and vegetable products.
- **Floriculture** is being viewed as a high growth Industry. The liberalized economy has given an impetus to the Indian entrepreneurs for establishing export oriented floriculture units under controlled climatic conditions. There are more than 300 export-oriented units and majority of which (50%) are located in Southern States of Karnataka, Andhra Pradesh & Tamil Nadu. India's total export of floriculture & fruit and vegetable seeds products has been ₹ 1420.64 crore in 2018-19.
- **Processed fruits and vegetables:** India's exports for processed fruits and vegetables stood at ₹ 5591.34 crore during 2018-19. Due to special efforts of the Ministry of Commerce and Industries, Govt. of India and APEDA, the international demand for Indian processed fruits and vegetables has set a rising trend during last few years.
- **Animal products:** Indian boneless meat of bovine animals has very good international acceptance. During 2018-19, export of animal products recorded at its peak of ₹ 30309.38 crore.
- **Other processed products:** Among the other products, Guar gum and Shelled groundnut contribute major share of Indian exports. During 2018-19, export of other processed products were recorded at ₹ 17986.40 crore.
- **Cereals:** Amongst the agro export products, cereals contribute maximum to the extent of ₹ 56841.27 crore as recorded during 2018-19. Major commodities being Basmati and parboiled rice amongst the cereals exported.

6.2.3 High Value Agriculture for Small Farmers

While high value crops are mainly cultivated by big farmers, there is significant scope for small and marginal farmers to diversify towards high value agriculture through aggregation measures for increasing their income. However, the challenge lies in development of infrastructure, transfer of technology, appropriate marketing interventions, availability of affordable capital, etc.

6.3 Hi-Tech Farming Technologies

Characteristics of hi-technology farming is the use of science and technology to direct and enhance farming operations to improve productivity and income of farmers in a sustainable manner. These technologies support the entire value chain including production of high quality planting material (tissue culture, quality seed production, etc.); scientific cultivation technologies – precision farming, protected cultivation, efficient use of soil and water resources, efficient input management, hydro/aero-ponics, use of IOT, Robotics, GIS and GPS tools, use of drones, pest disease surveillance, etc.; post-harvest management with use of mechanical harvesters, grading, sorting, packing and transport. Some of the technologies are detailed in the following paragraphs,

6.3.1 Precision Farming

Farming with high technology methods can be understood as Precision Farming (PF). As with all such expressions, it is a label for a strategy, here often with the meaning of satellite steered farming with geographical information systems or other (remote) sensing methods, combined with high tech sowing and harvesting machines. PF is not a single technology, but rather a set of technologies that can be assembled into a system including in most cases modern breeds of crops, transgenic traits produced by professional seed companies. The precision farming approaches under protective and open field conditions have used, technologies such as Geographical Information System (GIS), Variable Rate applicator (VRA), mechanized harvesting of produce, post-harvest management, etc. for improving productivity and profitability.

6.3.2 Use of Drones:

The Indian Council of Agricultural Research (ICAR) through the Indian Agricultural Research Institute (IARI), under a collaborative research project, is developing indigenous prototype for drone based crop and soil health monitoring system using Hyperspectral Remote Sensing (HRS) sensors. This technology could also be integrated with satellite based technologies for large scale applications. The project entitled "SENSAGRI: Sensor based Smart Agriculture" is involving six partner institutes (Agriculture & IT) to be funded by Information Technology Research Academy (ITRA), Department of Electronics and Information Technology (DEITY), Ministry of Communication and Information Technology (MCIT) and ICAR. Drone technology based Unmanned Aerial Vehicle (UAV) has ability for smooth scouting over farm fields, gathering precise information and transmitting the data on real time basis. This technology could be used for regional or local land assessment and crop health management, loss and damage assessment, pest control, post-event management and settlement of compensation under crop insurance schemes, etc. This technology has huge scope for its deployment for crop cultivation, disease surveillance and its management in crops like cotton and horticulture crops.

6.3.3 Hydroponics fodder and vegetables production

Fodder is one of the crucial inputs in sustenance of dairy sector and farm animals. As per 19th Animal Census, 2012-13, there are 186.26 lakh farm animals. The fodder requirement at the rate of 7 kg/animal / day, is 469.38 lakh MT per annum. In last few years, there is a large scale replacement of kharif jowar with soybean that has reduced fodder availability to some extent. The vagaries of nature like delayed monsoon, dry spells, excessive rains etc., lead to crop damage and also affects availability of fodder. Hence it is essential to have sufficient fodder production and its buffer stock.

The issue of fodder is more in focus in the situation of drought and as such fodder production can only be taken in limited areas where there is availability of water. Hydroponics fodder production technology is developed by ICAR, Goa unit which enables lush green fodder production in just 10 days. Besides this, it can provide daily green fodder production of one metric ton per day from just 250 sq.ft. area. It also requires very little quantity of water as compared to field level production due to multi-storied and protected cultivation.

Hydroponics has wide application in vegetable production in off-season and can act as very good income generation opportunity. Similarly for dryland areas the technology has huge scope on account of low water requirement.

6.3.4 Use of Internet of Things in Agriculture

The Internet of Things (IoT) is the network of physical objects or "things" embedded with electronics, software, sensors, and network connectivity, which enables these objects to collect and exchange data. The Internet of Things allows objects to be sensed and controlled remotely across existing network infrastructure, creating opportunities for more direct integration between the physical world and computer-based systems, and resulting in improved efficiency, accuracy and economic benefit. Each thing is uniquely identifiable through its embedded computing system and is able to interoperate within the existing Internet infrastructure.

One of the key areas of application of the IoT is Agriculture and Water Sector. The specific areas of application of these technologies for agriculture, environment and water sectors could be as under:

- To setup project for precision farming which uses data analysis to customize operations. The project may include monitoring of soil moisture, vibrations, earth density and pests to detect dangerous patterns in land conditions and create an online update mechanism for farmers.
- To setup project for monitoring of water level variations in rivers, dams and reservoirs, for proactive disaster management.
- To setup a project to allow farmers to monitor online, the temperature of grain bins and receive an alert if the temperature rises outside of an acceptable range to help them preserve grains in storage areas. This also can be extended to alerts for pest controls requirements.
- To create unmanned tools for spray of pest control and other insecticides.

Other areas of application of IoT for better management of resources and improving profitability of agriculture sector can include the following areas:

- Water Management in canal command areas.
- Automation of polyhouse operations
- Irrigation Pump operation management based on ground water status, crop water requirements, soil moisture status etc.
- Customized crop weather advisory distribution
- Management of dairy cattle: health and feed management for better milk production
- Management of fish and shrimp production: operation of oxygen pumps, temperature regulation, etc.

6.4 Issues under Hi-tech Agriculture promotion

Some of the important issues in promotion of high-value crops, are as under:

- i. Bringing more and more small holders under high value agriculture production system
- ii. Transfer of technology
- iii. Access to institutional credit
- iv. Institutional development for input support, extension, training and capacity building
- v. Marketing linkages for ensuring remunerative price of produce on sustainable basis.
- vi. Enabling policy interventions

- vii. High value crops like fruits and vegetables are perishable in nature and measures towards diversification calls for simultaneously addressing critical infrastructure needs like cold storages, quick transport facility, etc.
- viii. Absence of specific risk mitigation measures to off-set high production and market related risks.

6.5 Suggested policy frame work

- Crop Diversification policy needs to ensure well balanced production of food crops (cereals and pulses) to meet food security needs and high value crops to match demand projections. The focus may be more on productivity enhancement interventions.
- Aggregation of input services and output handling specially suitable for small and marginal farmers
- Enabling environment for improved post-harvest management with greater stake for private investments,
- Intensive quality and trade literacy programmes for all stake holders across the country.
- Ensure better share for producers in consumer price (presently only 30%) through cooperative models such as SAFAL, HOPCOMS, etc.
- Impetus for growers/processing agencies on the lines of MAHAGRAPES
- Export of HV commodities requires controls on food safety and quality. Hence, both expertise and infrastructures are needed for addressing food safety issues.
- Production and marketing of high value commodities are capital intensive, where institutional finance with realistic terms of lending is crucial. Appropriate risk mitigation measures such as insurance are required to be introduced.

6.6 Strategies for promotion of Hi-tech agriculture

Greater participation of farmers particularly small and marginal farmers in hi-tech agriculture may be encouraged keeping in view the opportunities for improving farm income. The core strategy involves adopting a compact area and activity specific development approach to enable input, technology and extension support, creation of critical common infrastructure and aggregation of production for marketing and value addition. Some of the suggested strategies include:

- i. Study of successful models for replication
- ii. Identifying activity/crop specific locations and potential mapping
- iii. Development with Group approach such as Farmers' Societies, Producer Companies, JLGs /SHGs, etc.
- iv. Assessment of infrastructure needs including post-harvest handling and transport logistics
- v. Preparation of Sector/ activity specific credit linked Development Plans (Area Development Plans / Banking Plans)
- vi. Supporting infrastructure for post-harvest handling, warehousing, marketing, etc. through PPP mode or private sector investments.
- vii. ICT enabled services such as market information, technology inputs and credit access
- viii. User Industry tie-up for contract farming ensuring clean, equitable and farmer centric agreements with well-defined clauses dealing with quality standard, withdrawal conditions, credit linking with financing institutions, enabling provision for arbitration mechanism, inclusion of appropriate risk mitigation measures, etc.

