

PROJECT ON CLIMATE RESILIENT
AGRICULTURE- MAHARASHTRA
(POCRA)
PROJECT IMPLEMENTATION PLAN

Department of Agriculture, Government of Maharashtra

The World Bank

Content

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Abbreviations

AOA	Article of Association
APMC	Agricultural Produce Marketing Committee
BBF	Broad Bed Furrow
BIS	Bureau of Indian Standards
BOD	Board of Director
BPL	Below Poverty Line
CAAA	Controller of Aid, Accounts and Audit
CCT	Continuous Contour Trenches
CDP	Cluster Development Plan
CEM	Carbon Enhancement Measures
CEP	Carbon Enhancement Potential
CHC	Custom Hiring Centre
CNB	Cement Nala Bund
CRIDA	Central Research Institute for Dryland Agriculture
CRT	Climate Resilient Technology
CSSRI	Central Soil Science Research Institute
DEA	Department of Economic Affairs
DOA	Department of Agriculture
DSAO	District Superintending Agriculture Officer
EMF	Environment Management Framework
ENB	Earthen Nala Bund
ESMF	Environment Social Management Framework
FFS	Farmer Field School
FGD	Focus Group Discussion
FIG	Farmer Interest Group
FLD	Front Line Demonstration
FPC	Farmer Producer Company
FPO	Farmer Producer Organization
GAP	Good Agricultural Practices
GDDP	Gross District Domestic Product
GDP	Gross Domestic Product
GHG	Greenhouse Gas
GoI	Government of India
GoM	Government of Maharashtra
GP	Gram Panchayat
GSDP	Gross State Domestic Product
GVA	Gross Value Added
HDI	Human Development Index
ICT	Information Communication Technology
IMD	Indian Meteorological Department
IPM	Integrated Pest Management
INM	Integrated Nutrient Management

INCCA	Indian Network of Climate Change Analysis
INDC	Intended Nationally Determined Contribution
IWMP	Integrated Watershed Management Programme
KPI	Key Performance Indicator
KVK	Krushvi Vigyan Kendra
MACP	Maharashtra Agriculture Competitiveness Project
MGNREGA	Mahatma Gandhi National Rural Employment Guarantee Act
MIS	Management Information System
MPKV	Mahatma Phule Krushi Vidyapeeth
MSAMB	Maharashtra State Agriculture Marketing Board
MLE	Monitoring, Learning and Evaluation
mn	Million
MOU	Memorandum of Understanding
MT	Metric Ton
MWS	Micro-Watershed
NABARD	National Bank for Agriculture and Rural Development
NAPCC	National Action Plan on Climate Change
NICRA	National Initiative on Climate Resilient Agriculture
PAO	Pays and Accounts Officer
PDO	Project Development Objective
PDKV	Punjabrao Deshmukh Krushi Vidyapeeth
PMKSY	Prime Minister Krushi Sinchai Yojna
PMU	Project Management Unit
PRA	Participatory Rural Appraisal
PRI	Panchayat raj Institution
RAMETI	Regional Agricultural Extension Management Training Institute
RFD	Result Framework Document
ROM	Rest of Maharashtra
SAU	State Agriculture University
SC	Scheduled Caste
SDAO	Sub-divisional Agricultural Officer
SFAC	Small Farmer Agribusiness Consortium
SHG	Self Help Groups
SOC	Soil Organic Carbon
SREP	Strategic Research Extension Plan
ST	Scheduled Tribe
TPPF	Tribal Peoples Planning Framework
VCRMC	Village Climate Resilient Agriculture Management Committee
Yashada	Yashwantrao Chavan Academy of Development Administration

1 EXECUTIVE SUMMARY

Maharashtra is the third largest State in India accounting for 9.4% of the total geographical area of the country. It is the second most populous State with a population of more than 112 million (2011 Census). Agriculture is the primary source of livelihood in the State. The state has 22.6 million ha of land under cultivation (gross cropped area) and area under forest is 5.21 million ha. About 84% of the total area under agriculture is rainfed and dependent only on the monsoon. The growth in the agriculture sector in the state of Maharashtra has been dependent on the vagaries of nature. Poor farmers with small, unirrigated land holdings are especially vulnerable to the climatic shocks. Such shocks could impose large and irreversible losses, plunging them into destitution. In Maharashtra, Vidarbha and Marathwada region are particularly vulnerable for this kind of phenomenon.

One of the biggest challenges for the state is to pull farmers out of the current crises of high production cost and low profitability due to low productivity, price fluctuations, lack of market access, and lack of agri-business opportunities. The issues related to growing water scarcity, degrading land resources, increased cost of cultivation, stagnant farm productivity, and the impacts of climate change need to be systematically addressed in order to achieve not only sustainability & profitability of smallholder farming system but also to reduce the distress among the farmers. It is under this backdrop that the Government of Maharashtra, in partnership with the World Bank, has conceptualised the Project on Climate Resilient Agriculture (PoCRA) for about 5000 villages in 15 districts of Maharashtra.

The **Project Development Objective (PDO)** is to enhance climate-resilience and profitability of smallholder farming systems in selected districts of Maharashtra. The project is built around a comprehensive, multi sector approach that focuses specifically on building climate resilience in agriculture through scaling up tested technologies and practices. The project implement plan (PIP) document that describes the entire project process has been divided into five sections. Section 1 describes the context in which the project was conceptualised. Section 2 deals with the project objective, design, guiding principles and the project area, principle of prioritisation of clusters and beneficiaries. Section 3 describes the project components and activities as well as the implementation arrangements. Section 4 deals with the monitoring and evaluation framework with key indicators and mechanism of tracking progress. Section 5 covers the various compliance requirements i.e. financial management framework, procurement strategy, environment and social management framework. A comprehensive set of annexure has been provided containing cost tables, technical specifications of various activities as well as the terms of references.

Project Strategy: PoCRA is a first of its kind climate resilience project undertaken in the agriculture sector in India. The project follows a unique triple-win strategy to address the twin objectives of enhancing climate resilience and enhancing farm productivity of small holders. This includes the following:

- **Enhanced water security at farm level** - through the adoption of latest technologies for increasing water use efficiency in agriculture, increase in surface water storage capacity , groundwater recharge, and in situ water conservation to address on-farm water availability and reduce the risks associated with intra- and inter seasonal climate variability;
- **Improved soil health** - through the adoption of good agricultural practices to improve soil fertility, soil nutrient management, and promotion of soil carbon sequestration; and
- **Increased farm productivity and crop diversification** - through the adoption of climate-resilient seed varieties (short maturity, drought resistant, salt tolerant) and market-oriented crops with a clear potential for income security derived from the integration of farmers in corresponding value-chains.

Project Area: The proposed project will be implemented in 8 districts of Marathwada (Aurangabad, Nanded, Latur, Parbhani, Jalna, Beed, Hingoli, Osmanabad), 6 districts of Vidarbha (Akola, Amravati, Buldana, Yavatmal, Washim, Wardha) and Jalgaon district of Nashik Division. In these districts, the project will cover about 4000 villages characterized by high climate-vulnerability (based on IPCC approved methodology taking into consideration 26 parameters divided across 3 sub-components of vulnerability i.e. exposure, sensitivity and adaptive capacity). The project will also include about 1,000 villages located in the Purna river basin and showing high levels of soil salinity and sodicity. These villages are spread over Akola, Amravati, Buldana, and Jalgaon districts.

Project components: The project will have the following components and subcomponents:

- **Component A: Promoting Climate-resilient Agricultural Systems**
 - A.1: Participatory development of mini watershed plans.
 - A.2: On-farm climate-resilient technologies and agronomic practices.
 - A.3: Climate-resilient development of catchment areas
- **Component B: Climate-smart Post-harvest Management and Value Chain Promotion**
 - B.1: Strengthening Farmer Producer Companies
 - B.2: Strengthening emerging value-chains for climate-resilient commodities
 - B.3: Improving the performance of the supply chain for climate-resilient seeds

- Component C: Institutional Development, Knowledge and Policies for a Climate-resilient Agriculture
 - C.1: Sustainability and institutional capacity development
 - C.2: Maharashtra Climate Innovation Centre
 - C.3: Knowledge and policies

- Component D: Project Management.

Short Description of Components:

A. Promoting Climate-resilient Agricultural Systems: Key objective of this component is to enhance climate-resilience in agricultural production systems through a series of activities at the farm level. This will be complemented by interventions in the catchment areas of mini watersheds.

A1. Mini-watershed based planning: The preparation of the mini watershed plans for about 670 selected clusters is a critical activity under PoCRA to finalize the village level specific interventions under the project. This planning will be carried out in a participatory manner with the assistance of the village community and will be taken up in a phased manner. The PMU has identified Yashwantrao Chavan Academy of Development Administration, Pune (Yashada) as a knowledge partner for finalizing the contours and process of micro plan preparation.

A2. Climate Smart Agriculture and Resilient Farming Systems: This component will focus on climate resilient technology transfer, Cropping system / Crop diversification / Alternate cropping systems / Contingency planning, integrated farming systems, carbon sequestration through carbon enhancement measures such as agro-forestry systems, soil health enhancement and soil and water conservation measures. In addition the project will try to mitigate the problem of salinity in some of the project areas. Planned adaptation is essential to increase the resilience of agriculture sector against climate change.

A3. Promoting efficient and sustainable use of water for agriculture: This component primarily deals with surface and groundwater management for improving water use efficiency. The community will be encouraged to manage their water resources in a sustainable manner through simple water balance exercises. As one of the innovative watershed management initiatives, the project will adopt a systematic approach to manage the groundwater through efficient utilization of water. The project will partner with state ground water agency and other line departments to focus on watershed development, surface water management, groundwater recharge and management, soil moisture management, assessment of village

/ cluster level water balance to prepare crop-water budgeting, providing protective irrigation through sprinklers and drip irrigation systems.

B. Climate Smart Post Harvest Management and Value Chain Promotion: This component will build on existing Farmer Producer Companies (FPCs) as a major driver of change in the selected commodity value chains. The interventions under this component have been designed to achieve the PDO by: (i) increase in farmers' participation in selected value chains, and (ii) promoting practices and technologies in post-harvest management and value-addition that support climate adaptation and/or mitigation.

B1.1. Strengthening Farmer Producer Companies: This component will build on the initiatives of GoM about FPCs as the agents of change. Project will support the existing FIG/FPO/FPCs through activities tailored to the growth potential of existing FPCs.

B1.2 Establishment of Custom Hiring Centres (CHC): CHCs shall be established at cluster level to promote farm mechanization for coping up with climate variability in the project area. Farmer producer Companies along with FIGs and SHGs shall be encouraged to establish such Custom Hiring Centres for the benefit of the farmers in the project area.

B2. Strengthening climate-resilient value-chains: This component will support viable investments in the prioritised commodities and/or fruit crops value chain through product aggregation, handling, transformation, value addition, and marketing. ICT-based market information systems will help the farmers in taking informed decisions about their produce.

B3. Improving the performance of the supply chain for climate-resilient seeds: Adequate supply of seeds with features such as short duration, tolerance to drought, salinity and heat, is a key priority for the project in its strategy to build climate resilience in the agriculture sector. The project will work with emerging FPO/FPCs and the Maharashtra State Seed Corporation (Mahabeej) to promote production of such seeds and creation of seed hubs.

C. Institutional Development, Knowledge and Policies for a Climate-Resilient Agriculture: The key objective of this component is to promote climate resilience through a long-term adaptive management of agriculture, soil and water resources. The project envisages extensive capacity development of the small farmers as well as the project functionaries. These capacity development programmes will be carried out by Yashada, VANAMATI, RAMETI, and KVKs. KVKs will also support extension activities through a farm field school approach. A number of institutions and agencies have been identified as potential knowledge partners for PoCRA. They will help in bringing in

knowledge, tools and good practices to the project. The project will assist the farmers through a technology enabled platform for comprehensive agro-met advisory and real-time contingency planning. *Information, Education, and Communication (IEC) strategy* shall be developed to familiarise all stakeholders about the project approach, activities, guidelines and outcomes. A *Climate Innovation Centre (CIC)* shall be established at state level for dissemination of innovative ideas, support agri-entrepreneurs, providing services, and policy analysis and advocacy, etc.

D. Project Management: There will be a three tier project governance mechanism.

A **high level steering committee** has been constituted to provide conceptual, strategic and policy guidance for the design and implementation of the project activities, review progress, approve annual work plan and budget, ensure inter-departmental convergence, etc.

A **Project Technical Advisory Committee** has been constituted to give technical advice and to suggest appropriate solutions to the technical problems arising during the implementation of the project.

Project Management Unit (PMU): A project management unit has been constituted to conceptualize, prepare the project documents and to implement the project. The PMU is headed by a project director to provide necessary guidance, coordination and oversight.