6.7 Govt. Interventions

The important promotional interventions of GoI/State Government towards high value agriculture sector include:

- Incentives support schemes for adopting high value agriculture production technologies especially under National Horticulture Mission and other programmes of National Horticulture Board.
- Export facilitation and promotional interventions of Agricultural & Processed Food Products Export Development Authority (APEDA)/ Marine Products Export Development Authority (MPEDA)
- Promotional interventions of Commodity Boards

6.8 Role and initiatives of NABARD in supporting Hi-Tech Agriculture

- Guidance to banks in appraisal of hi-tech agricultural projects including investment assessments, techno-financial appraisal, risk management and monitoring systems.
- Over 143 model bankable projects have been developed including important hi-tech and high value agriculture sector activities and state/location specific model projects by the respective Regional Offices.
- Providing consultancy services to prospective entrepreneurs
- Support for Training cum Exposure visits of small/ marginal farmers and entrepreneurs under Capacity Building Programme for Adoption of Technology.
- Framing of appropriate policies with special reference to credit availability
- Resource mapping and infrastructure needs assessment
- Credit facilitation through banks and other financial institutions including subsidiaries of NABARD.
- Professional consultancy services through NABCONS for project development, monitoring, etc.
- Monitoring and Mid-term evaluation
- Supporting critical infrastructure and development of food parks

6.9 Hi-Tech Agriculture in Maharashtra

Maharashtra is also a pioneer in adopting hi-tech horticulture since 1993-94. A Model Floriculture Centre at Rajgurunagar, Dist. Pune and subsequently established Hi-tech Floriculture Centre in College of Agriculture, Dist. Pune has resulted in Maharashtra to be a leader in hi-tech floriculture. Horticulture Training Centre (HTC) at Talegaon, Pune, provides training in cutting edge technology in protected cultivation of flowers and vegetable. The State today leads in export of grapes, pomegranate, flowers grown under protected cultivation. Post-Harvest Management infrastructure created under National Horticulture Board scheme is largest in the State. Maharashtra is also pioneer in adopting micro irrigation since 1986 and today Maharashtra is one of the largest States in using this technology with an area of 18.87 lakh ha.

With support from Israel technologies Government has set up three Centres of Excellence (CoEs) in Maharashtra. These centres are focusing on production of citrus fruit, pomegranate and mango with application of recent technology tools for these crops and facilitate training and capacity building of farmers. Similarly, under Indo-Dutch collaboration Centres of Excellence (CoEs) on hi-tech vegetable farming has been set-up in KVK Baramati.

Horticulture sector is one of the sectors which has used precision and hi-tech tools for improving productivity and ensuring required quality of produce as per the market demand. Right from nursery management and mechanization; micro propagation of horticultural crops; modern field preparation and planting methods, protected cultivation, controlled conditions, methods and techniques, use of micro irrigation systems, EC/pH based fertigation, canopy management, high density orcharding, etc., horticulture has been on the fore-front of technology application. Crop geometry plays important role in crop production. In horticultural crops, large canopy makes plant protection and harvesting difficult. Hence, new planting system with closer spacing and smaller canopy has been introduced. The plant growth can be altered and controlled by using suitable root stock, training and pruning or by use of growth retardants.

Maharashtra State is leading in area under protected cultivation. Model Floriculture Unit, started two decades back, hi-tech floriculture unit at College of Agriculture, Pune, Fruit Research Centre, Himayatbag Aurangabad and Horticulture Training Centre (now known as NIPHT), Talegaon has led commercial horticulture through controlled cultivation. Floriculture Park at Talegaon, Dist. Pune is a landmark in the country.

6.9.1 Institutions in Maharashtra involved in Research and Promotion of Hi-Tech Agriculture

1. Mahatma Phule Krishi Vidyapeeth (MPKV) Rahuri: Hi-Tech Floriculture Project- Promoting farmers to shift from traditional agriculture to the Hi-Tech Agriculture by encouraging them for protected cultivation of flower and vegetable crops.
2. MPKV, Rahuri - Precision Farming Development Centre, Department of Irrigation and Drainage Engineering : Adoption of hydroponics technology with different formulations of nutrient solutions for lettuce under shadenet house
3. KVK Baramati -Hi Tech Agricultural units under involving Hi-tech greenhouse poly house/ Hydro phonic unit for cultivation of vegetables like cabbage, spinach & lettuce, Strawberry and Vertical farming of strawberry
4. Indo-Israeli Agriculture Project (MASHAV Israel's Agency for International Development Cooperation)- Hi Tech Agricultural units for
 - a) Ridge and high density planting at Nagpur
 - b) Rejuvenating senile mango orchards at the Dapoli Center of Excellence by increasing the density of planted orchard from 100 trees per hectare to 400 trees per hectare.
5. ICAR - Central Citrus Research Institute, Nagpur, Use of Tissue Culture for improvement of citrus plants culture through :
 - a) In-vitro Regeneration of Citrus Scions and Citrus Rootstocks through Somatic Embryogenesis
 - b) Micropropagation , plantlet regeneration and in-vitro regeneration Protocol for Citrus Rootstocks
 - c) Genetic Conservation
 - d) Induction of Triploidy in two commercial Citrus scion species through in vitro technique
6. ICAR - Central Institute of Fisheries Technology (CIFT), Mumbai Division : Biosensor buttons to indicate spoilage during transportation and storage of fish.
7. ICAR-CIFE, Mumbai- Eco-Hatchery for Carp Seed Production in coordination with State Fisheries Department of Maharashtra

8. ICAR - Central Institute of Cotton Research, Nagpur: Improving cotton productivity in salt affected soils through identification of species / genotypes and farmer's participation under rainfed eco- system using bio-technology.
9. Dr Panjabrao Deshmukh Krishi Vidyapeeth (Dr. PDKV), Akola- Development of technologies like Improved Biomass Cook stoves, Biogas Plant, Domestic Solar Dryers, Solar Tunnel Dryer, Biomass Gasifiers for Thermal Applications and Power Generation, Biogas Plants for Power supply under All India Co-ordinate Research Project on Renewable sources of Energy for Agriculture Agro-based Industries.

6.2. Hi-tech agricultural practices adopted by progressive farmers in Maharashtra- Some examples

Sn.	District	Activity/Machinery used
1	Ahmednagar	Protected cultivation of vegetables/floriculture using Shade net/Polyhouse
2	Aurangabad	Protected cultivation of vegetables/floriculture using Shade net/Polyhouse
3	Gondia	Vegetable cultivation, high value crops like exotic varieties of cucumber, tomato, vegetable etc. using large area Shade nets, Fully Automatic/computerised systems in Drip Irrigation
4	Jalgaon	Hydroponics, tissue culture, vertical farming, aeroponics, high density plantation , banana and onion processing, solar pump sets, sensor based micro irrigation
5	Kolhapur	Floriculture using Green House, Water filtration, Drip, Pack House, Refrigerated Van, Cold storage
6	Nandurbar	Hi-Tech Nurseries- for Vegetables/Low Tunnel System of Vegetable Nursery using Polyhouse, Shade net, Drip, sprinkler, foggers, fertigation units.
		Shade Nets for growing of vegetables using Shade nets, drips, fertigation units
		Tissue culture lab using Tissue culture lab, equipment, use of soilless media (coco pit) for growing plants.
		Mulching in Watermelon, Banana, Chilli, Papaya using Polythene mulch
		Trellis system in vegetable cultivation using Trellis structure and GI wires- permanent structure on cement/GI poles.
		Automation for water and fertigation management using Netafim Automation Kit
		Use of individual crop cover using Non-woven polypropylene sheets

		Bunch cover in banana for quality production of banana fruits using Non-woven polypropylene sheets
7	Nasik	Poly house, export oriented floriculture
8	Pune	Milk processing into various dairy products, automated cheese plant, ghee plant, UHT milk processing plant
		Automated Protected Cultivation, floriculture, nursery management, tissue culture lab, green house, poly house
		Pathogen free eggs, chicken and egg processing, broiler and layer breeding, poultry vaccine, feed supplement
9	Osmanabad	Solar drying of vegetables using Solar Dehydrators
10	Wardha	Dairy using Sophisticated Milk chiller

Table 6.3. Programmes supported under R&D Fund of NABARD during 2018-19 & 2019-20

Sn.	Agency	Name of the programme
1	Nagpur Veterinary College, Nagpur	Workshop on “Doubling the income of farmers through sustainable innovative livestock farming”
2	Indian Institute of Technology, Mumbai	AFITA/WCCA 2018-Research Frontiers in Precision Agriculture
3	Indian Society of Alliums along with ICAR-Directorate of onion & garlic research, Pune	International Symposium on Edible Alliums : Challenges and Opportunities
4	College of Fisheries, Ratnagiri	International Fisheries Conference ‘COSFAD 2019’
5	Nagpur Veterinary College, Nagpur	National Conference on “Beyond information transfer - Revisiting livestock extension for sustainability and farmers’ prosperity”
6	ICAR-NIASM, Pune	Workshop on Climate Smart Technologies for Sugarcane Cultivation
7	Mahatma Phule Krishi Vidyapeeth, Ahmednagar	National Seminar on Pluralistic Extension for enhancing farmers’ income through reaching the unreached
8	Vasantrao Naik Marathwada Krishi Vidyapeeth	National conference of Maharashtra Society of Agricultural Economics

Box 6.1. Solar Drying of Vegetables - A study by DDM, Aurangabad

A study on Solar Drying of Vegetables was undertaken in Khamkheda and Hatmali villages of Phulambri block of Aurangabad district on 10 October 2019. Field functionaries / workers of Savitribai Phule Mahila Ekatma Samaj Mandal (SPMESM), Aurangabad and representatives of Science for Society (S4S technologies) accompanied during the field visit. SPMESM is presently associated with NABARD in promotion of FPOs, implementation of watershed project and as associate agency under EShakti project.

Solar energy is the most attractive and abundant form of the renewable energy sources because it is free, environment friendly and available most of the year. In Maharashtra, and particularly in Marathwada and Vidarbha region, abundant sunlight is available for almost 8 months in a year. The most common and simplest application of solar energy is to convert it into heat. Various methods of preservation of vegetables and fruits such as drying, controlled atmosphere, canning, dehydration, refrigeration are being used across the globe. Solar drying is one of the simplest methods used to preserve vegetables and fruits. It can eliminate wastage & increase the productivity of agriculture.

Drying is a process of moisture removal from the product and can be achieved by various means like solar drying, mechanical drying, vacuum drying, thermal drying and chemical drying. Drying of product is a complex combination of heat and mass transfer processes which depends on external parameters like temperature, humidity and velocity of the air stream. Drying plays an important role in improving the quality of any product leading to a better marketability of the product and also increases its storage life. When the materials to be dried happen to be agricultural product, the drying becomes much more important as the chances of spoilage of the product through the activity of microorganisms is very high. As drying is an energy intensive process, use of conventional energy sources may not be a desirable choice. In a solar dryer, solar energy is collected by solar collectors and transferred to the drying medium which is air.