At the field level, the project districts fall under three *divisions* i.e. Amravati, Latur and Aurangabad. The Divisional Joint Directors of Agriculture will provide necessary coordination and oversight. At the *district level*, the District Superintending Agriculture Officers will coordinate the project activities. At the subdivision level, the Sub Divisional Agriculture Officers would be responsible for carrying out all the activities in the clusters within his area. Agriculture Assistants at village level will be responsible for actual implementation of project activities with the help of cluster assistants.

In the project villages, Village Climate Resilient Agriculture Management Committee (VCRMC) will be the building block of PoCRA. The members of this committee will be selected by the Gram Sabha and will represent various stakeholders at the village level. The VCRMC shall (i) prepare participatory village micro-plans, (ii) select beneficiaries for individual benefit activities, (iii) plan and execute community works as per approved annual action plan, (iv) be responsible for the maintenance of assets, and (v) facilitate social audit of the project activities.

A robust **monitoring & evaluation framework and project management information system (MIS)** would capture all the important outputs and outcomes. In addition, it will also provide PMU with real time information of physical progress (outputs) and financial milestone vis-à-vis outcome indicators.

Key performance indicators to be monitored are (i) Farmers adopting improved agricultural technology, (ii) Improved water-use efficiency at farm level, (iii) GHG Accounting, (iv) increase in farm income, and (v) Direct project beneficiaries. In addition, there will be intermediate level outcome and output indicators for each components and activities.

Financial Management System: The objective of financial management system of PoCRA is to ensure effective management and utilisation of project resources for achieving the project objectives. The fund allocations and expenditure will be through the computerised state treasury system of Budget distribution System. The predominant method of fund channelization to individual beneficiaries will be through Direct Benefit Transfer (DBT).

Procurement System: The project will have a largely decentralised system of procurement as a large part of work is to be executed by the community. The Project shall adhere to World Bank's New Procurement Framework comprised of policies and World Bank Procurement Regulations for IPF Borrowers" (July 2016) ("Procurement Regulations"). Accordingly, a separate Procurement Manual has been prepared describing Procurement Strategy, Procurement Approach, methods of procurement and procedures of procurement of Goods, Works, Non Consulting services and consulting services.

Environment Management Framework: The *Environment Management Framework* (EMF) is prepared taking into account the key concerns of different stakeholders and their suggestions on different project components. The environment management plan (EMP) reflects in detail about different mitigation measures that the project will take to improve the current environmental conditions that are expected to benefit the community in general and farmers in particular like integrated pest and nutrition management.

The *Social Management Framework* (SMF) has been prepared taking into account the key concerns of different stakeholders and their suggestions on different project components. The SMF includes a component wise social management plan, tribal people planning framework, and a gender action plan. In addition, the project has evolved a proactive inclusive criteria for indigenous people, landless and women households, not only as the project beneficiaries but also for the planning and social audit.

There is also a provision for **citizen grievance redressal system** to register grievances and address them at different levels.

The component wise expected investment for the project will be as follows:

COMPONENT WISE PROPOSED COSTS

Project Component	Proposed Cost	
	(INR Crore)	(US\$ Million)
A. Promoting Climate Resilient Agricultural Systems	2,805.20	433.00
B. Climate Smart Post-Harvest Management and Value Chain Promotion	334.40	51.60
C. Institutional Development, Service Delivery and Knowledge	166.11	25.64
D. Project Management	371.01	57.27
Price Contingencies	210.10	32.40
Total Project Cost	3,886.80	600.00

2 BACKGROUND

2.1 COUNTRY CONTEXT

The economy of India is the fifth-largest in the world measured by nominal Gross Domestic Product (GDP) and the third-largest by purchasing power parity. While India is averaging a growth rate of about 7 per cent per annum, the share of agriculture in the GDP is declining. As per the analysis of the Census 2011 data¹, the number of farmers ('Main' cultivators) decreased by 15 million since 1991 and 7.7 million since 2001. One of the major reasons why more and more people are leaving agriculture sector is because of high climate variability and inadequate adaptive capacity resulting in low productivity and income. More than 70% of the annual rainfall is concentrated between months of June-September. While a good monsoon ensures good harvest for food crops, a deficient monsoon results in yield loss and reduces economic security while excess monsoon too results in crop loss due to waterlogging and flooding. The majority of farmers in India have very little ability to respond adequately to these weather fluctuations. Climate variability has been the source of misery for much of rural India as well as for Maharashtra. Water availability for irrigation is reducing due to population rise, rapid urbanisation and competing claims of industries. This in turn reduces productivity and sometimes results in crop failure during prolonged dry spells. Without proper awareness about climate change, the farmers fail to safeguard their livelihoods. Inadequacy of critical agricultural infrastructure, irrigation systems, and lack of market access further reduces the ability of the farmers to improve the productivity and income.

India has set a target of 4 per cent growth in agriculture during the 12th plan period. However this would be tough unless the challenges of climate variability and change are accounted for with adequate investment. The small and marginal holdings taken together² (below 2.00 ha.) constituted 85.01 percent in 2010-11 against 83.29 in 2005-06. For the poor farmers often with small land holdings or holdings with unirrigated conditions, clustered along the poverty line, a small climatic shock could impose large and irreversible losses, plunging them into destitution. This has been the case with many states and Vidarbha and Marathwada region in Maharashtra are particularly vulnerable for this kind of

¹ As per Census of India (2011), 95.8 million are cultivators for whom farming is their main occupation. However the number of people dependent on agriculture could be more than 600 million if we add allied activities like fisheries.

² Agricultural Census, 2011.

phenomenon. Highlighting the threat of climate change and importance of water as a scarce resource, the Prime Minister of India has given a call to better manage this crop-water balance with a slogan ‘per drop more crop’. This makes sense as a water-efficient agriculture holds the promise for smallholder farmers profitably shifting from low value crops to high value farming aiming for high returns per unit of water used. Therefore, improving water productivity in both irrigated (surface and ground) and rain-fed agriculture (including watershed systems) would ensure improved resilience of agricultural systems against climate vulnerability.

2.2 STATE AND SECTORAL CONTEXT

Maharashtra is spread across 3,07,731 km² area in the western and central part of the country and has a long coastline stretching nearly 720 km along the Arabian Sea. Maharashtra is the third largest State in India accounting for 9.4% of the total geographical area of the country. It is the second most populous State with a population of about 112 million (2011 Census). The State witnesses tropical monsoon climate. The rainfall distribution varies widely in this vast land mass. The seasonal rains from the south-west monsoon are very heavy and the rainfall is over 400 cm on the Sahyadri crests. The Konkan on the windward side is endowed with heavy rainfall, declining northwards. East of the Sahyadri, the rainfall diminishes to a meagre 40 cm in the western plateau districts, with Solapur and Ahmednagar lying in the heart of the dry zone. The rains slightly increase eastwards in the Marathwada and Vidarbha regions.

Based on socio-political and other geographical considerations, the State is divided into five main regions: Vidarbha (north-eastern region), Marathwada (south-central region), Khandesh (north-western region), Konkan and Western Maharashtra. Administratively, the State has 36 districts which are divided into six revenue divisions viz. Konkan, Pune, Nashik, Aurangabad, Amravati and Nagpur. The state has been a pioneer in adoption of Panchayati Raj structure. In the rural areas, there are 34 Zilla Parishads, 351 Panchayat Samitis and 27,709 Gram Panchayats. The urban areas are governed through 26 Municipal Corporations, 230 Municipal Councils, 104 Nagar Panchayats and seven Cantonment Boards³.

³ Website of the State Election Commission, Maharashtra
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Agriculture is the primary source of livelihood in the State. The state has 22.6 million ha of land under cultivation (gross cropped area⁴) and area under forest is 5.21 million ha. More than 30% of the area of the State falls under rain-shadow region where scanty and erratic rains occur and about 84% of the total area under agriculture is rain-fed and dependent only on the monsoon. The proportion of irrigated area in the State is only around 16%, as opposed to the national average of 38%. Average land holdings are 1.44 Ha with 40% of landholdings in less than one-hectare ‘marginal’ category.

The yield of dominant crop in the state as compared to the all-India level is given below:

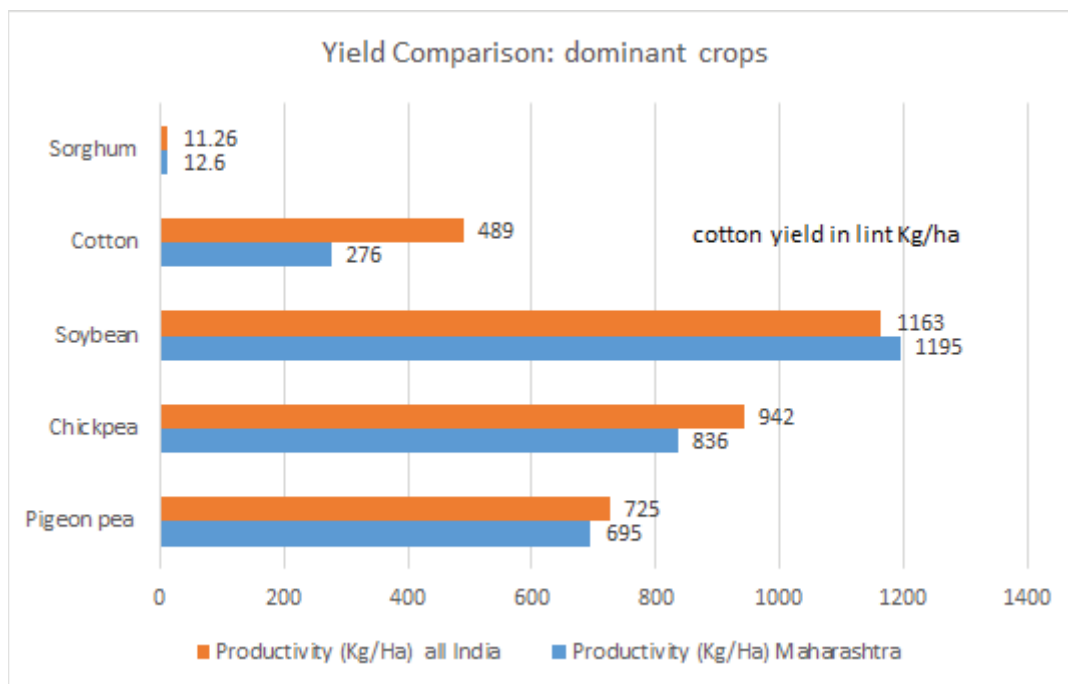


Figure 1 Yield comparison of major crops 2015-16 (in kg/ha)

Source: Agriculture statistics, Government of India

Maharashtra is one of the pioneers in farmer-friendly regulatory reform. The Maharashtra Groundwater Development and Management Act, 2009 is focused on water accounting with watershed as the planning unit, crop planning and groundwater use plan with community involvement in the lower most unit of the watershed.

The state has received 1st rank amongst the states on Agricultural Marketing and Farmer Friendly Reforms Index by Niti Aayog for implementing reforms in agricultural marketing, land lease and forestry

⁴ RKVY, Maharashtra
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on private land. The state has about 839 farmer producer companies, one of the highest in the country, providing unique opportunity for public-private partnership opportunity for developing and strengthening a climate resilient value chain.

Per capita GDP of the state is Rs1,52,853 (2014-15) which is higher than the national average⁵. The overall literacy rate in the State is 82.3 per cent. The literacy rate in the state for the SC and ST is 79.7 per cent and 65.7 per cent respectively against the national averages of 73 per cent, 66.1 per cent and 59 per cent respectively. According to Niti Aayog (the erstwhile Planning Commission) of India, Maharashtra has 30.7% population living below the poverty line as on 2005. As per India Human Development Report 2011, the Human Development Index for India is 0.467 whereas; it is 0.572 for the State. Most of the project area falls below state average of HDI. For industries, Maharashtra ranks higher in terms of Gross Value Added (GVA) as per the Annual Survey of Industries.

The state has three major regions on the basis of administrative legacy and socio economic development indicators. These regions are: Vidarbha - comprising of 11 districts in the eastern part of the state, Marathwada - comprising of 8 districts in the central parts of the state, and the rest of Maharashtra - comprising of 17 districts on the north and western side. A High Level Committee constituted by the state to look into the issue of Balanced Regional Development and regional inequities observed that there has been some progress in the Human Development Indicators (HDI) across regions and the pattern of growth at the regional level has not been too dissimilar, in the last decade. However, water-stressed talukas of the state and talukas dominated by tribal still is one of major reasons to pull the HDI values down. The data also reveals that per capita income in Marathwada is 40 percent lower than that of Rest of Maharashtra (RoM). Similarly Per Capita Income of Vidarbha is 27 percent lower than that of RoM. This ratio has gradually deteriorated in Marathwada and Vidarbha during past 10 years.