The field visit was undertaken in two villages, viz. Khamkheda from Phulambri block and Hatmali village from Aurangabad block to study the status of activity of solar drying. S4S is implementing the project in Khamkheda where solar dryers are provided to individual women beneficiaries for last one and half year. About 12 women members (households) have been provided Electric Dryers and Solar dryers each and two Electric cutter / chopping machines by the agency on experimental basis. Another two dozen women members are on the wait list and have shown interest in the activity. During the initial years, S4S planned the activity of solar drying for four agriculture products; viz. Onion, Garlic, Ginger and Turmeric.

During the interaction with a woman entrepreneur, Smt Pushpa D Muthe, she informed that the drying activity was undertaken for garlic and ginger during the first year of the project. The activity was undertaken by the mother and daughter- in- law duo. The main convenience of the project is that one can undertake this activity in the house simultaneously along with the agricultural activity in the respective farms.

The solar dryer is placed on the top of the house of the beneficiary. The representative from S4S informed that the raw material (garlic, ginger and onion) was provided by them from outside the State to women entrepreneurs and that they have plans to procure the raw material from the same or nearby villages, in future. After the process of solar drying of agriculture items by the women entrepreneurs, the agency provides the packing material to them. The packed material is further taken to the unit of the Agency situated at MIDC, Shendra, Aurangabad for standardization and gradation and final packing.

As regards the marketing of the finished products, it was mentioned that at present the products are available in the malls at Mumbai, Pune and Thane. They are also sold online through e-commerce retailers.

During the visit to Hatmali village of Aurangabad block, it was informed by the agency that the activity is undertaken on the Joint Liability group basis on the plot of Smt.Prabhavati Padul. She is also the active member of the proposed FPO being promoted by POPI - Savitribai Phule Mahila Ekatma Sama Mandal.

The activity is being undertaken by Urjamitra Joint Liability Group since last three years. JLGPI – SPMESM under the guidance from S4S is implementing the project. During 2018-19, the group started the activity of solar drying of beet root, turmeric, ginger and onion. Despite drought situation during the last year, the group earned net profit of about ₹1.50 lakh. Women entrepreneurs informed that after processing & solar drying of turmeric it was marketed (through S4S) in Kerala.

Unlike open sun drying method, Solar drying system is an enclosed system that can keep the food safe from damage from birds, insects, microorganism, pilferage and unexpected rainfall. The field visits revealed that the activity can be taken on individual as also on group basis. It is felt that this can be an ideal enterprise for women members of SHGs as the activity can be taken up in addition to their routine farm work. The open space on the top of the house (terrace) would be preferred. Science for Society (S4S) has planned to expand the activity in 16 more villages of Aurangabad district and also to other districts of Maharashtra State. Abundant sunlight is available during the major part of the year in Marathwada and Vidarbha Region, and if agencies like S4S take the lead, this livelihood activity can change the lives of rural women in coming days!



Chrysanthemum (Shevanti) Floriculture Unit with Natural Ventilation and Soil based Cultivation in Nashik



Dutch Rose Cultivation in Polyhouse with raised soil bed preparation, soil sterilization and drip irrigation in Nashik



Sweet Pepper (Capsicum) cultivation with controlled temperature, well decomposed organic manure based soil and mulching in Nashik



Solar drying of vegetables in Osmanabad



Nashik- High-Tech Milk Processing Plant



Hydroponics technology for production of fodder in Kolhapur



Annexure I
DISTRICT-WISE/SECTOR-WISE PLP PROJECTIONS 2020-21

(₹ lakh)

Sr. No.	District	Crop Loans	Water Resources	Farm Mech.	P & H	F&W Land Dev.	Dairy	Poultry	S/G/P	Fisheries	Others-Bullock	Sub total Farm credit	Con. Of Storage facilities	Land Develop.	Others (tissue cul, Bio-tech)	Sub-total Agric. Infra.
1	Ahmednagar	680991.53	41994.80	21264.70	5761.99	353.49	13452.45	3793.23	21625.90	371.51	6708.35	796317.95	8163.05	5953.06	6638.40	20754.51
2	Akola	152401.08	13228.69	7722.64	2372.97	45.90	4318.25	882.17	956.39	399.87	663.84	182991.80	5908.13	1107.48	213.75	7229.36
3	Amravati	232806.91	11908.07	6252.90	10207.86	175.68	3740.47	1214.10	1414.46	87.36	26099.04	293906.85	1421.31	5362.37	1805.25	8588.93
4	Aurangabad	219663.99	15107.95	5806.88	11395.43	201.20	11262.01	4225.42	3455.82	303.96	762.30	272184.96	6338.50	2788.07	1166.85	10293.42
5	Beed	263963.70	13144.22	4392.38	2053.06	29.34	5873.15	2941.04	4652.76	146.00	1059.03	298254.67	2645.25	3790.23	893.98	7329.45
6	Bhandara	90587.26	3510.66	2350.53	814.55	314.64	5790.48	912.24	1287.00	1168.78	216.00	106952.14	1505.25	627.85	819.45	2952.55
7	Buldhana	273371.79	28640.84	20096.55	6823.35	321.52	5275.10	765.59	3022.23	271.61	1979.65	340568.23	8375.25	469.69	2584.63	11429.57
8	Chandrapur	160564.63	9903.10	5148.79	567.61	576.00	3824.08	1448.60	2432.30	783.00	951.75	186199.86	2768.75	1552.05	254.25	4575.05
9	Dhule	131059.00	7317.00	6292.00	5991.00	1304.00	10977.00	1425.00	5760.00	74.00	824.00	171023.00	6201.00	4060.00	1604.00	11865.00
10	Gadchiroli	39044.00	1905.85	1540.20	129.33	20.52	765.30	548.69	933.03	232.74	194.40	45314.06	8479.65	314.90	29.60	8824.15
11	Gondia	67285.66	2978.40	4320.00	666.97	252.00	5198.44	846.96	1458.00	329.16	222.48	83558.07	4824.00	1053.72	439.13	6316.85
12	Hingoli	144373.50	5084.50	7073.06	3048.35	141.16	4164.19	1691.10	1777.50	238.18	540.00	168131.54	4212.00	1978.88	432.00	6622.88
13	Jalgaon	334000.16	17775.45	14808.46	10623.69	3096.00	19323.20	11146.14	18007.50	5913.00	2543.20	437236.80	7233.04	8012.00	2621.25	17866.29
14	Jalna	190028.93	16520.40	3651.63	8649.36	165.67	3662.95	971.20	1974.94	201.99	2548.31	228375.38	1698.90	1902.99	1041.25	4643.14
15	Kolhapur	297291.74	56559.13	41468.65	7125.99	1386.72	47188.73	3595.68	4326.75	401.82	600.01	459945.22	9157.53	8033.16	1728.00	18918.69
16	Latur	285809.55	9959.32	11470.50	7940.78	392.40	4794.84	1719.11	1440.90	246.98	435.60	324209.98	5016.00	1252.08	910.00	7178.08
17	Mumbai City	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11707.88	0.00	11707.88	0.00	0.00	0.00	0.00
18	Mumbai Sub	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	46305.00	0.00	46305.00	0.00	0.00	0.00	0.00
19	Nagpur	258967.19	12340.52	9188.71	7615.50	3605.13	16505.49	4217.34	6991.56	3839.03	2882.86	326153.34	17093.50	3865.53	5011.26	25970.29
20	Nanded	253959.62	5076.18	7186.50	5310.30	242.25	10885.82	1995.90	3698.61	116.00	230.20	288701.38	5477.50	1513.64	739.35	7730.49
21	Nandurbar	76999.00	4967.00	5240.63	1054.31	90.00	6257.25	1929.06	2276.10	83.70	463.50	99360.55	3635.00	2301.30	1062.00	6998.30
22	Nashik	513561.23	61064.79	22919.14	77058.02	1944.00	35985.62	10119.59	9363.78	1510.35	672.30	734198.82	16650.00	17696.81	11035.25	45382.06
23	Osmanabad	227222.10	6630.30	6397.75	10752.14	103.75	5329.95	509.63	802.35	41.76	634.50	258424.23	2572.50	852.55	139.14	3564.19
24	Palghar	52590.62	2298.35	2589.03	2314.62	254.60	2411.46	1499.58	953.73	1575.63	630.00	67117.62	2125.50	1045.13	310.50	3481.13
25	Parbhani	222684.10	8885.13	9184.40	4752.40	90.65	5389.39	1745.78	1165.05	209.80	665.46	254772.16	6365.00	2030.17	600.00	8995.17
26	Pune	456421.42	75929.14	49125.02	61454.51	6295.50	34801.29	28943.31	32719.55	6371.39	602.55	752663.68	26961.77	15840.40	3705.02	46507.19
27	Raigad	30804.97	1353.67	1721.15	3528.49	430.60	3287.43	2158.50	884.61	3186.88	56.10	47412.40	5718.50	2808.90	216.99	8744.39
28	Ratnagiri	96518.21	4025.52	1651.50	25952.76	124.69	6814.13	316.74	491.04	3350.00	309.96	139554.55	705.75	7586.20	154.80	8446.75
29	Sangli	315751.80	42844.00	34410.00	47100.00	1173.00	22167.00	4795.00	4125.00	1281.00	5656.00	479302.80	8974.00	4015.00	658.00	13647.00
30	Satara	371662.00	26437.00	27858.00	21971.00	968.00	52395.53	2444.00	6490.00	272.00	501.00	510999.00	92707.00	3142.00	1688.00	97536
31	Sindudurg	46506.40	2439.70	2028.75	6415.44	810.00	3539.07	1407.46	400.08	2877.26	350.06	66774.22	1776.00	2850.21	243.00	4869.21
32	Solapur	405101.95	31107.37	31318.22	81747.07	951.15	31686.85	9574.13	8393.07	284.88	1447.20	601611.89	7834.59	10078.04	6670.45	24583.08
33	Thane	35550.35	1550.57	2534.63	1289.25	116.55	1696.77	1637.24	1649.25	544.41	254.70	46823.71	2632.50	816.19	228.75	3677.44
34	Wardha	156866.92	5508.45	2472.00	1898.47	110.00	8996.05	1221.65	1801.96	613.03	1050.75	180539.28	4137.00	1503.00	318.00	5958.00
35	Washim	166528.64	4521.49	1039.20	1314.91	33.03	3028.58	318.60	2499.75	53.75	56.70	179394.64	997.50	639.00	85.50	1722.00
36	Yavatmal	236579.02	14528.36	15769.75	2284.73	931.55	10361.49	1449.71	5803.16	286.78	1579.89	289574.45	5287.50	1784.48	701.55	7773.53
	Grand Total	7487518.97	567045.92	396294.25	447986.21	27050.69	411149.81	114409.49	165034.13	95680.49	64391.69	9776562.11	295598.72	128627.08	56749.35	480974.14