The biggest challenge for the state is to pull farmers out of the current crises of high production cost and low profitability due to price fluctuation and lack of agri-business opportunities. To achieve food and nutritional security, the issues related to growing water scarcity, degrading land resources, high cost of cultivation, stagnant farm productivity, and the impacts of climate change need to be systematically addressed.

Maharashtra accounts for about 13 percent of all state GSDP of the country. The GSDP of the state is growing at 11.1 percent per annum from 2004-05 to 2014-15 decade. The primary sector expanded at a

⁵ (https://en.wikipedia.org/wiki/List_of_Indian_states_and_union_territories_by_GDP_per_capita)
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CAGR of 1.7 per cent between 2011-12 and 2014-15. In 2014-15 the share of tertiary sector was 61.5% and secondary sector was 26.8%.

The workforce distribution shows the high dependence of the Marathwada and Vidarbha region in the agriculture sector. Low irrigation coverage and erratic monsoon in several talukas in this region has negatively impacted the farm livelihood and enhanced the vulnerability. The Table 2 shows more than 70 percent of the workforce in these regions is dependent on agriculture.

Table 1 Workforce Dependent on Agriculture

Division	Region	Cultivators/ Total Workers	Agricultural Workers/ Total Workers	Total workforce dependent on Agriculture/ Total Workers
1	2	3	4	5=(3+4)
Konkan	RoM	18.9	10.26	29.16
Nashik	RoM	36.02	30.69	66.72
Pune	RoM	35.73	19.96	55.69
Aurangabad	Marathwada	39.23	34.6	73.83
Amravati	Vidarbha	26.24	49.27	75.51
Nagpur	Vidarbha	24.62	34.91	59.53

Source: Census 2011

Both categories include main and marginal workers.

Total food grain production in the state is estimated at about 9.91 million tonnes in 2014-15. During 2014-15, production of pulses and oil seeds in the state was recorded at around 1.75 million tonnes and 2.12 million tonnes, respectively. The major crops grown in the state are cotton, soybean, pigeon peas and chickpeas and jowar. Area under different crops has been given in the figure below:

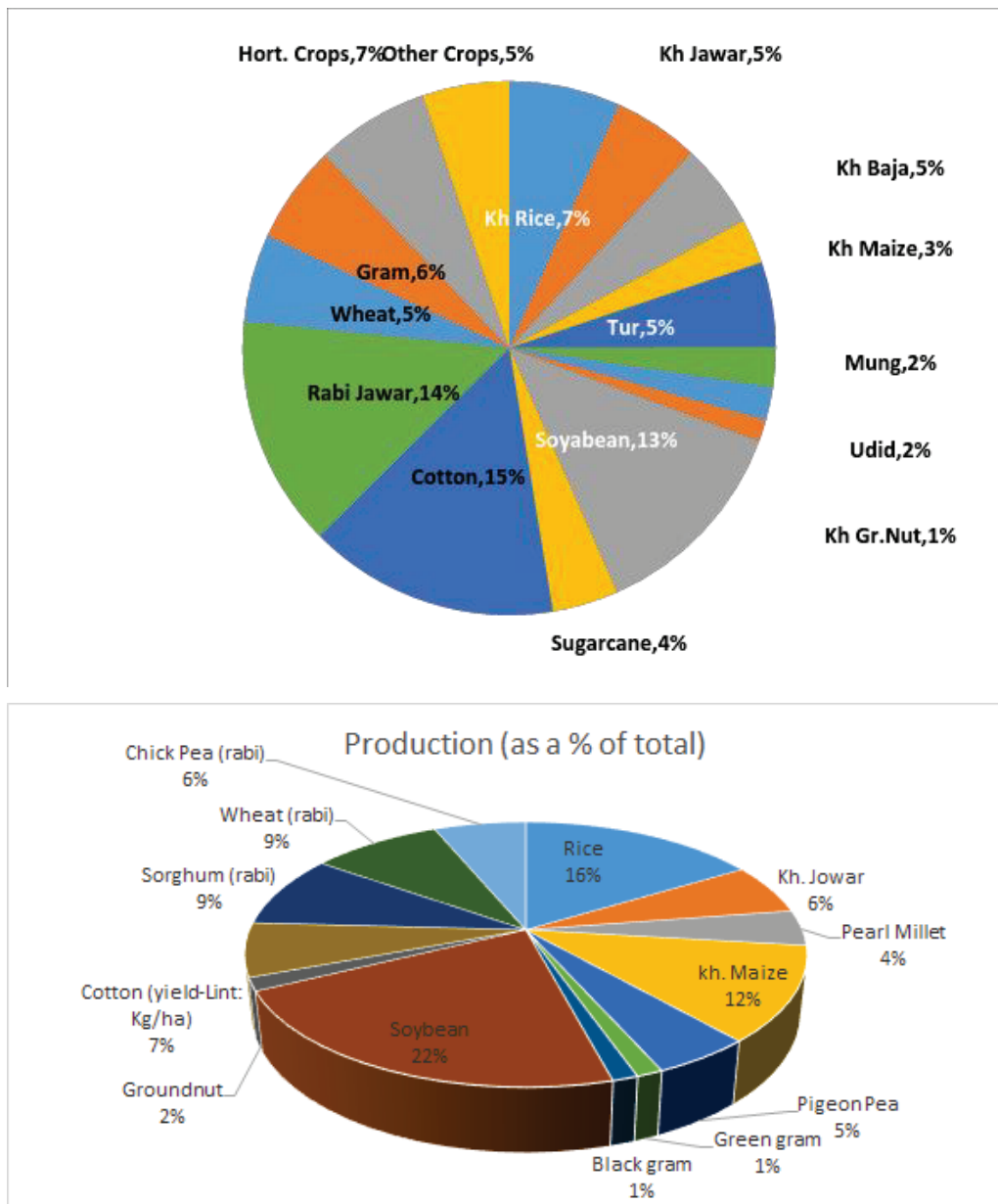


Figure 2 Area under different crops in Maharashtra (in %age)

Source: Department of Agriculture, 2014-15 (average 2006-7 to 2010-11)

The crop-wise area, average annual production, and average productivity are given in the table below:

Table 2 Area, Production, and Productivity of Major crops in Maharashtra

Area, Production & Productivity of Major Crops in Maharashtra (Av. of 2010-11 To 2014-15)				
No	Crop	Area (000' ha)	Production (000'tonnes)	Productivity (kg/ha)
1	Rice	1521	2852	1875
2	Kh. Jowar	860	1084	1260
3	Pearl Millet	857	755	881
4	kh. Maize	740	2010	2716
	Total Kharif Cereals	3978	6700	
5	Pigeon Pea	1220	848	695
6	Green gram	432	224	519
7	Black gram	363	218	600
	Total Kharif Pulses	2015	1290	
	Total food grain	5993	7990	
8	Soybean	3193	3816	1195
9	Groundnut	248	278	1120
	Kharif Oilseed	3441	4093	
10	Sugarcane	978	85086	87000
11	Cotton (yield-Lint: Kg/ha)	4129	1140	276
	Total Kharif	14541	98309	
12	Rabi Sorghum	2630	1546	588
13	Wheat	1013	1557	1537
14	Chick Pea	1319	1103	836
	Total Rabi	4962	4206	

2.3 VULNERABILITY, LONG-TERM CLIMATE CHANGE AND THE RATIONALE FOR THE PROJECT

The key parameters relating to agriculture vulnerability are temperature and precipitation. Both are undergoing rapid changes due to anthropogenic and climatic reasons. Other biophysical factors that affect productivity in agriculture are soil and water conditions. There are inherent structural constraints largely in the domain of social structure, access to resources, asset base, demography and dependency and counter-dependence that determine the sensitivity and adaptive capacity of different regions to these climatic aberrations. Together these factors contribute to the vulnerability of various regions. The growth in agriculture is highly fluctuating due to high climate variability and change associated with monsoon dependency, inadequate irrigation infrastructure, and poor resource base, and cropping patterns. This has severe repercussion on the food security of the nation, as the state is a major producer of pulses, oilseeds, food grains, and horticulture products.

The state has developed an adaptation action plan for climate change⁶ which identifies the sectors and regions most likely to be affected by long-term climate changes over the next 30 to 70 years. As per the available projections, climate change will increase rainfall variability and droughts in the coming years. Considering the projected long-term adverse impacts of the climate changes in the sectors of agriculture and water as well as the impacts of the climate shocks over the last few years, the GoM has decided to enhance the resilience of the vulnerable regions through a community led multi-pronged strategy. The state has taken a progressive decision to address the climate stress adopting several strategies and one such approach is to partner with World Bank to develop a drought proofing and climate resilient strategy for agriculture. Improved resilience of agriculture production systems is expected to be achieved under the project through improving soil organic carbon, higher water use efficiency, reducing crop water footprints through diversification, and increased adoption of technologies and practices for optimizing and sustaining productivity. The project is expected to serve as a best practice model for other states more as a long term and sustainable measure to address climate variability, drought and climate change. The GoM has identified 5000 villages of 15 districts for such interventions. These districts are from Marathwada (8) and Amravati (5) divisions and Wardha and Jalgaon districts.

This project will give the state a distinct advantage to influence the drought adaptation planning process not only in the state but also in the country to bring back agriculture to its normalcy in the event of

⁶ Maharashtra State Adaptation Action Plan for Climate Change, 2014
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climate variability and change. Since the state is a pioneer in several reforms in agriculture sector, this is not going to be implemented as a standalone sectoral investment project and has potential to create necessary enabling environment for its effective implementation and best practices to be followed in other states. The project offers a unique opportunity for establishing and managing institutional partnerships in agriculture especially in seed production (of resilient varieties), enhancing the adoption of several on-farm water use efficiency measures correlated with net withdrawal potential and cropping system.

2.3.1 Biophysical Characteristics of the project area (land, soil, water, precipitation, temperature)

Most of the bio-physical characteristics of the project districts are captured in three agro-climatic zones out of the nine zones of the state. The project areas lie mostly in scarcity zone, assured rainfall zone and moderate rainfall zone.