Annexure 1 contd

(₹ lakh)

Sr. No.	Name of District	Food & Agro proc.	Others (Loans to coop)	Sub-tot. Ancill. Acti	Total Agriculture	MSME Invest. Credit	MSME Work. Capital	Total MSME	Export Credit	Education	Housing	Renew. Energy	Others (SHGs/JLGs etc)	Social Infra.	Total Priority Sector
1	Ahmednagar	13502.01	9802.63	23304.64	840377.10	8220.71	329922.02	338142.73	4250.00	23721.65	92742.26	3909.58	17807.40	5249.60	1326200.32
2	Akola	7916.72	3396.00	11312.72	201533.88	62920.00	15730.00	78650.00	160.00	7038.00	25008.00	31680.00	5310.00	600.08	349979.96
3	Amravati	8409.51	1575.75	9985.26	312481.03	56672.00	24926.25	81598.25	0.00	9149.40	51642.00	258.92	14813.88	6948.75	476892.23
4	Aurangabad	22538.93	24978.61	47517.54	329995.90	250750.00	86275.00	337025.00	16020.00	8478.00	64485.00	4236.52	49375.40	7356.60	816972.42
5	Beed	11267.38	2747.25	14014.63	319598.75	96468.45	48234.23	144702.68	0.00	2660.00	25700.00	252.30	15836.50	9530.40	518280.62
6	Bhandara	10080.00	2390.00	12470.00	122374.69	25837.50	9918.77	35756.27	0.00	1251.00	12060.00	502.46	5620.00	2079.00	179643.42
7	Buldhana	1973.91	1650.00	3623.91	355621.71	30383.25	9280.00	39663.25	937.50	4237.20	29112.50	272.43	32110.25	4561.50	466516.34
8	Chandrapur	8451.55	907.00	9358.55	200133.46	60812.70	6974.68	67787.38	0.00	1687.50	13662.00	735.00	256.86	15147.38	299409.58
9	Dhule	10781.00	902.00	11683.00	194571.00	29400.00	26740.00	56140.00	2720.00	9744.00	25020.00	553.00	21328.00	3207.00	313283.00
10	Gadchiroli	1763.63	1071.60	2835.23	56973.44	10412.10	2697.75	13109.85	0.00	4166.40	4409.60	1923.00	101.10	3442.75	84126.14
11	Gondia	9806.40	10836.00	20642.40	110517.32	21900.00	3500.00	25400.00	1800.00	3984.00	17664.00	921.60	3732.00	1796.00	165814.92
12	Hingoli	4146.40	827.50	4973.90	179728.31	25576.00	7992.50	33568.50	1008.00	1440.00	5850.00	306.44	8050.00	3513.75	233465.00
13	Jalgaon	5549.66	1228.80	6778.46	461881.55	162787.50	43410.00	206197.50	9144.00	5402.50	26940.00	2273.20	15770.00	834.40	728443.15
14	Jalna	10660.39	679.50	11339.89	244358.41	45743.50	36990.00	82733.50	641.26	4230.00	9477.00	607.24	9510.00	3810.00	355367.41
15	Kolhapur	12364.91	1726.50	14091.41	492955.32	289181.53	111256.50	400438.03	16387.50	25080.00	79876.00	1477.68	13625.00	1102.50	1030942.03
16	Latur	14115.00	1500.00	15615.00	347003.06	31245.00	122437.50	153682.50	0.00	12000.00	23220.00	891.01	3685.00	6375.00	546856.57
17	Mumbai City	0.00	0.00	0.00	11707.88	12627680.00	3946150.00	16573830.00	3002400.00	34193.25	808000.00	4948.68	16479.00	15705.00	20467263.81
18	Mumbai Sub	330147.00	0.00	330147.00	376452.00	1381800.00	5527200.00	6909000.00	2980800.00	61475.00	1489960.00	1584.00	80940.00	25928.00	11926139.00
19	Nagpur	5616.39	3522.83	9139.22	361262.85	311950.00	86955.00	398905.00	3323.50	12886.00	32538.00	3435.56	10794.05	12826.84	835971.80
20	Nanded	12045.00	1585.60	13630.60	310062.45	51897.50	44378.50	96276.00	200.00	12324.00	44089.50	4487.19	3922.55	12981.00	484342.69
21	Nandurbar	2892.20	670.50	3562.70	109921.54	9840.00	6144.00	15984.00	240.00	5280.00	10050.00	489.56	10860.00	403.13	153228.22
22	Nashik	23536.89	8576.00	32112.89	811693.77	330800.00	82700.00	413500.00	31900.00	21100.00	192375.00	13548.00	13837.75	16272.00	1514226.52
23	Osmanabad	1156.25	882.00	2038.25	264026.67	3088.00	12265.50	15353.50	0.00	5200.00	22500.00	449.28	98.10	7675.00	315302.55
24	Palghar	1514.55	1872.00	3386.55	73985.29	61572.75	26576.25	88149.00	2520.00	11088.00	67800.00	3572.00	511.96	18953.00	266579.25
25	Parbhani	15602.10	1712.50	17314.60	281081.93	58900.00	22150.00	81050.00	3600.00	3321.00	8700.00	858.48	9612.00	4200.00	392423.41
26	Pune	41922.38	2237.40	44159.78	843330.64	2028000.00	507000.00	2535000.00	28600.00	352000.00	633600.00	5011.20	17625.00	8802.00	4423968.84
27	Raigad	23085.90	655.35	23741.25	79898.03	103540.00	69158.40	172698.40	3040.00	23760.00	112945.00	266.39	3260.00	1105.00	396972.82
28	Ratnagiri	2130.15	940.00	3070.15	151071.45	67537.50	22512.50	90050.00	2520.00	9904.00	54614.40	448.00	92.43	1793.50	310493.78
29	Sangli	6177.00	3828.00	10005.00	502954.80	103320.00	37080.00	140400.00	2072.00	8160.00	24911.00	7028.00	13335.00	2032.00	700892.80
30	Satara	10570.00	1688.00	12258.00	620792.00	18186.00	86312.00	104498.00	3150.00	44000.00	74880.00	2658.00	32800.00	12722.00	895500.00
31	Sindudurg	14863.10	1893.60	16756.70	88400.11	64214.20	10787.75	75001.95	840.00	7500.00	28000.00	900.24	4000.00	8000.00	212642.29
32	Solapur	38594.60	9869.00	48463.60	674658.57	111085.50	80542.63	191628.13	1845.00	12229.20	50754.60	1709.68	2010.58	6621.50	941457.25
33	Thane	1314.46	7344.00	8658.46	59159.61	466360.00	855056.80	1321416.80	16200.00	19980.00	226919.20	11555.00	6729.75	51998.00	1713958.36
34	Wardha	2336.25	368.50	2704.75	189202.03	25241.50	12601.00	37842.50	0.00	2536.00	37350.00	3742.40	14537.50	6759.00	291968.43
35	Washim	422.30	1775.20	2197.50	183314.14	7791.00	1414.75	9205.75	40.00	1000.00	10400.00	76.83	4179.00	108.24	208323.96
36	Yavatmal	3305.38	303.60	3608.98	300956.95	31302.50	17605.50	48908.00	0.00	9411.00	36973.50	458.73	8546.00	3065.05	408319.23
	Grand Total	690559.30	115943.22	806502.52	11064037.6	19072417	12340876	31413292	6136358.76	781617.10	4474228.56	118027.60	471102.06	293504.97	54752168

Annexure II											
Details of Agency-wise, Broad Sector-wise flow of Ground Level Credit in Maharashtra											
Sr.No.	Sector/ Agency	2016-17			2017-18			2018-19			2019-20
		Target	Achv.	% Achv.	Target	Achv.	% Achv.	Target	Achv	% Achv.	Target
I	Crop Loan										
	CBs	3064175	2448524	79.91	3357506	1405145	41.85	3718853	1751447	47.10	3801778
	SCB/CCBs	1754879	1557128	88.73	1759077	1054602	59.95	1769394	1201068	67.88	1815558
	RRBs	304456	211626	69.51	305515	72446	23.71	344201	170850	49.64	359239
	Sub Total	5123510	4217278	82.31	5422098	2532193	46.7	5832448	3123365	53.55	5976574
II	Term Loan										
	CBs	2184521	4170009	190.89	1880106	2407284	128.04	2303996	3636367	157.83	2340317
	SCB/CCBs	348918	1265035	362.56	333360	132729	39.82	306970	6246	2.03	309080
	RRBs	88812	25486	28.7	85094	29104	34.2	103033	25444	24.70	106210
	Sub Total	2622251	5460530	208.24	2298560	2569117	111.77	2713999	3668058	135.15	2755607
III	Total Agriculture credit (I+II)										
	CBs	5248696	6618533	126.1	5237612	3812429	72.79	6022849	5387814	89.46	6142095
	SCB/CCBs	2103797	2822163	134.15	2092437	1187331	56.74	2076364	1207314	58.15	2124638
	RRBs	393268	237112	60.29	390609	101550	26	447234	196295	43.89	465449
	Sub Total	7745761	9677808	124.94	7720658	5101310	66.07	8546447	6791423	79.46	8732181
IV	MSME										
	CBs	11292912	11731288	103.88	13964670	14182946	101.56	24197986	20095014	83.04	22890566
	SCB/CCBs	246255	6965	2.83	280504	12460	4.44	332212	38188	11.50	536286
	RRBs	71510	36539	51.1	75061	38409	51.17	82634	60776	73.55	110739
	Sub Total	11610677	11774792	101.41	14320235	14233815	99.4	24612832	20193978	82.05	23537591
V	Other Priority Sector										
	CBs	5706864	2619398	45.9	6753957	2268112	33.58	9927814	4339677	43.71	9811598
	SCB/CCBs	347611	342902	98.65	213300	338244	158.58	273629	315366	115.25	230022
	RRBs	79389	26050	32.81	74733	22636	30.29	98398	35079	35.65	91524
	Sub Total	6133864	2988350	48.72	7041990	2628992	37.33	10299841	4690121	45.54	10133144
VI	Grand Total										
	CBs	22248472	20969219	94.25	25956239	20263487	78.07	40148649	29822505	74.28	38844257
	SCB/CCBs	2697663	3172030	117.58	2586241	1538035	59.47	2682205	1560868	58.19	2890946
	RRBs	544167	299701	55.08	540403	162595	30.09	628266	292150	46.50	667712
	Grand Total	25490302	24440950	95.88	29082883	21964117	75.52	43459120	31675523	72.89	42402915