Agro-climatic zones of Maharashtra

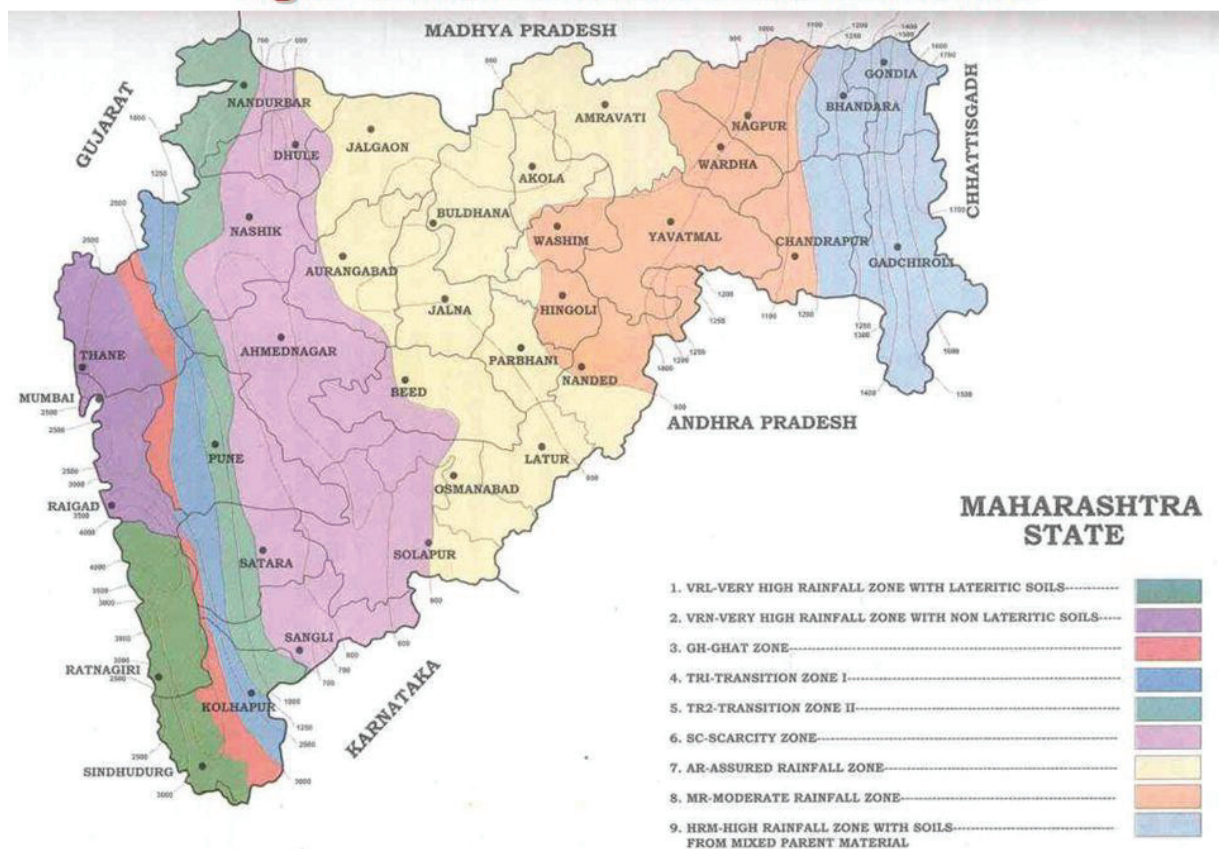


Figure 3 Agro-climatic Zone and their characteristics

Table 3 Targeted area as per Agro-climatic Zone

	Name of the Zone	Geographical spread of the zone/ Districts and talukas included	Climatic conditions	Average annual rainfall	Soil type	Crop and cropping pattern
1	Western Maharashtra Scarcity Zone/ Scarcity Zone	This zone covers geographical area of 73.23 Lakh ha. Comprises parts of Aurangabad, Jalgaon, Beed & Osmanabad districts. The gross & net cultivated area is 58.42 and 53.0 lakh ha respectively	Suffers from very low rainfall with uncertainty & ill distribution. Occurrence of drought is noted once in three years. Dry spell varies from 2-10 weeks. Water availability 60-140 days which is affected due to 1) delayed monsoon	Less than 750mm in 45 days. Two peaks of rainfall, 1) June/ July 2) September. Bimodal pattern of rainfall.	General topography has slope between 1-2%. Infiltration rate is 6-7 mm/hr. The soils are vertisol. Soils have Montmorillonite clay. Poor in nitrogen, low to medium in phosphate & well supplied in potash.	Because of bimodal distribution of rainfall, two cropping systems are noticed. During Kharif, shallow & poor moisture retentive soils are cultivated. Medium deep, moisture holding capacity soils are diverted to rabi cropping. Kharif cropping 25-30%. Crops- bajra, jowar, groundnut, safflower, pulses etc. Productivity is rather low in both the seasons.

2	Central Maharashtra Plateau Zone /Assured Rainfall Zone	Comprises parts of Aurangabad, Jalna, Beed & Osmanabad districts. Major parts of Parbhani & Nanded complete Latur Buldhana & parts of Akola, Amravati, Yavatmal, and Jalgaon. Area accounts to 75 lakh ha. Gross cropped area is 67.8 lakh ha. Forest accounting for 9% of gross cropped area.	Maximum temperature 41°C. Minimum temperature 21°C	700 to 900 mm. 75 % rains received in all districts of the zone.	Soil colour ranges from black to red. Type- 1) vertisols 2) entisols & 3) inceptisols. PH 7-7.5	Jowar is a predominant crop occupying 33% of gross cropped area, cotton-22.55%, oilseeds 5.17%, pulses 7.63 %. Kharif jowar /bajra followed by gram, safflower. Area under paddy is increasing. Pulses- tur, mung, udid, gram & lentils. Oilseeds- groundnut, sesamum safflower & niger. Sugarcane & summer crops are taken as per availability of irrigation.
3	Central Vidarbha Zone /Zone of Moderate Rainfall	The zone includes entire Wardha, major parts of Yavatmal districts. Largest agro climatic zone encompassing 49.88 lakh ha geographical area & 35.73 lakh ha net cropped area.	Max temperature 33-38°C Min temperature 16-26°C Average humidity 72 % in rainy, 53 % in winter, 35% in summer.	1130 mm.	Black soils derived from basalt rock. Medium to heavy in texture alkaline in reaction. Low lying areas are rich and fertile.	Cropping patterns involves Cotton, Kharif Jowar, Tur, Wheat other Pluses & Oilseeds

Past climatic trend

Maharashtra is divided into four major parts: Coastal Maharashtra, Vidarbha, Madhya Maharashtra and Marathwada. In Maharashtra, rain-fed agriculture dominates and accounts for about 80% of the area under crops. The state of Maharashtra is influenced by the southwest monsoon and the state is facing water scarcity almost every year recently. It can be observed from Table 1 that in 3 out of the 5 recent years, Marathwada and Vidarbha received less than 30% of long term rainfall.

Table 4 Rainfall trends during the last five years compared to the historical mean

	Marathwada	Vidarbha	Madhya Maharashtra
2015	-40%	-11%	-3%
2014	-42%	-14%	-6%
2013	+9%	+42%	+21%
2012	-33%	+8%	-25%
2011	-7%	-6%	+4%

Marathwada is one of the most drought prone regions of India. Even in a good rainfall year such as 2013, when the rest of India received good southwest monsoon rainfall of 106%, Marathwada region received only more than 9% of the average rainfall. This proves that even in the best of the years, Marathwada region doesn't receive enough rainfall (Table 1). The mean rainfall in Marathwada region is 68.7 cm with a standard deviation of about 20. The Vidarbha region, which is to the extreme east of the Maharashtra state, also faces the problem of water scarcity every year.

Climate Change and Maharashtra

According to IPCC (2014), there is adequate scientific evidence to show that climate change is already occurring, leading to increased climate variability and extreme events (droughts and floods), changes in hydrological cycle, reduction in agriculture production, enhanced pest and disease incidence, and so on.

In Maharashtra the climate variability is very high leading to high variability in rainfall pattern and agriculture production, especially arising out of droughts and El Nino.

UK Met office study concluded that in Maharashtra, increased temperatures and altered seasonal precipitation patterns (both in amount and timing) could affect the hydrological systems and agricultural productivity. Further, according to the study, increased risk of severe weather events may have a devastating impact on agriculture, water resources, forestry and the well-being of the population. Climate projections and impact assessments made for India show that Maharashtra, like the rest of India, is projected to experience increase in rainfall variability, moisture stress, and occurrence of droughts, pests and diseases, significant reduction in crop production and increased food production variability.

A report by the National Bank for Agriculture and Rural Development (NABARD) recommends to the state government to initiate policies and measures to adapt to climatic changes, which would be detrimental to the agriculture sector in 14 districts affected by severe periodic droughts across Vidarbha and Marathwada. Further, CRIDA (of ICAR) has concluded, “The districts in Marathwada and Vidarbha face very high risk to climate change”. Thus, there is a need to promote resilience or adaptation to current climate variability and climate change, especially in the rain-fed Marathwada and Vidarbha region of Maharashtra.

In the rain-fed Marathwada and Vidarbha region of Maharashtra, crop productivity and food production is highly variable / vulnerable to current climate variability and the on-going as well as long term climate change. The crop productivity could decline and the variability of agriculture production could increase, due to climate variability and climate change. Thus, there is a need to develop climate resilient agriculture or cropping systems and agronomic practices to ensure higher and stable farm productivity.

Future climate projection for the state

As per the Indian Network for Climate Change Assessment (INCAA) report using A1B scenario, downscaled regional climate projections indicate a 3 to 7% overall increase in all-India summer monsoon precipitation in the 2030s with respect to 1970s. In the western coastal region the same trend is repeated, increase is projected to be to in the tune of 6 to 8% i.e., of 69 to 109 mm. India-wide warming is being projected for 2030s to the scale of 1.7 to 2 degree C. Winter temperatures increases may be more prominent compared to summer temperatures. This is seen in case of all simulations for 2030, 2050 and 2080. The percentage increase/decrease in rainfall as compared to baseline (2030) has been given in the figure 3 map below. Rate of change of current summer monsoon (June - September) in the region has been given in the figure below:

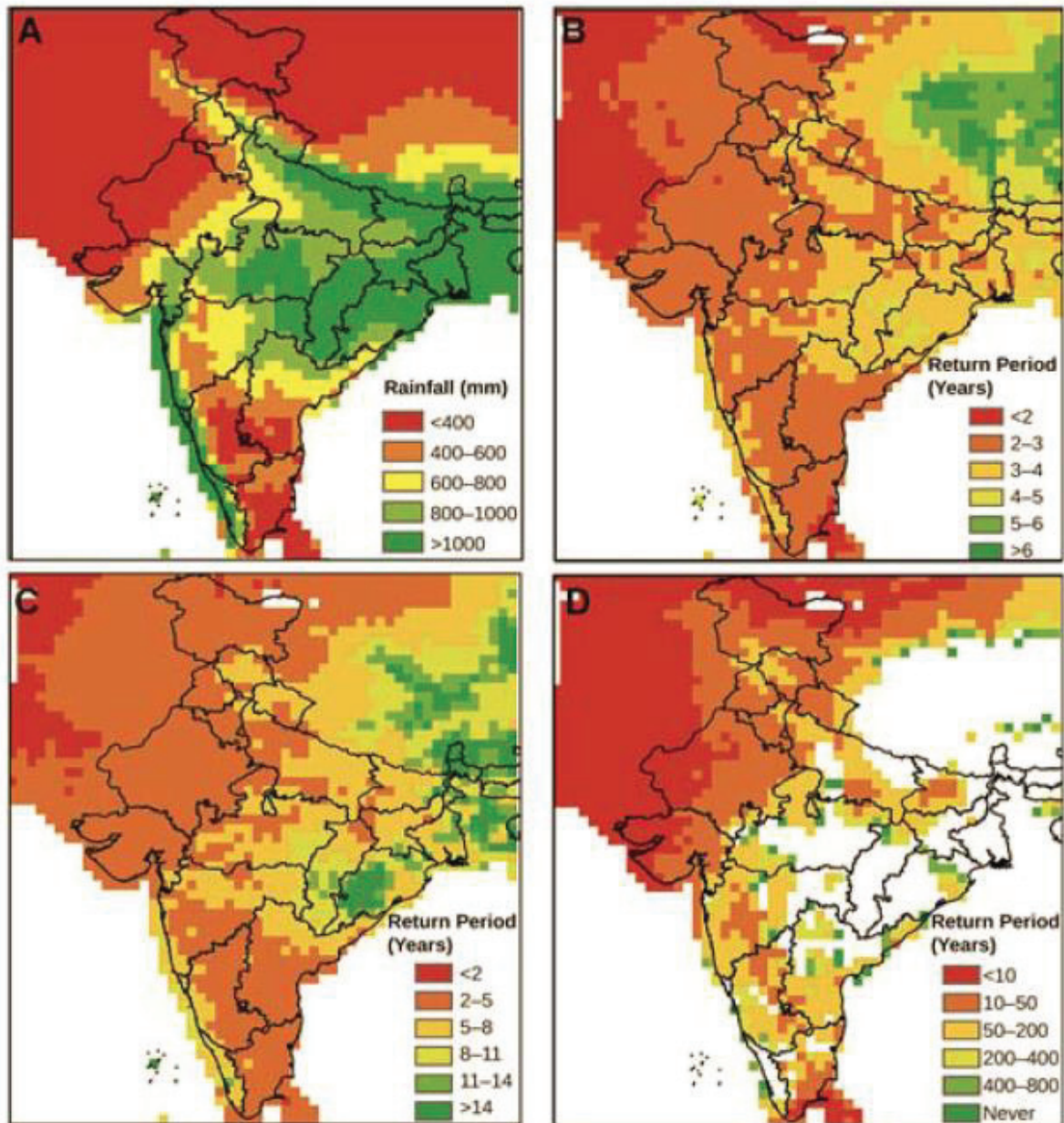


Figure 4 Regional variations in mean and annual rainfall in India (1987-2012)

Source: Indian Meteorological Department⁷

⁷ Source: IMD data, available at http://www.tropmet.res.in/static_page.php?page_id=53
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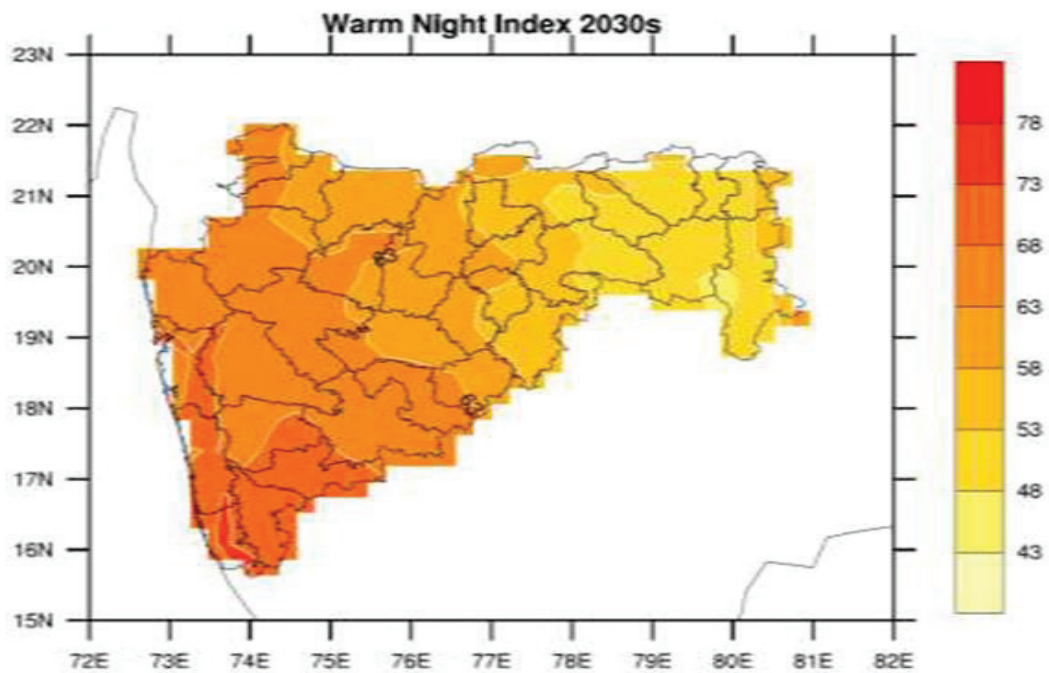


Figure 5 Spatial variability of future monsoon in Maharashtra

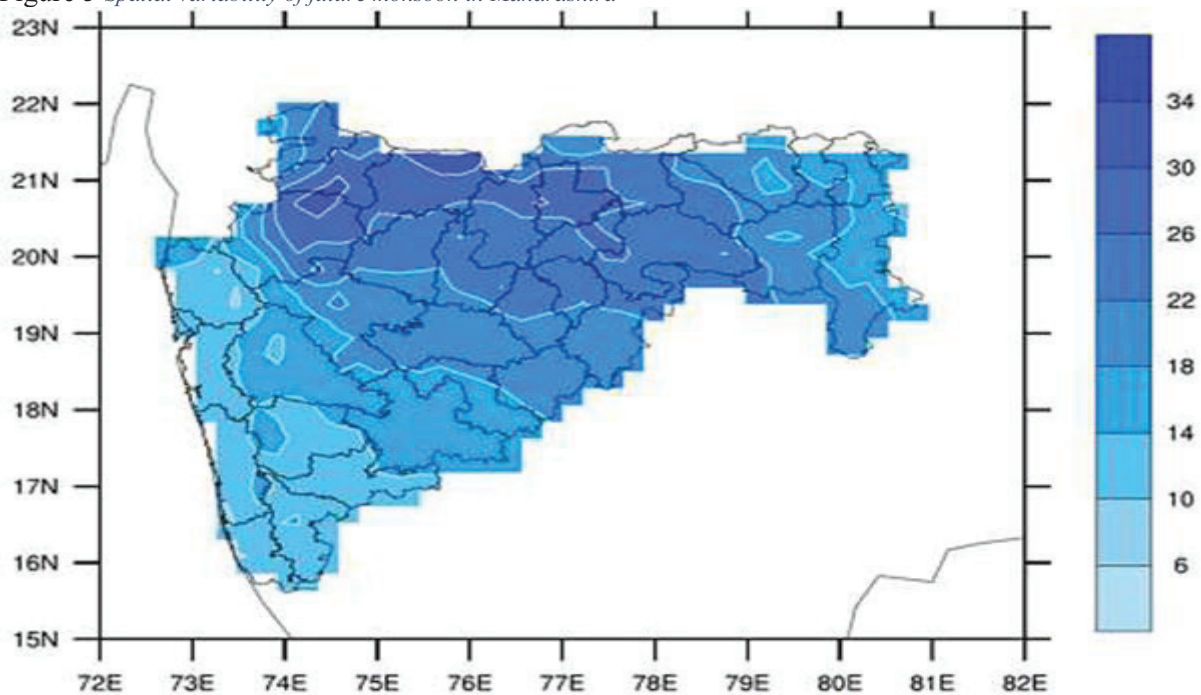


Figure 6 Spatial variability of future monsoon in Maharashtra

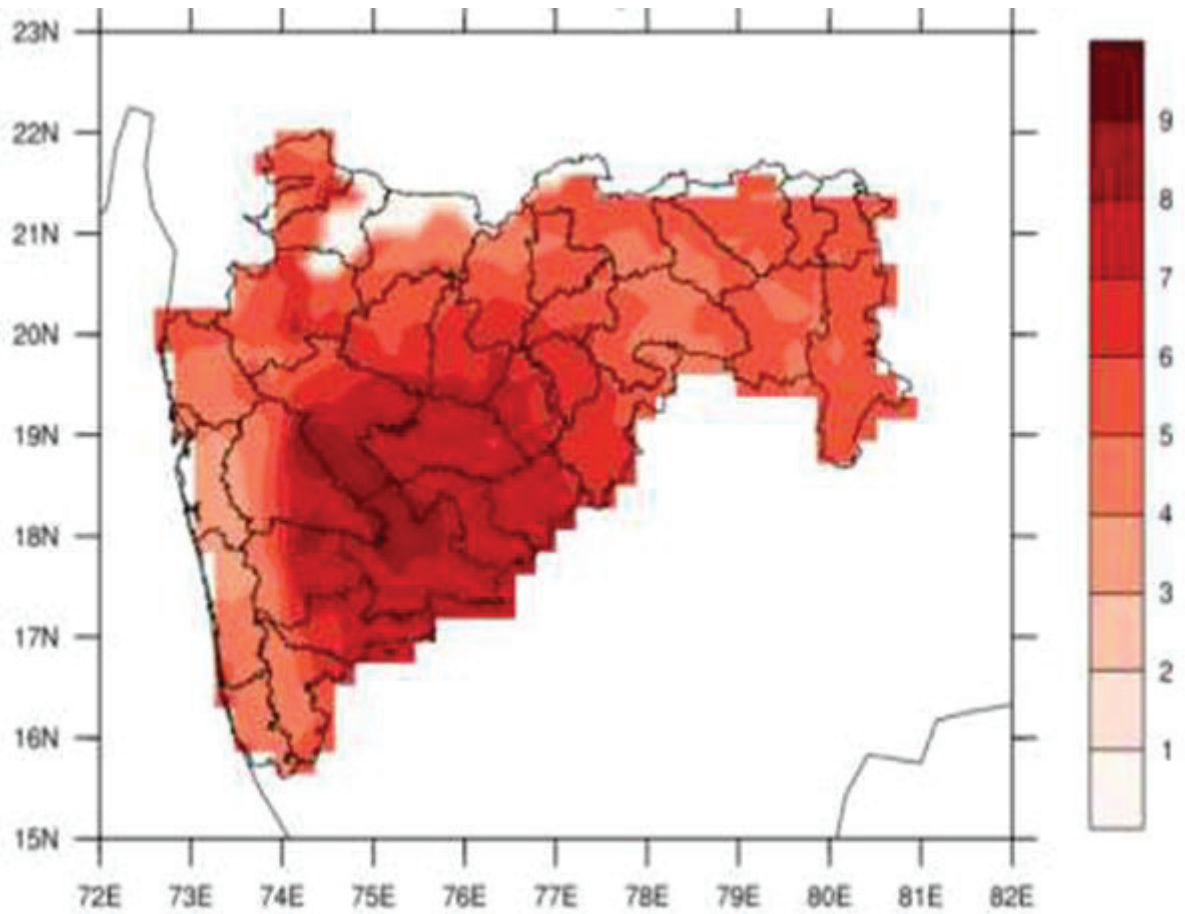


Figure 7 Projected Increase in Number of Dry Days by 2030 in Maharashtra

Source: State Climate Action Plan, Maharashtra

2.3.2 Socio-economic Characteristics of the project area (Demographic, Socio-economic, etc.)

As per the Socio Economic Caste Census (2012) estimates, in 73.13% of the households in the project districts, the monthly income of the highest earning member is less than INR 5000.

The following table highlights the social group-wise farm operational holdings.

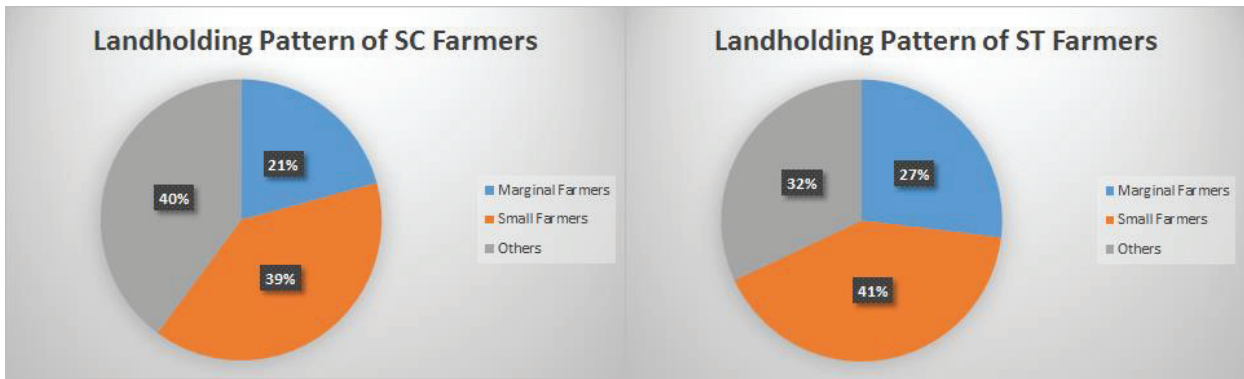


Figure 4 Farm operational holding in the project districts as per the social groups

The SC-ST groups hold about 10% of all the operational farm holdings in the project districts.

The agrarian stress in Maharashtra is pretty complex. Maharashtra experienced its worst drought since 1971 and rainfall was 59.4% of the normal as a result the agriculture sector saw a further decline of 2.7%. After two back to back droughts when the rainfall was 94% of normal the sector registered 12.5% growth in 2016-17 (Economic survey 2016-17). However, this did not reduce the farm sector stress. This was due to high indebtedness including the failure of PACS, rising input cost and market failure resulting in distress sale, migration and farmer suicide.

2.3.3 Environmental Characteristics (Salinity, water quality, etc.)

Salinity of soil is a historical problem in the Purna Alluvial tract spread over about 932 villages of Akola, Amravati, Buldhana, and Jalgaon districts.

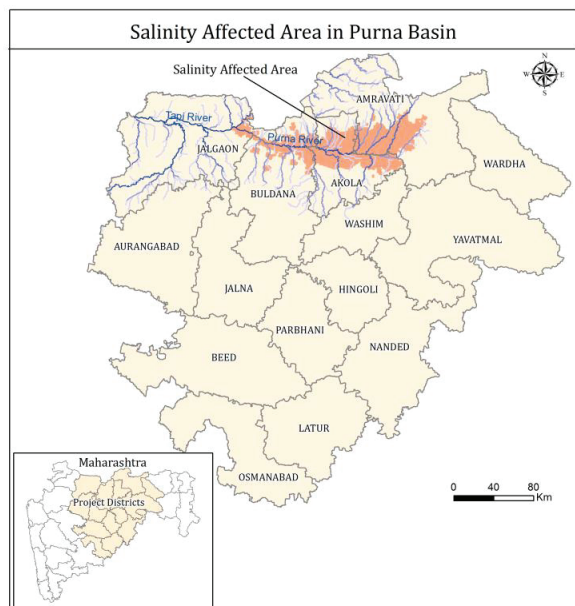
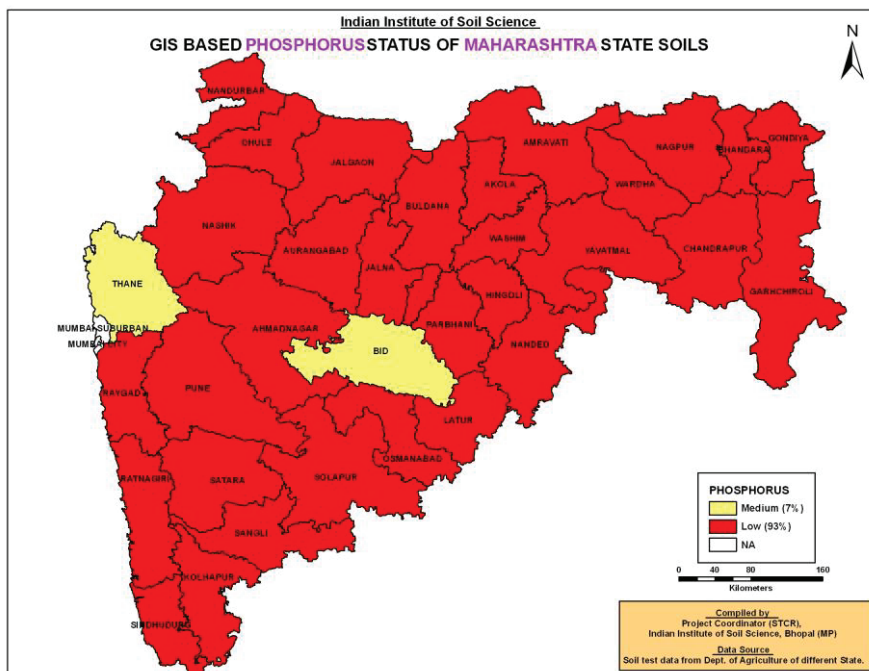
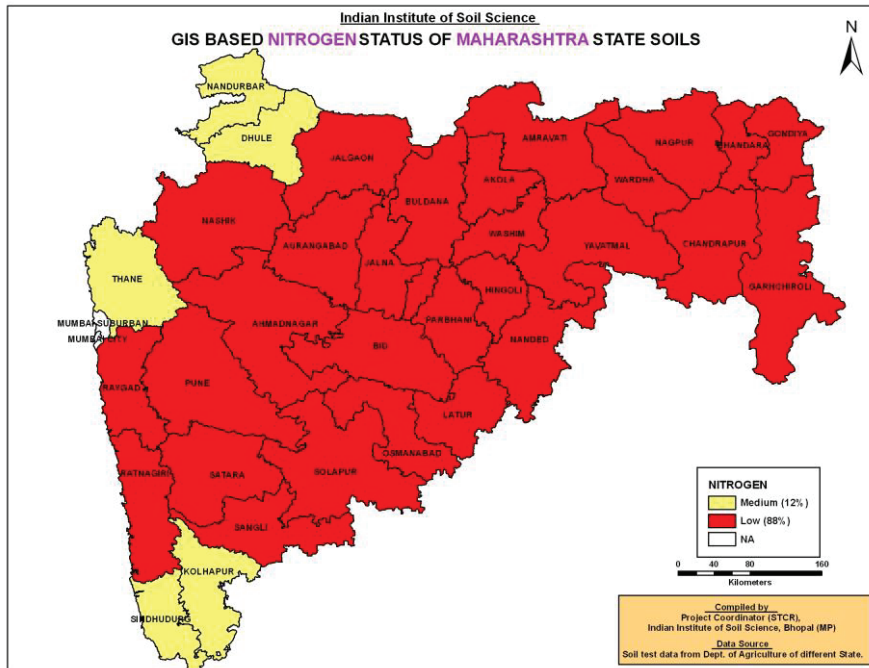