Source: SLBC

Annexure III - Critical Infrastructure Support to be provided

(Based on the perceptions and discussions of the DDMs with the district authorities and on the felt needs, the projects have been identified and are presented below on an illustrative basis)

S.No.	District	Nature of the Project / Location
1	Ahmednagar	Road (Mhaswandi village to Pathar) at Mhaswandi Tal-Sangamner, Dist-Ahmednagar
2	Ahmednagar	Road (Kalyan Highway – Bhangadewadi) at Bhangadewadi , Tal Parner, Dist - Ahmednagar
3	Ahmednagar	Road (Hiwre Korda – Kalyan Highway) 2 km. at Hiwre Korda, Tal. Parner, Ahmednagar
4	Akola	Kathipathi Barrage project Construction of barrage on river Purna to benefit 3000 ha. land
5	Akola	Construction of dam on river Chipi to benefit 500 ha. of land of Akot block
6	Akola	Channeling of pipe distribution system for old irrigation projects in Akola district
7	Aurangabad	Land Development–Work under IWMP–GP-9 watershed-30 villages in Aurangabad block (main location- Ladsavangi & Anjangaon) Construction of cement Nalla bunds (CNB) CNBs 60
8	Aurangabad	MSME - SSI, Food & Agro processing and other sectors1 Vapour Heat Treatment Plant (VHTP) & 1 ripening chamber (RC / 2000MT) for fruits need to be set-up in all blocks.
9	Aurangabad	Development of Marketing Infrastructure. All 9 blocks & District HQ Upgradation of existing 10 APMCs and Develop. of 1 Terminal Market Complex for establishing backward / forward linkages
10	Amravati	Minor Irrigation Tanks, at Dhamangaon Gadi, Tal. Achalpur, at Ektai, Tal. Chikhaldara, at Mahimapur, Tal. Nandgaon, Khandeswar, at Ganeshpur Wadhona, Tal. Nandgaon Khandeswar
11	Amravati	Strengthening of Existing Planting Material Production Units for Diversification to high value fruit crops

S.No.	District	Nature of the Project / Location
12	Amravati	Regional Frozen Semen Lab for Semen production and improvement in breeding activity
13	Amravati	Nagpuri Buffaloes Breeding Frm, Bod, Dharni for Conservation of indigenous buffaloes breed
14	Beed	Watershed Percolation Tanks & Village Tanks Projects in 11 Talukas
15	Beed	Upper Kundalika Medium Irrigation in Project Taluka Wadwani, Dist Beed 2800 Ha Irrigation Command. (Head work is 80% completed) Funds required for canal dis.net system, gated spillway and Rehabilitation of villages in submerged areas
16	Bhandara	Strengthening of Bhandara to Mohadi road.
17	Bhandara	Drinking water supply schemes for water scarcity villages in Tumsar, Mohadi and Lakhani blocks.
18	Bhandara	Establishing semen bank for development of indigenous cow.
19	Chandrapur	Bendara Medium Irrigation Project, At Sondo nala Taluka Rajura Construction of One Pump House and Canal to benefit 3915 Ha of 14 village
20	Chandrapur	Palasgaon amdi Lift Irrigation scheme at Ballarpur Block One Pump House, One Rising Well and Canal to benefit 3699 Ha of 10 village
21	Dhule	To provide necessary solar energy equipment to various health Sub centre located in interior and tribal region. Estimated @ ₹ 2.50 lakh per sub centre for 51 places.
22	Dhule	Improvement to Mhasdi Kakani Bhadgaon Malegaon road MDR-19 km 3/00 to 10/00, Tal. Sakri, District Dhule, 7 km road
23	Dhule	Improvement to Boradi Chondi Zendejan Panakhed MDR 6 km 10/00 to 11/00 & 12/700 to 15/00, Tal. Shirpur, District Dhule, 3.3 km road

S.No.	District	Nature of the Project / Location
24	Dhule	To construct safety wall on Shirpur Aadhe Thalner MDR 12 between km 5/00 to 6/00 improvement between 12/00 to 16/00 Tal. Shirpur, District Dhule, 5 km road
25	Dhule	To construct slab drains at km 6/900, 7/200 & 8/800 on Mahadev Dondwade Hisale MDR 9 Tal. Shirpur, District Dhule, 3 CD works
26	Dhule	To construct small bridge at km 8/00 on Shindkheda Varshi Kamkheda MDR 17 Tal. Shindkheda, District Dhule
27	Dhule	To construct small bridge at km 8/900 on Chirne Hol Gorane MDR 15 Tal. Shindkheda, District Dhule
28	Gadchiroli	Anganwadi in 95 places (remote rural villages)
29	Gadchiroli	Power supply to 40 villages in backward Naxal areas.
30	Gondia	Deepen/develop 140 Talao to increase the water level in Gondia district.
31	Gondia	Construction of Minor Bridges on Borgaon Gotabodi, NH 6 to Lendijob Futana ODR -100 in Km 0/380 in Deori, on Keshori- Khamkhura Road in km 0/600 in Deori, on Maramjob-Masulkasa-Sigandoh-Palandur-Magardoh Raod to NH 6 MDR -31 in Km 26/300 in Deori, on Dawwa- Chirchadi Road ODR-85 in km 1/00 Tah Sadak Arjuni, across Gadvi River on Bandya Kholde Road VR-271 Tah Arjuni Morgaon.
32	Jalna	Repair of godowns/ warehouses - Bhokardan Block .Warehouse/ Godowns- The Platform and side walls of godown are in bad condition 03 Units (Godowns)
33	Jalna	Hastur Tand MI Tank Partur Block Canal work and Waste Weir need to be done.
34	Jalna	Drinking water supply to Anganwadis identified by Women and Child Welfare Dept. ZP, Jalna
35	Jalna	Taltondi MI Tank Tal: Mantha, Dist:Jalna to benefit 312 ha

S.No.	District	Nature of the Project / Location
36	Hingoli	Constructing Major Bridge on Malhivra Goregaon Kendra, Haral MDR-12 at ch. 144/200 Tal. Sengaon Dist. Hingoli
37	Hingoli	Constructing Bridge on Phalegaon Sengaon Yeldari SH-217 at Ch. 7/600 on Sawna Nalla Tq.Sengaon Dist. Hingoli
38	Hingoli	Constructing Major Bridge across Kayadhu river near Kothalaj vilage Tq.Hingoli Dist.Hingoli
39	Hingoli	Constructions of Aanganwadis in 7 villages of Aundha Nagnath block
40	Hingoli	Constructing Bridge on Khanapur Kalamkonda road MDR-17 near Kalamkonda Tq.Kalamnuri Dist.Hingoli
41	Hingoli	Constructing Bridge near Redgaon village on Dongarkada Kurunda Jawala Panchal road MDR-32 Tq.Kalamnuri Dist. Hingoli
42	Hingoli	Constructing Major Bridge across Kayadhu river on Hingoli Pur road VR-94 near village Pur Tq.Kalamnuri Dist. Hingoli
43	Hingoli	Constructing Major Bridge across Painganga River on SH-217 to Surajkheda to Vidarbha Border Tq.Sengaon Dist. Hingoli
44	Kolhapur	Sonurle MI to irrigate 513 ha
45	Kolhapur	Sarfnala Medium Irrigation Project to irrigate 3175 ha
46	Kolhapur	Uchangi MI to irrigate 1892 ha
47	Kolhapur	Naganwadi MI to irrigate 750 ha
48	Kolhapur	Dhamani MI to irrigate 1750 ha
49	Kolhapur	Ambeohol Medium Irrigation Project to irrigate 6342 ha

S.No.	District	Nature of the Project / Location
50	Kolhapur	Construction of godowns of 1000 MT at block level 8 units
51	Kolhapur	Construction of Cold Storages at Chandgad 1 unit of 1000 MT each
52	Kolhapur	Construction of cold storages at Nandani, Jaisinghpur, Karvir and Kagal 4 units of 250 MT each
53	Kolhapur	Construction of Cold storage at APMC, Kolhapur 1 unit of 3000 MT
54	Kolhapur	Construction of 100 MT godowns at PACS level, 200 Units (Godowns) @ ₹ 4 lakh per unit for Good working PACS which are in profit
55	Nagpur	Farmers Training cum guidance Centres Farm Machinery Bank Soil Testing Lab Eseva kendra at 13 taluka places (At each tehsil HQ).
56	Nagpur	Development and strengthening of fruits and vegetable market yards by APMCs (There are 9 main market yards and 15 sub market yards in the district. The district is emerging as a major vegetable producing district in the region therefore, there is a need for development and strengthening of infrastructure at major market yards)
57	Nanded	Construction of warehouse in Nanded, Himayat nagar, Bhokar, Kinwat, Degloor, Naigaon, Kandahar, Loha, Mukhed blocks.
58	Nanded	Lendi Major Irrigation Project. Pending construction of dam, canal and waste weir.
59	Nanded	Minor irrigation project at Vartala, Digras, Yedur, Renapur, Mohija Paranda, Nirala, Dapakraja, Lakkadkot, Vazara, Adagaon, Chandola, Talani, Jamkhed lake. Pending work regarding deepening of lakes and canal work.
60	Nanded	Road Projects - Borgaon Phata to Sangavi to Belgaon Road, Improvement to Sagroli Laghool Billoli MDR-46 - Km 0/00 to 8/500 Taluka : Billoli.