Figure 9 Salinity Affected area in Purna Basin

The soil salinity problem in Purna river basin is due to the typical geological structure. Salinity of groundwater is also historical phenomenon in this alluvial tract. The affected area is about 4.70 lakh ha, out of which about 3.96 lakh ha is cultivable.

The soils are formed from basaltic alluvium and are characterized by high clay content (50-70 %), alkaline in reaction, calcareous with slow permeability. The soils have low hydraulic conductivity and thus become susceptible for poor drainage. The problem is further aggravated due to sodium and clay causing dispersion resulting into impairment in physical properties of soils like bulk density, hydraulic conductivity, and porosity and infiltration rate. Majority of the soils in the state have low nitrogen and phosphorus availability while they are adequate in potash.



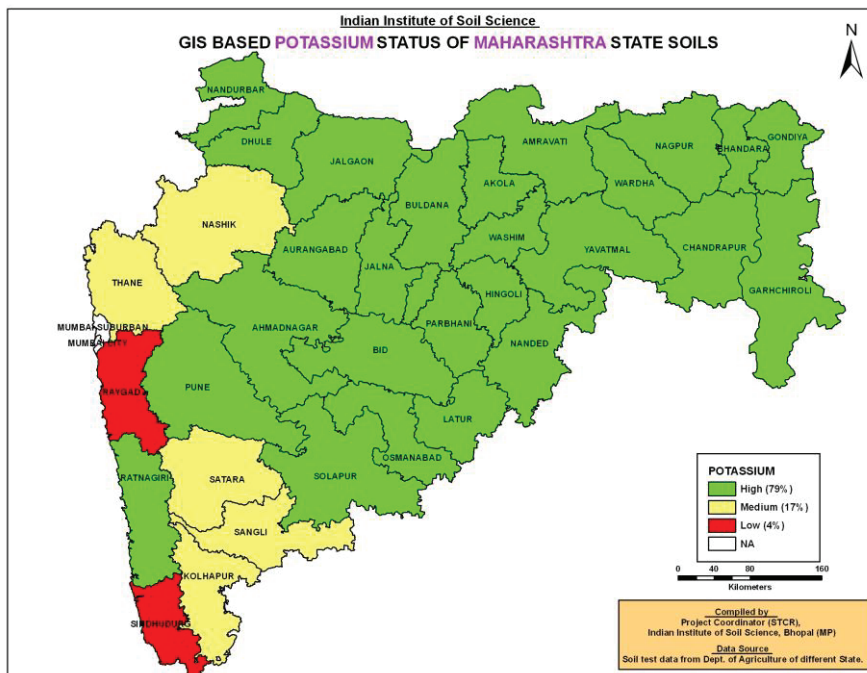


Figure 10 District wise soil fertility status

2.4 KEY CHALLENGES

Key challenges to address this climate variability and change lie in helping the farmers to have assured source of irrigation. The recent data shows that in 2015, about 195 talukas of 26 districts had 50% - 75% of the average rainfall while 57 talukas had less than 50% of normal rainfall. Similarly, in 2014, 192 talukas of 21 districts had 50% - 75% of the average rainfall while 36 talukas has less than 50% of the normal rainfall. In 2015 and 2016, about 70% villages were affected by severe drought in the state. Unreliability of weather, long dry spells, and early onset / withdrawal of monsoon has completely upset the farm calendar and agricultural economy and severely eroded the adaptive capacity of the farmers. Variability of rainfall has turned out to be a major roadblock to build resilience in the agriculture sector in rain-fed areas.

Out of 355 talukas in the state, 148 talukas are drought prone. In the project districts, 79 talukas are drought prone.

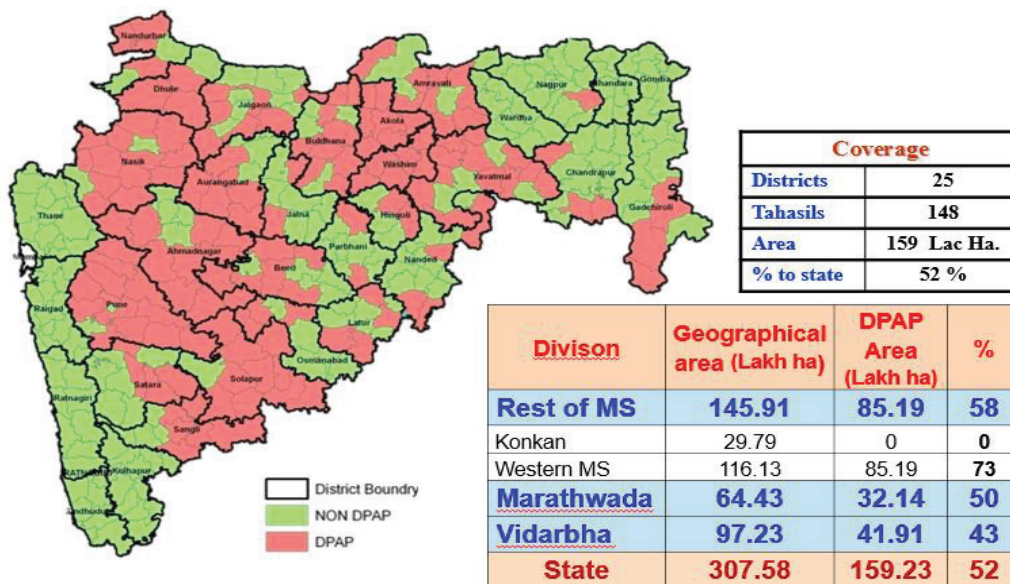


Figure 11 Drought-prone areas of the state

Source: Planning Department, Maharashtra

2.5 PARTNERSHIP WITH THE WORLD BANK

Maharashtra is one of the most progressive state to initiate regulatory reforms for rainfed agriculture development and is ranked first amongst the states in the country by Niti Aayog. In Maharashtra, poverty is mostly concentrated in rain-fed regions. The strategy of the GoM as well as the World Bank’s Country Partnership Strategy lay stress on reduction in poverty which calls for achieving rapid, inclusive growth by expanding agriculture productivity and ensuring sustainable development through improved natural resources management (soil and water). In particular, the CPS emphasizes the need to foster farmer centered extension systems as well as provide efficient and competitive markets. The proposed project is also in alignment with the National Mission on Sustainable Agriculture. The project is also aligned to the strategies identified in the State Adaptation Action Plan on Climate Change (strategy outlined under agriculture and water sector). Maharashtra has launched a series of initiatives such the Jalyukta Shivar Abhiyaan, farm pond on demand scheme, MACP, PMKSY, etc., to make the state drought-free by 2019. As a part of the programme every year 5,000 villages will be targeted to make them free of water scarcity. This project will coordinate and establish synergies with this movement in vulnerable Marathwada and Vidarbha region and it will also build on the lessons learnt from other ongoing World Bank supported projects in Uttarakhand, Telangana, Odisha and Rajasthan.

3 PROJECT DESCRIPTION

Many parts of the state have been facing droughts on a recurrent basis since decades. While investment in irrigation infrastructure has been a priority for the state as a long term drought mitigation strategy, a major area of the state (about 82%) remains rain-fed with no access to water for protective irrigation. In case of a drought, the state has been adopting a short term, multi-pronged strategy to reduce its impact on the farmers. Waiver of interest rates and rescheduling of the payment of crop loans, supply of fodder for cattle, providing drinking water by tankers and other means, providing food grains at highly subsidized rates, and enhancing allocation for Rural Employment Guarantee Scheme (MGNREGS) are some of the measures which have been adopted by the GoM in the past to provide relief to the farmers and other affected people.

The GoM has now taken a progressive decision to develop a drought proofing and climate resilient strategy for the agriculture sector as a long term and sustainable measure to address the likely impacts due to climate variabilities and climate change. Given that climate change will increase rainfall variability and droughts in the coming years, the GoM has decided to focus on Climate Resilient Agricultural systems as its long term strategy. In this backdrop, the Project on Climate Resilient Agriculture (PoCRA) has been formulated by the Government of Maharashtra. This is the first large scale climate resilient agriculture project in India.

The project will be implemented in 15 districts in Maharashtra and cover about 4,000 villages affected by drought and about 932 villages additionally affected by saline and sodic soils. The estimated cost of the project is USD 600 mn and will be funded by the World Bank and the GoM in the ratio of 80:20.

3.1 PROJECT DEVELOPMENT OBJECTIVE

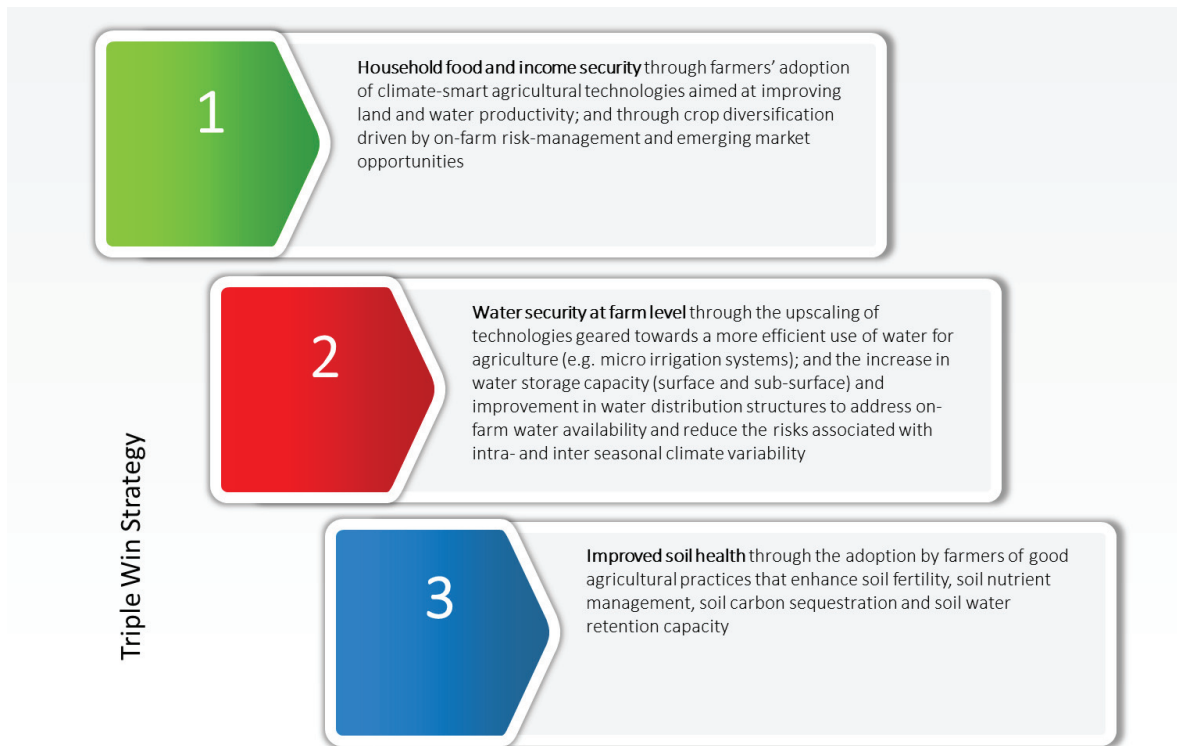
The Project Development Objective (PDO) *is to enhance climate-resilience and profitability of smallholder farming systems in selected districts of Maharashtra.*

This project would introduce transformational changes in the agriculture sector by scaling-up climate-smart technologies and practices at farm and (micro) watershed level, that would contribute to drought-proofing and management of lands in the state's most drought and salinity/sodicity-affected villages. The project would focus on smallholders (farmers up to 2.0 ha of farmland) with particular focus on

vulnerable population whose livelihood is impacted by changing climate conditions and climatic uncertainties.

Farm productivity improvement will be achieved through triple-win climate-adaptive solutions.

Figure 9 Triple-win concept



3.2 PROJECT GUIDING PRINCIPLES

The key guiding principles under the project are: (a) enhancing resilience through the introduction of cropping patterns and agronomic practices that improve water productivity, (b) sustainable and efficient use of water resources, including improved on-farm water use efficiency, (c) enhancement of soil health by increasing soil organic carbon and better management of saline soils, (d) increased private sector participation in the development of climate resilient value chains, and (e) improved adaptive capacity of the smallholders by providing weather information, techno-managerial support for aggregation and supporting innovation to achieve project objective.

3.3 PROJECT STRATEGY

The key strategies for climate resilience emanate from the critical gaps in adaptation:

- **Strategy 1:** Develop resilient cropping systems and practices for current climate variability, potential El Nino, and climate change, since the rain-fed areas under the project are impacted by all the three events.
- **Strategy 2:** The impact of climate change and climate variability is **location and context specific**. Thus the project strategy has to focus on natural resource management and developing cropping systems and practices for a “*Cluster of Villages*” which are aligned with a mini-watershed (MWS). This would ensure a multiplier effect because of the interdependence of these villages.
- **Strategy 3:** The recommended package of practices for improving resilience will be further boosted by periodic farm level advisories which will be prepared considering the local area weather forecast, cropping pattern, crop condition, and soil health at the level of the *Cluster of Villages*.
- **Strategy 4:** Building resilience in rural communities would require diversification of farming systems, livelihoods and incomes. Thus, the resilience package in the project would include: “Cropping systems + Agroforestry + Horticulture + Afforestation +Diverse Livestock Systems + Sustainable value Chain activities”.
- **Strategy 5:** The resilience will be enhanced by promotion of drought tolerant seed varieties. Better management of water through micro-irrigation and protected cultivation with climate controlled structures such as polyhouse and shade net. Timely agricultural operations will be aided by farm mechanization services run on custom hiring basis.
- **Strategy 6:** Improved productivity levels will be supported by efficient post-harvest infrastructure on custom hiring basis, managed by farmer producer companies, to increase the share of farmers in the final price of agriculture commodities.

Key elements of the project strategy will revolve around the following:

Water and Agriculture: The project would focus on interventions combining farm-level activities aimed at enhancing water productivity through improved water-use efficiency, with (micro) watershed activities aimed at enhancing water storage capacity (improved rainwater harvesting techniques) and boosting groundwater recharge (aquifer replenishment). This is important because unsustainable water-related activities at farm and community level are emerging as a major challenge resulting from inadequate water conservation and irrigation practices.

Cluster level watershed plans: The project will develop comprehensive mini-watershed plans in conformity with the National Guidelines on Watershed Development. These watershed plans will take into account the hydrological boundaries of the clusters of villages. Mini-watershed plans will be backed by a detailed groundwater management plan for the project districts; such plan can be developed on the basis of: (i) groundwater draft and recharge (including methods adopted); (ii) safe and sustainable water yield from wells and aquifers for present and future use; (iii) previous changes in the level of aquifer water storage; (iv) hydrological relevance, feasibility and sustainability of current practices for micro-irrigation with farm ponds; (v) water use efficiency and water productivity of micro-irrigation practices; (vi) use of community farm ponds as micro-irrigation structures based on surface and groundwater regimes; (vii) water balance; and (viii) use of micro-irrigation solutions like drips and sprinklers to provide protective irrigation to crops at critical stages. The exercise will also have both adaptation and mitigation co-benefits aimed at ecosystem resilience.

Agro-met and farm advisory: The project will seek to set up a comprehensive agri-met data collection, processing and management system as well as agriculture technology transfer. This data would be utilized to create farm level advisories and contingency plans in partnership with CRIDA, SAUs, KVKs, and technology partners. It will also use the extension network of ATMA for knowledge and technology transfer to the farmer's fields.

Value chain development: It is important that all the gains expected from different activities proposed under PoCRA are beneficial to the farmers. This can only be feasible if there is resilient value chain linking relevant stakeholders. Project will actively pursue investment in community infrastructure (farm pond, custom hire centres, seed hub, crop diversification, nursery, protected cultivation, and storage), branding and market-linkage, etc.

Participatory planning and implementation: The long term sustainability of the project development objectives would be ensured by the participation and involvement of the community institutions in the planning, implementation and monitoring of the project activities. The project would help set up a **village climate resilient agriculture management committee (VCRMC)**, representing different interest groups with focus on vulnerable sections of the village, including women. The members of the VCRMC would be appointed by the Gram Sabha and it would act as a sub-committee of the Gram Panchayat. The project will provide technical and social mobilisation support to VCRMC through field functionaries of the agriculture and allied departments, and resource agencies. The project would adopt a flexible, non-prescriptive, process-oriented approach to enable the communities to determine the scope of project activities, their timing, pace and sequencing. The project would be responsive to community priorities in terms of investments and would learn from implementation experience in relation to the project activities and implementation modalities. The participatory planning will result in:

- *Ownership:* The project would attempt ownership of the project by village community through the involvement of Gram Sabha, VCRMC and other village level institutions. The ownership would improve accountability and sustainability of the project activities.
- *Transparency:* All proceeding and records of the project will be accessible to all the stakeholders. Some specific provisions to ensure complete transparency are: (a) approval of the micro plan by the Gram Sabha, (b) social auditing would be a key tool at the cluster level displaying annual physical and financial achievements under the cluster development plan (applicable and relevant to the village); this can be through wall paintings on a public place accessible to all, (c) The VCRMC shall present the accounts of the project to the Gram Sabha at least once in a quarter, and (d) all the details of the works with costs / photos, etc. would also be available on the website of the project.

- *Cost effectiveness:* The project will ensure efficiency and effectiveness in all its interventions. This will be achieved through community mobilization and involvement.
- *Participation of vulnerable groups:* VCRMC shall have adequate representation of the vulnerable groups like SC, ST, women, disabled, and marginal farmers. The cluster development plan will also incorporate provisions to benefit women, the poor, landless labourers, marginal farmers, members of the Scheduled Castes and Tribes.

3.4 PROJECT AREA

The proposed project will be implemented in the 15 districts in Marathwada (Aurangabad, Nanded, Latur, Parbhani, Jalna, Beed, Hingoli, and Osmanabad), Vidarbha (Akola, Amravati, Buldhana, Yavatmal, Washim, Wardha,) and Jalgaon district of Nashik Division. Out of a total of 18,768 villages in the districts selected, the project will cover about 4000 villages characterized by high climate-vulnerability. The project will also include about 1,000 villages located in the Purna river basin and showing high levels of soil salinity and sodicity. These villages are spread over Akola, Amravati, Buldhana, and Jalgaon districts.

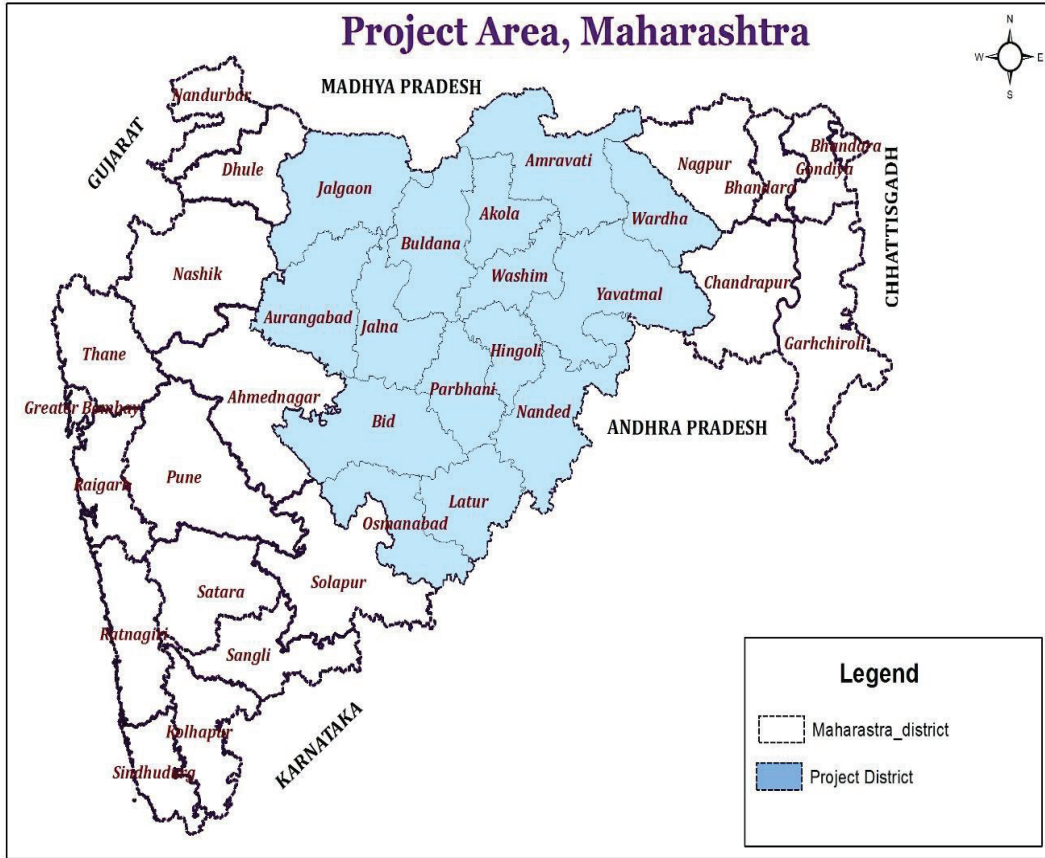


Figure 12 PoCRA Project districts

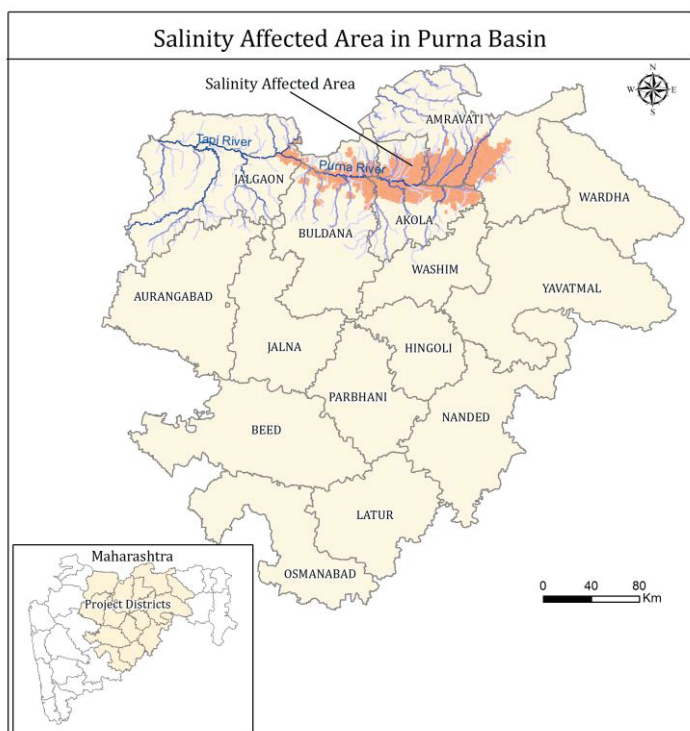


Figure 13 Saline affected areas in PoCRA

A brief profile of project districts is given below.