S.No.	District	Nature of the Project / Location
61	Nanded	Bridge: Construction of Minor Bridge on SH 261 to Umatwadi road VR 10 at Km 0/800 Tal. Mudkhed. Construction of Minor Bridge on Balur, Zhari, Malegaon, Bhutanhipparga, Somur, Bembara, Manur road MDR-72 km. 31/400, 36/300 Tal. Deglur.
62	Nandurbar	Prakasha Burai Lift Irrigation Scheme - Scheme in Drought prone area; potential to irrigate 7085 Ha. at Nandurbar, Sakri and Sindhkheda
63	Nandurbar	Nagan MI project - potential to irrigate 2486 Ha. at Navapur
64	Nandurbar	Biladi Small Irrigation Project for supply of drinking water and potential to irrigate 830 Ha.
65	Nandurbar	Icchagavan Small Irrigation Project - potential to irrigate 330 Ha. at Taloda.
66	Nandurbar	22 Special Lift Irrigation – Repair and Maintenance at Shahada, Sindhkheda and Nandurbar - Potential to irrigate 14413 Ha; very remote and scattered area.
67	Nasik	Pack House Value Chain Infrastructure in Dindori and Niphad blocks for Providing end-to-end services to farmers for value addition and export of grapes 10 units
68	Nasik	Drinking water facility in villages.
69	Nasik	Sanitation project in village schools.
70	Osmanabad	Watershed percolation tanks and village level tanks in 8 taluks
71	Osmanabad	Milk Powder/ Processing unit. (Around 8 lakh liter milk per day is available. The present infrastructure is insufficient. Processing unit will provide good price to farmers)
72	Palghar	Bridge on Vaitarna river on Dhuktan Khamloli river (300 m)
73	Palghar	New road Kelwa-Bharnepada to Morpada 1.62 km Taluka Palghar Appr. Cost ₹250 lakh

S.No.	District	Nature of the Project / Location
74	Palghar	New Road Shisne – Dongripada 1.5 km Dahanu Taluka Aprx. Budget ₹127 lakh
75	Parbhani	Improvement to Palam to Phala road V.R.34 km. 0/000to7/000 Tq. Palam.
76	Parbhani	Imp. to Tandulwadi Banwas road M.D.R.19 km. 8/000 to 11/000 (Ghat cutting)
77	Parbhani	S.T.B.T. to Pura Rampuri road V.R.15 km. 0/000 to 2/500
78	Parbhani	Imp. to Banwas Ashtur road km. 12/000 to 13/100 M.D.R.17
79	Parbhani	S.T.B.T. to Dhalegaon Rampuri road M.D.R.26 km. 0/000 to 2/500
80	Parbhani	Improvement to Mardasgaon Chatori Banwas Road M.D.R.51 km. 20/000 to 25/000
81	Parbhani	S.T.B.T. to Pura Rampuri road V.R.15 km. 2/500 to 4/500
82	Parbhani	3 Percolation tanks at Bhadwani, Anterweli and Fattunaik
83	Parbhani	Tarughavan HLB to irrigate 2100 ha
84	Parbhani	Bhendewadi ST
85	Parbhani	Const. minor bridge on Charthana kanha sawargaon kurhadi karanji road M.D.R.-3 km 13/400
86	Parbhani	Const. minor bridge on Gulkhand Gava Takali Nilawarn Tq.Selu
87	Parbhani	S.T.B.T. to Dharasur Mairal Sawangi road M.D.R.21 km.2/000 to 6/000 Tq.Gangakhed - 4.00 km

S.No.	District	Nature of the Project / Location
88	Parbhani	Public Water Supply Scheme in 11 villages of Gangakhed Block Dugwell, Production well head work, Pumping machinery, Raising main, Elevated service reservoir, 9 villages of Jintur Block, in 10 villages of Selu Block, in 5 villages of Palam Block, in 2 villages of Manvat Block, in 4 villages of Parbhani Block, in Kherda village of Pathari Block, in 10 villages of Sonpeth Block, in 8 villages of Purna Block
89	Raigad	Construction of minor bridge (30 m) with approaches on Mahan Babhulwadi Road VR in Km 4/000 Taluka Alibag Dist Raigad
90	Raigad	Construction of Major Bridge (40 m) across Bhogav Nalla on Dhamandevi Kondhavi Mahalgur Road MDR-99 To Connecting MDR-72 Tal. Poladpur, Dist. Raigad
91	Raigad	Construction of Road M.D.R.72 (1500 m) To Ombali Dhangarwadi Tal. Poladpur, Dist. Raigad
92	Sangli	Storage Tank & Shedagewadi tal- Atpadi, Dist.- Sangli . For Creation Of 640.32 TCM water storage (Irrigation benefit 30 Ha.)
93	Sangli	Girjawde MI Tank, Village Girjawde Tal Shirala, Dist. Sangli Excavation, Earthwork, Waste weir, MS conduit pipe for outlet, KT weir, Land acquisition etc. 1) Creation of 3074 TCM water storage.
94	Sangli	2) Irrigation to benefit 248 Ha. in 3 villages.
95	Sangli	Tikondi (Patana Nalla) Storage tank, village Tikondi, Tal Jath, Dist-Sangli. Excavation, Earthwork, Waste weir, RCC Head regulator for outlet, KT weir, Land acquisition etc. 1) Creation of 1566 TCM water storage. 2) Irrigation to benefit 244 Ha.
96	Sangli	Jirgyal MI Tank, Village Jirgyal, Tal-Jath, Dist -Sangli. Excavation, earthwork, Waste weir, RCC Head regulator for outlet, Land acquisition etc. 1) Creation of 1125 TCM water storage. 2) Irrigation to benefit 245 Ha.
97	Sangli	Bagalwadi Storage Tank, Village Bagalwadi, Tal. Jath, Dist Sangli. Excavation, Earthwork, Waste weir, RCC Head regulator for outlet, KT weir, Land acquisition etc.
98	Solapur	Kasal Ganga Nalla Rejuvenation Project Sangola Pandharpur and Malshiras. Deepening and widening of nalla.

S.No.	District	Nature of the Project / Location
99	Solapur	M.I.T. Babhulgaon Tal. Barshi- canal works and distribution system to be completed, M.I.T. Mandve Tal. Malshiras- Three Bandhare to be completed, M.I.T. Dubdhubi Tal. Akkalkot and K.T.W. Bhalewadi Tal. Karmala - canal works and distribution system to be completed.
100	Solapur	Construction of Animal Husbandry Hospital (all blocks) and Hatcheries (3 blocks Barshi, South Solapur and Malshiras)
101	Wardha	River/stream revival in Samudrapur, Karanja and Arvi blocks
102	Wardha	Construction of Bridge on Nandra Ashta Road (Km 0/200) in Hinganghat Block, Construction of Bridge on Taroda to Sakurli Road in Km 2/400 in Hinganghat Block, Construction of Bridge on Kalamna - Marda Road in Km 1/200 in Hinganghat Block, Construction of bridge on bhadadi river on Pandan Road in Chikni Jamni in Wardha Block, SH 256 to Dorli-Dhulwa Bridge on village road 80M
103	Wardha	Road projects - STBT to Seloo to Vadgaon Road and construction of CC Road/drain in village path in Seloo Block, STBT to Yelakeli Seloo Road and construction of CC Road/drain in village path in Seloo Block, STBT of Bhosa Sindi

Annexure IV

Critical Interventions required in various sectors/sub-sectors

S.No	Sector/ Sub-sector	Critical Interventions required
1	Crop loans	✓ It is observed that there are wide variations in the scales of finance for a given crop approved by the DLTCs of adjacent districts falling under the same agro climatic zone. SLTC may deliberate on such issues and guide DLTCs suitably. ✓ Since Cooperative Banks and RRBs are under the platform of CBS, have already issued RKCCs to most of their KCC holders, steps should be taken for enhancing the usage of RKCCs. ✓ There is a need to create adequate storage/post-harvest infrastructure, especially for perishable and price sensitive crops, with a view to ensuring not only proper handling of agri-produce but also for checking distress sales by the small farmers. The Negotiable Warehouse Receipt Scheme also needs to be popularized. ✓ Agro-processing and Export units need to be encouraged in order to give value and price addition to the agricultural produce. ✓ It is necessary to set up a Quick Response Mechanism whereby the problems of the farmers in the field are urgently addressed by scientific/research bodies like KVK/Agricultural universities and the solutions are given to the farmers. Similarly, the State Government may equip their ground level offices with modern equipment to provide guidance on continuous basis in regard to soil fertility, cropping pattern, market price and transfer of technology, etc., which in turn facilitate demand for crop loans. ✓ Large number of marginal and small farmers do not have clear title to land, which acts as a deterrent in availing of institutional credit. Banks may like to resort to alternative modes of lending viz., Joint Liability Groups (JLGs) to reach to these segments of the farming population ✓ Efforts to bring new farmers, particularly SF/MF, tenant farmers, share croppers, etc. under the crop loan by different strategies like revamping the tenancy legislation, organizing them into JLG/SHG. ✓ Ensuring timely availability of adequate quantity of required agricultural inputs like fertilizers, pesticides, quality seeds etc. ✓ Establishment of more number of soil testing laboratories at taluka level. ✓ Promotion of Agri Clinic and Agri Business Centres. ✓ Technical support to the farmers through formation of

		village Knowledge Centres and Information Kiosk for dissemination of information and providing support services ✓ Extension agencies may concentrate on crop diversification, use of bio fertilizers and organic manures, integrated pest management and water management. ✓ Sustainable agricultural practices and approaches like crop diversification, cultivation of vegetables/flowers, protected cultivation-use of greenhouse/shade nets and use of cluster approach for farming, crop rotation, multi-cropping /composite farming system to improve the agriculture production and overcome seasonal variations in income may be encouraged. ✓ Ensuring coverage of all farmers under the Pradhan Mantri Fasal Bima Yojana (PMFBY) would help farmers in mitigating the climate and other risks and prevent their losses. ✓ Digitisation of land records and online charge creation by banks for speedy processing of loan applications. ✓ The Group Farming Scheme ('Gat Sheti Yojana') formulated by the State Govt that extends subsidy to the eligible farmers who would collectively undertake agriculture should be supported by the banks with credit to such farmers. ✓ There is a need to increase water-use efficiency of lift irrigation schemes by adopting micro irrigation systems and cultivating high value crops in their command. Especially, flood irrigation for sugarcane, banana and cotton crops may be discouraged so that surplus water can be used for other high value crops. Drip irrigation should be promoted for these crops in particular. ✓ Artificial recharge measures through construction of rain water harvesting structures like rain water storage tanks, percolation tanks, farm ponds, check dams etc., will have to form an integral part of the minor irrigation development.
2	Water resources	✓ Irrigation Dept. may provide information on surface water sites suitable for lift irrigation and potential available to banks. Agriculture dept., Panchayat Samitis and DRDA to enable them to support LI schemes. ✓ Repair and renovation of the existing irrigation facilities like desilting of MI tanks, repairing of bunds, feeder channels, lining of channels, deepening of wells etc. ✓ Construction of new structures like new tanks, underground pipelines, dug wells, farm ponds, check dams, bandharas on nallahs/small rivers

		✓ NGOs to facilitate the registration/formation/management of Water Users Association by the farmers to advocate judicious use of water. ✓ Provision of stable uninterrupted power supply for timely completion of the MI/LI schemes. ✓ Rain water harvesting structures- recharging of dried up wells, construction of rainwater storage tanks and percolation tanks, reducing water losses, arresting run off, increasing ground water use, water management techniques in blocks/districts identified as semi critical/critical as per the latest hydro geological survey may be promoted. ✓ Increasing the water use efficiency by adoption of micro Irrigation measures like drip irrigation in water intensive crops like sugarcane and banana and switch over to cultivation of less water intensive crops. ✓ Financial support for the irrigation projects may be availed through NABARD's specialized funds and facilities like RIDF and NIDA. ✓ Micro irrigation systems like drip and sprinkler need encouragement especially for vegetable and horticulture crops.
3	Farm mechanization	✓ Promotion of group farming for the small farmers with low investment capacity to bring down the cost of farm mechanization. ✓ Use of suitable makes/models/horse power agri-implements for different size of operational holdings may be promoted. ✓ Technical know-how should be provided to the farmers with respect to appropriateness of farm machinery for the situation and for its proper use. ✓ Repairs/maintenance support for power driven farm equipment need to be strengthened. Special training programmes for repair of small machinery may be given to rural youth. ✓ Agri implements exhibitions for promotion of new implements needs to be organized regularly by Agriculture Dept., KVK, private players etc. ✓ Custom hire service of the agri-implements may be provided by the FPOs/PACS to the farmers at a cheaper rate thus also generating income for the FPOs/PACS. ✓ Use of technology for optimization and timely availability of agri-implements for hiring. ✓ Bankers to encourage purchase of Tractor and other agricultural equipment by SC/ST/Minority/Small farmers under the central Govt. schemes like National Mission on Agricultural Extension & Technology (NMAET) under

		which the farmers receive subsidy of 40-50%. ✓ Designing less costly smaller machinery suitable for small farms is necessary. ✓ Agricultural mechanization centres for provision/ marketing/ lending/ service / repairs/training / demonstration on traditional and innovative agricultural implements need to be established at the block level for intensive farm mechanization
4	Plantation & Horticulture	✓ Promotion of high density plantation for mango, orange, guava and cashew to ensure better returns to the growers. ✓ Government may give thrust for setting up of public and private nurseries. ✓ Setting up of commercial tissue culture units also needs to be encouraged. ✓ Flower Growers' Associations may be promoted at local levels so as to develop the floriculture sector in an organized and phased manner. ✓ Agriculture Universities may identify Medicinal and Aromatic crops that can be popularized locally through effective extension works. ✓ Installation of processing units will ensure forward linkage for the horticultural produce. ✓ Creation of postharvest infrastructure such as pack houses, ripening chambers, cold chain meeting the needs of various horticulture crops through public-private partnership. ✓ Value chain management approach, as piloted for onion, can be replicated for other major horticulture produce of the state like mango, pomegranate, oranges, grapes, banana, etc. ✓ There is a need to develop quality testing/certification system, for horticulture crops. ✓ In order to improve the survival rates of plants, effective supervision mechanism for plantation under Employment Guarantee Scheme may be advocated. ✓ Need to develop organized marketing, storage, grading, processing, value addition infrastructure for horticulture produce. ✓ Establishment of Farmers' Producer Companies for organized production and marketing of horticulture produce would be helpful in development of this sector. ✓ Advanced training programmes on Pomegranate, Citrus crops - Orange and Lime, and the Tuberous crops for the cultivators need to be arranged in collaboration with the National Research Centre (NRC) Pomegranate (Solapur), NRC Citrus (Nagpur). ✓ Area expansion programme for premium fruit crops of

		the State needs to be promoted with adequate backward and forward linkages. Horticulture Directorate and the State Agriculture Universities may provide the necessary extension services and popularize such package of practices. ✓ The Government can play a catalytic role in popularization of contract farming of medicinal and aromatic plants and development of standard package of practices. ✓ Minor horticulture crops like Wood apple, Kokam, Aonla, Tamarind, Charoli (Buchanania lanzan) etc., having good economic significance, besides providing valuable source of nutrition, may be popularised in the State. ✓ Growers' Associations such as Farmers' clubs/ Producer Organizations may play a key role in identifying beneficiaries and coordinating with banks for encouraging institutional finance. Growers' Associations may also help the banks in ensuring recoveries of loans. ✓ There is scope to improve mulberry cultivation, rearing/reeling techniques and genetic stock as high productivity is the key for survival and popularizing this activity. The demand pattern being around 80% for quality yarn, sericulture promises to be a profit making venture or at least one which could generate supplementary income to the poor farmer. ✓ Cluster approach, being adopted in a few districts, may be spread throughout the state, which ensures availability of technical and financial inputs to the sericulture farmers. NGOs may be involved by the Department for social mobilization.
5	Forestry and Waste Land Development	✓ Effective PPP model required to be developed by leasing waste land for cultivating horticulture/other crops/plantations. ✓ Awareness programmes to educate people about Govt. schemes like National Bamboo Mission & National Medicinal Plants Board schemes. ✓ Forest tourism may be promoted through PPP model for expeditions, explorations, trekking which will generate livelihood to the locals. A model scheme prepared by NABARD may be implemented for setting up forest nurseries by individual farmers, group of farmers, cooperatives, state forest development corporations, forest based industries, NGOs, etc. ✓ Leasing of the tree patta to SHGs/tribal people for farm forestry/forestry schemes on community waste lands in watersheds.

		✓ Extension programme to promote afforestation should be based on well tested technical and economic data to guide the farmers in the right direction. ✓ Awareness creation about various forestry and wasteland development programmes among bankers and beneficiaries.
6	Animal Husbandry	✓ Veterinary graduates to be supported for establishing poultry unit with consultancy under Agri Clinic Agri Business Centres (ACABC) Scheme. ✓ Strengthening of the existing veterinary infrastructure in the state with setting up of required number of the veterinary clinics, AI centers and breeding farms. ✓ Upgradation of the local stock of animals by cross breeding with superior breeds. Setting up of good breeding farms in the state. ✓ Providing training and awareness camps and workshops for switching over from the traditional method to the scientific method of milk production, provision of good quality feed and green fodder to the animals, preservation of the fodder and value addition of the animal products. ✓ Dairy co-operative societies and milk union should resolve the internal issues like irregular payments to the members, improper grading of milk, and political interference for proper functioning of these societies so that the farmers may get adequate price for the milk produced. ✓ Establishment of modern slaughter houses, dressing units, marketing outlets with approved standard design, equipped with modern tools, machines and other necessary infrastructure to ensure supply of hygienic, quality animal products to protect consumers from facing health hazards. ✓ Promotion of backyard poultry farming with Low Input Technology birds and sheep and goat rearing as an income generating activity through SHGs, tribal people and SC/ST farmers in coordination with banks. ✓ Formation of Producer Companies of Sheep, Goat and Piggery needs to be established for 168rganized production and marketing with appropriate forward and backward linkages. ✓ There is need for strengthening the existing breeding programmes / breeding farms of State Govt, while encouraging PPP mode of developing ultramodern breeding farms.
7	Fisheries Development	✓ Renovation of existing tanks/ ponds, harbours, fish seed production farms and construction of reservoirs and new

		fishing harbours by Fisheries Department/ FFDA. While construction of the reservoirs for irrigation purpose, attention need to be paid for development of fisheries. ✓ Govt may consider renovation of all suitable water bodies/structure through MGNREGS. These developed units can be given on lease for fish production activities. ✓ Setting up of common facility centers for fish drying and processing of low value fish & fishery products at the level of Fishermen Societies/federations in the coastal areas ✓ Setting up of marketing outlets of processed fish products of the Fishermen Co-operative Societies in urban areas. ✓ Setting up of freshwater prawn hatchery and nurseries to promote the aquaculture activity. ✓ Setting up of basic amenities in the landing centres for fish handling, cold chain and processing, boat repair and maintenance, bunkering and fresh water supply. ✓ Infrastructure for development of reservoir fisheries including hatchery, nursery, approach road, power supply, boat building and repair yard, ice plant, cold chain including transport, etc. needs to be created.
8	Agriculture infrastructure- Storage Godown and Market Yard	✓ The State Warehousing corporation (MSWC) may increase the warehousing capacity in the districts through new godown construction and improved utilization of its existing capacity. ✓ Private participation in the warehousing sector needs to be encouraged through PPP and other options. ✓ The godowns may be accredited for issue of NWRS and pledge financing. ✓ Emphasis may be given to develop cold storage infrastructure by the co-operatives for reduction of the post-harvest losses. ✓ The APMCs may meet finance requirement through ICAM, MSAMB schemes, Bank finance, WIF by NABARD. ✓ The system of warehouse receipts needs to be introduced to avoid distress sale of produce by the farmers. ✓ Provision of market linkage to food processing/ agro processing units to be ensured. ✓ Implementation of WDRA norms for scientific storage, Accreditation of warehouses to Warehousing Development and Regulatory Authority (WDRA) for issuing Negotiable Warehouse Receipts may be ensured. (NABARD Consultancy Services (NABCONS) facilitates the same as an accreditation agency.) ✓ There is a need for creation of awareness among the entrepreneurs and farmers regarding the Negotiable

		Warehouse Receipt System and availability of pledge loan facility.
9	Land development	✓ With a view to improve soil quality/fertility and to get more nutritious, healthy agri produce, it is necessary to promote organic farming. ✓ Farmers /SHGs need to be encouraged to take up schemes for NADP and Vermi compost by Govt. Departments/KVKs ✓ Govt. departments may supply a copy of completed work (i.e. areas treated under watershed, CADA, Hariyali, farm pond etc.) to banks, so that banks may prepare credit plan for the villages covered under these programmes.
10	Ancillary activities- Food & Agro processing	✓ Supply of uninterrupted power to industrial units by the Govt. ✓ Promotion of post-harvest handling infrastructure like grading, pre-cooling, packing, cold storage facilities and marketing infrastructure for fruit and vegetables to minimize post-harvest losses by the Maharashtra State Agriculture Marketing Board (MSAMB). ✓ Contract farming by processing industries, farmers' groups, producers' organizations for aggregation and value addition needs to be encouraged on large scale to overcome the long and fragmented supply chain, which is a critical bottleneck in the growth of the sector.
11	MSME	✓ DIC/ KVIC may strengthen post sanction supervision / guidance of the units financed by banks under various sponsored programmes. ✓ Govt. Departments to provide concession in tax, electricity charges, stamp duty and availability of land to entrepreneurs. ✓ Banks to consider the credit requirement of traditional sub- sectors of handlooms, handicrafts, village artisans, KVI units to protect the livelihood of the sector and their employment generation potential. ✓ To facilitate easy availability of working capital to small units, the bankers may issue SCC, Artisan credit Cards, Laghu Udyami Credit Cards. ✓ Provision of timely and adequate credit, uninterrupted power, quality labs & common infrastructure facility testing centres, organized marketing facilities. ✓ Common Facility Centres may be established and job oriented training programmes for skill development need to be conducted.
12	Export Credit	✓ APEDA/Agriculture department may arrange sensitization workshops for agri. exporters to make them aware about current export regulations/policies of

		importing countries, domestic and international demand and supply situation, price competitiveness, quality concerns, various certificates required, sanitary requirements, etc. ✓ Setting up of various testing centres for meeting export/import norms of the various centres. ✓ Infrastructure support, organization of the buyer seller meet before the harvest season, prompt processing of the exporters' application by the banks, export credit insurance facilities(ECGC), set up of nodal agency for export for the dissemination of export related information, capacity building through trainings and workshops. ✓ Single window operations for agri and non-agri exports. Availability of infrastructure for exports like grading and ✓ The Agriculture Department may organize buyer-seller meets before the commencement of harvesting season in case of horticulture crops and on regular intervals for vegetable and other exportable commodities. ✓ Settling the Pre shipment credit within the stipulated time after the dispatch of goods or converting them into Post Shipment credit may be ensured. ✓ The banks should put in place a control and reporting mechanism to ensure that the applications for export credit are disposed of within the prescribed time frame. ✓ Exporters may be encouraged to avail the export credit insurance facilities extended by ECGC. ✓ Micro, Small and Medium Exporters should be properly trained by MSME / export organizations with technical assistance from banks regarding correct filling up of forms. ✓ APEDA/ Regional centres may be established in more number of districts which can function for: - Developing agro products and agro industries relating to the scheduled products for export, Fixing of standards and specifications for the scheduled products for the purpose of exports, Training in various aspects of the industries connected with the scheduled products, Updating exporters regarding various central government schemes. ✓ A nodal agency for export needs to be created which can Disseminate trade related useful information to exporters, Identify buyer's market and Take up exporters' queries ✓ Industries may be set up for value added product of agricultural produce (like Soyabean, e.g.Soya Papad, Soya chips, Soya instant mix, Soya flour, Soya milk, Tofu etc.) ✓ Incentives in various forms will enable exporters to
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		reduce their cost and sustain competition from other countries ✓ Since the value added products (e.g. garlic paste) have huge demand, processing plants need to be set up for boosting exports.
13	Education	✓ Creation of awareness of the education loan products amongst the aspiring students and their parents by the banks and Education Department. ✓ Prevention of defaults in repayment of educational loans by multifarious measures like “<i>Education Loan Interest Subsidy Scheme</i>”, parents as co-guarantors, etc. ✓ Improvement in the quality of education to solve the issue of employment of students after completion of the course. ✓ Educational institutions may transparently provide the precise information regarding various fees charged by them so that there is no gap between the demand by a student and the supply by a banker.
14	Housing	✓ The Central and State Nodal Agencies may arrange block level campaigns for popularizing housing schemes like PMAY-G. ✓ Long gestation period of six to eight years of housing projects, accentuated by multiple approvals to be obtained from multiple authorities in a two to three year time period needs to be simplified. ✓ Collaborative working of various departments to address the issue of inadequate assistance for purchase of house-sites as well as streamline homestead plot provision through. ✓ Banks may adopt a flexible approach in relation to credit appraisal and ensure speedy processing of the loan applications also working out a mechanism to address the concerns of NPAs at the same time.
15	Renewable Source of Energy	✓ Wide publicity as well as information dissemination is required to make JNNSM popular among rural masses. ✓ DRDA/Agril. Deptt. of ZP and banks may encourage to construct community biogas plants as an integrated project under NRLM. ✓ Gram Panchayats may be actively involved in promotion of bio- gas and solar energy units. ✓ Government Line Depts., Implementing agencies, Gram Panchayats, banks, co-operatives, corporations and various agencies need to jointly initiate necessary steps to motivate people and propagate the use of alternative sources of energy ✓ Use of solar power for running agriculture pump-sets may be encouraged by availing the benefits of subsidy

		scheme of MNRE, GOI implemented through NABARD. ✓ Financing bio-gas activity along with Dairy units, bagasse-based energy generation option in sugar industries, use of solar light systems rural areas, solar based appliances like water heating. ✓ SHGs and rural youth may be trained in repairing of solar appliances and bio-gas units. ✓ Creating awareness among the farmers and promotional efforts from the various agencies and banks are needed to boost the growth of the very important sector. ✓ Govt should support R&D initiatives in this sector for reduction in capital cost and to make it affordable for common people would also help for promotion of this sector. ✓ There is a need for installation of Waste Management System by Nagar Parishad and Gram Panchayats. ✓ As initial cost of the solar equipment is generally very high, there is need to provide efficient and cost effective design of the solar equipment at an affordable cost.
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Abbreviations

ACP	Annual Credit Plan
ADS	Area Development Schemes
AEC	Aadhaar Enrollment Centres
APY	Atal Pension Yojana
ASI	Annual Survey of Industries
ATL	Agricultural Term Loan
AUA/KUA	Authentication User Agency/KYC User Agency
BC	Business Correspondents
BHIM	Bharat Interface for Money
CAPEX	Capital Expenditure
CFL	Centre for Financial Literacy
CSMSSY	Chhatrapati Shivaji Maharaj Shetkari Sanman Yojana
DBT	Direct Benefit Transfer
DCCB	District Central Cooperative Bank
DDU-GKY	Deen Dayal Upadhyaya Grameen Kaushalya Yojana
DLTC	District Level Technical Committee
e-NAM	Electronic -National Agriculture Market
ESM	Economic Survey of Maharashtra
FIF	Financial Inclusion Fund
FITF	Financial Inclusion Technology Fund
FLC	Financial Literacy Centre
FPO	Farmer Producer Organization
GCF	Green Climate Fund
GDP	Gross Domestic Product
GLC	Ground Level Credit
GVA	Gross Value Added
HDI	Human Development Index
ICRISAT	International Crops Research Institute for the Semi-Arid Tropics
IPCC	Intergovernmental Panel on Climate Change
JLG	Joint Liability Group
JNPT	Jawaharlal Nehru Port Trust
KCC	Kisan Credit Card
KVK	Krishi Vigyan Kendra
LAMPS	Large Sized Adivasi Multi-Purpose Societies
LTIF	Long Term Irrigation Fund
MAITRI	Maharashtra Industry Trade & Investment Facilitation
MIDC	Maharashtra Industrial Development Corporation

Abbreviations contd.

MIDH	Mission for Integrated Development of Horticulture
MIF	Micro Irrigation Fund
MStCB	Maharashtra State Cooperative Bank Ltd
MSME	Micro, Small and Medium Enterprise
NAPCC	National Action Plan on Climate Change
NIDA	NABARD Infrastructure Development Assistance
NIMC	National Level Implementation and Monitoring Committee
NLTSC	National Level Technical Sub Committee
NPA	Non-Performing Asset
NRLM	National Rural Livelihoods Mission
NSDC	National Skill Development Corporation
OFPO	Off Farm Producers Organization
PACS	Primary Agricultural Credit Society
PFMS	Public Financial Management System
PKVY	Paramparagat Krishi Vikas Yojana
PLP	Potential Linked Credit Plan
PMFBY	Pradhan Mantri Fasal Bima Yojana
PMJDY	Prime Minister Jan Dhan Yojana
PMJJBY	Pradhan Mantri Jeevan Jyoti Bima Yojana
PMKSY	Pradhan Mantri Krishi Sinchayee Yojana
PMKVY	Pradhan Mantri Kaushal Vikas Yojana
PMSBY	Pradhan Mantri Suraksha Bima Yojana
PoCRA	Project on Climate Resilient Agriculture
POPI	Producer Organization Promoting Institution
REDP	Rural Entrepreneurship Development Programme
RRB	Regional Rural Banks
RSETI	Rural Self Employment Training Institute
SAPCC	State Action Plan on Climate Change
SDP	Skill Development Programme
SHG	Self Help Group
SIMC	State Level Implementation and Monitoring Committee
SLBC	State Level Bankers' Committee
UNFCCC	United Nations Framework Convention on Climate Change
UPNRM	Umbrella Programme for Natural Resources Management
WSHG	Women Self Help Group
WUA	Water Users Association

List of District Development Managers of Maharashtra

Sl No	Name of the District	Name of the DDM	Mobile No	Email Address
1	Ahmednagar	S B Jagtap	9828647823	ahmednagar@nabard.org
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