Table 5 Profile of the project districts

District	Number of Villages	Total Geographical Area (in Ha)	Population	Operational area (in Hectares)	Number of Operational landholders
Aurangabad	1353	1038517	2081621	691785	529861
Jalna	970	775120	1581617	592658	410342
Beed	1368	1087387	2070751	866225	651783
Latur	948	715054	1829216	640681	388916
Osmanabad	732	748478	1376519	693517	356579
Nanded	1603	1061923	2447394	826968	582200

Parbhani	843	621916	1266280	568266	347918
Hingoli	711	478059	998612	358910	213103
Buldhana	1443	963305	2037398	697338	430188
Akola	986	540742	1094165	418794	242253
Washim	789	507430	985747	374668	196424
Amravati	1997	959263	1851158	717590	415858
Yavatmal	2137	1351550	2174195	838025	378684
Wardha	1376	575804	877474	438569	196210
Jalgaon	1513	1091351	2887206	777177	438634
Total	18768	12515900	25556621	9501173	5778953

The state has 4,534,836 Below Poverty Line (BPL) card holders⁸ under the public distribution scheme (PDS) out of which 45% are concentrated in these 15 project districts.

3.5 VILLAGE SELECTION CRITERIA

The villages in the project districts have been grouped into clusters having alignment with the mini watersheds identified by the GSDA. This has been done to ensure that the interventions made under the project contribute to comprehensive treatment of the mini watershed as per the principle of ‘ridge to valley’. These clusters have been prioritised on the basis of a combined vulnerability index as per the criteria set out below.

Since the project is focused on climate resilience, the climate change vulnerability approach adopted by CRIDA (ICAR) has been considered for the selection of villages. IPCC – 2011 has defined vulnerability as follows.

⁸ PDS MIS, Govt of Maharashtra

Vulnerability (V): The extent to which a natural or social system is susceptible to sustaining damage from climate change. Vulnerability is a function of:

- **Exposure:** Long-term changes in climate conditions
- **Sensitivity:** Degree to which a system will respond to a change in climate
- **Adaptive Capacity:** Ability of a system to adjust to actual or expected climate stresses (Wealth, technology, education, information, skills, infrastructure, access to resources, and management capabilities)

$$V = f(\text{Exposure, Sensitivity, Adaptive Capacity})$$

The following table highlights the criteria to select the villages based on climate vulnerability of the clusters to which they belong.

Table 6 Vulnerability based targeting

Climate Change Vulnerability Indicators for selection of clusters under PoCRA				
	Indicator	Rationale	Nature of Relationship	Weightage assigned
A	Sensitivity			
1	Ratio of Net sown area to geographical area	A relatively higher area under cultivation implies higher relative importance of Agriculture and also that more area would be affected	Direct	2%
2	Ratio of Degraded land to Geographical area	Productivity levels would be low and highly risky, if crops are grown on degraded and wastelands	Direct	6%
3	Drought proneness (Frequency of droughts in last ten years)	Incidence of more frequent droughts implies more sensitivity to climate change	Direct	12%

Climate Change Vulnerability Indicators for selection of clusters under PoCRA				
	Indicator	Rationale	Nature of Relationship	Weightage assigned
4	Ratio of area operated by small & marginal farmers to total land holding	Smaller farm size limits marketable surplus and opportunity to diversify the cropping pattern and the low investment capacity of farmers make agriculture more sensitive to any climatic shock	Direct	8%
5	Ground water Index (based on Ground water prospect)	Groundwater prospect is an indication of further scope to harness ground water resources for irrigation. Low groundwater prospect means less scope for future and hence higher sensitivity	Direct	12%
B.	Adaptive Capacity			
1	SC / ST population	Population belonging to SC/ST being relatively poor, also less educated, poorly integrated with mainstream economy and heavily-dependent on natural resources for their livelihoods	Inverse	5%
2	Head of the household having income < Rs 5000 per month	More the poverty, lower will be the capacity to adapt to climate change and variability.	Inverse	7%
3	Ratio of agriculture workers to total population	This indicates a relatively higher importance of agriculture in the livelihoods of population compared to other sectors	Inverse	3%

Climate Change Vulnerability Indicators for selection of clusters under PoCRA				
	Indicator	Rationale	Nature of Relationship	Weightage assigned
4	Gender gap (gap between literacy rates of total population and the female population)	Higher gap indicates lower gender equity	Inverse	3%
5	Livestock Population (No. of livestock per household)	This is an indicator of diversification of agriculture and enhances the ability to cope with climatic aberrations	Direct	8%
6	Agrarian distress	Agrarian distress due to crop failures, low prices, arrears of loans, non - profitability etc. indicates more vulnerability	Direct	9%
C.	Climate Exposure indicators (Projected change (%) in all parameters during mid-century (2021-50) or end-century (2071-98) relative to the baseline (1961-90))			25%
1	Change in annual rainfall		Direct	
2	Change in June rainfall		Direct	
3	Change in July rainfall		Direct	
4	Change in number of rainy days		Direct	
5	Change in maximum temperature		Direct	
6	Change in minimum temperature		Direct	

Climate Change Vulnerability Indicators for selection of clusters under PoCRA				
	Indicator	Rationale	Nature of Relationship	Weightage assigned
7	Change in incidence of extremely hot days		Direct	
8	Change in incidence of extremely cold days		Direct	
9	Change in frequency of occurrence of frost days		Direct	
10	Change in drought		Direct	
11	Change in incidence of dry spells of ≥ 14 days		Direct	
12	Extreme rainfall events		Direct	
13	Change in 99 percentile rainfall		Direct	
14	Change in no. of events with > 100 mm rainfall in 3 days		Direct	
15	Change in max rainfall in 3 consecutive days as % to annual normal		Direct	

The values of the climate exposure for the project districts were taken from CRIDA and were considered uniform throughout the district.

For the indicators having direct relationships, the index for any indicator (n) of a cluster (i) was calculated as:

$$\text{Index}(n) = \frac{\{i(n) - \text{Min}(n)\}}{\{\text{Max}(n) - \text{Min}(n)\}}$$

For the indicators having inverse relationships, the index for any indicator (m) of a cluster (j) was calculated as:

$$\text{Index}(m) = \{\text{Max}(m) - j(m)\} / \{\text{Max}(m) - \text{Min}(m)\}$$

Combined vulnerability index for each of the clusters was calculated by aggregating individual indices after multiplying them with the weightage assigned to the respective indicators.

Clusters were prioritized within each district and taluka on the basis of their combined vulnerability index. The methodology of village selection was approved by the selection committee formed by GoM.

The list of clusters and the villages contained therein was approved by the GoM and is given in Annexure -I

3.6 GUIDING PRINCIPLES FOR PLANNING, ACTIVITY PRIORITIZATION, SEQUENCING, AND BENEFICIARY TARGETING

The following table indicates the overarching principles for project planning, activity prioritization, beneficiary targeting, and sequencing.

Table 7 *Guiding principles for beneficiary selection and pattern of project sequence*

Guiding Principles	Process
Microplanning – as an integral part of Mini-watershed Plan for each cluster	The village and cluster level project planning will be carried out with the involvement of the community and institutions. Participatory planning will help in mapping resources and problems and identify constraints and possible activities for intervention. Care would be taken to involve all the sections of the stakeholders as well as the vulnerable sections of the society. The project micro plan as well as the annual plans will be approved by a resolution of the Gram Sabha. During the planning process, the project would assist the community by capacity building, providing technical knowhow and IT support.
Activities determination	The activities to be incorporated in the micro plan will: <ul style="list-style-type: none"> ● follow participatory planning process principles ● adhere to the watershed treatment principles ● indicate benefit sharing mechanism ● follow inclusive criteria

Guiding Principles	Process
Individual beneficiary targeting	<p>Most vulnerable farm households in a village to be identified by the village community for assistance under the project and following categories will be given priority for project activities targeted to benefit individuals:</p> <ul style="list-style-type: none"> ● Marginal farmers <ul style="list-style-type: none"> • ST/SC farmers • Women farmers • Disabled farmers • Other farmers ● Small farmers <ul style="list-style-type: none"> • ST/SC farmers • Women farmers • Disabled farmers • Other farmers
FPOs/ FPCs/ FIGs/ SHGs	All existing FPOs/ FPCs/ FIGs/ SHGs in the project area would be encouraged to participate in the project to take forward the project objectives of enhancing farmers' profitability through a collective approach.
Pattern of assistance	Project assistance will be provided for comprehensive watershed treatment, technology adoption for climate resilient agriculture production systems and post-harvest management. The interventions meant to benefit the common lands and activities would be fully funded by the project while those benefiting individuals or groups would be given assistance in the form of matching grants. The pattern of assistance has been indicated in subsequent parts of the PIP.
Sequencing	The project activities would be sequenced in a manner so as to fully harness the potential of infrastructure already created as well as keeping in mind the capacities of the target groups and available opportunities. Ridge to valley approach would be adhered to while treating the watershed.

3.7 PROJECT PHASING

The selected clusters will be taken up for project interventions in a phased manner. The project activities would be completed in 3 years' time in a cluster after initiation of the project activities.

	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6	Total
Number of Clusters	130	350	190				670

4 PROJECT COMPONENTS

Component A: Promoting Climate-resilient Agricultural Systems



Figure 98 Key sub-components under Component A

The objective of this component is to enhance climate-resilience in agricultural production systems through a series of activities at the farm level. This will be complemented by interventions in the catchment areas of mini watersheds. The component will finance the development of mini-watershed plans and their implementation in the selected clusters. This component will enhance resilience in smallholder agriculture through technology transfer and watershed treatment by: (i) promoting the adoption of Climate Resilient Technologies (CRT) aimed at improving farm productivity through measures to enhance soil health and water-use efficiency; and (ii) improving water use efficiency through conjunctive water use for agriculture. This would result in better farm productivity which would sustain during the periods of climate shocks.

The component will have three key sub-components as indicated in figure 14:

COMPONENT A1

Participatory development of mini watershed plans

4.1 COMPONENT A1: PARTICIPATORY DEVELOPMENT OF MINI WATERSHED PLANS

4.1.1 Introduction

Participatory micro-planning process is a key feature of this project not only to understand the risk and vulnerability due to the climate change but also to plan adaptation strategy at the local level. All plans will have concurrence of locally agreed inclusive criteria. This will help in enhancing community participation for building resilience to address climate vulnerability. It will also create strong ownership of the project in the long run.

A village level micro plan will be developed in participatory manner and further consolidated into Cluster Micro plan. The micro plan will cover:

1. Cluster Profile- Socio Economic, Geo-physical, Agriculture, Livestock
2. Constraint Analysis- Water status, Soil health, Crop production, Marketing, Social, Gender
3. Causal analysis of crop wise yield gaps
4. Causal analysis of commodity value chain gaps
5. Opportunity mapping- resources & opportunities
6. Scope for major interventions like Water conservation & water harvesting structures, Soil & salinity management, micro Irrigation, Plantation, Production technology , Mechanization, Agribusiness infrastructure, FPO/ FPC strengthening etc.
7. Training and Skill needs analysis of farmers
8. Special needs of small holders, SC/ST farmers and Women farmers.

Based on the outcome of participatory micro plan, a detailed cluster development plan will be developed. CDP will be the basic unit of planning for this project and it will give account of activities under Components A, B & C to be implemented in the cluster. Each CDP will be backed up by a technical sanction by the SDAO and Gram Sabha resolutions of the participating villages.

The PMU will contract external entities to mobilize communities and farmers and develop the mini watershed plans on a participatory basis in close collaboration with local agencies. Watershed plans will subsequently undergo a rigorous quality review and validation process before being submitted to the relevant authority for funding clearance. The activities and investments derived from the plans will require a prioritization and sequencing within and across clusters to leverage the available infrastructure.

4.1.2 Activities

Activity	Sub-Activity	Who will do	Output	Indicator
Identification of Clusters (mini-watershed) in the project area. Alignment of mini watersheds with village boundaries and supply of resource maps for preparation of mini-watershed plans	Mapping of Mini Watersheds with various parameters (bio-physical, socio-economic)	<ul style="list-style-type: none"> ● MRSAC ● GSDA ● IIT Bombay ● CRIDA 	Maps of clusters	No. of maps
	Vulnerability index based mapping of the project area & selection of vulnerable clusters		List of vulnerable villages	Vulnerability index
Institutional arrangement	Formation VCRMC	<ul style="list-style-type: none"> ● Gram panchayat ● Cluster Assistant ● Agriculture Assistant 	Village level committee	No. of committees
Training on micro-planning process	The project/agency staff/village functionaries to be trained on the micro-planning process	<ul style="list-style-type: none"> ● Yashada 	Training sessions	No. of department /agency staff / facilitators/vol unteers trained
Preparation of village micro plans	Community mobilization, focussed group discussion, resource mapping, household survey. Approval by women and general Gram sabhas	<ul style="list-style-type: none"> ● VCRMC and Gram Sabha ● Project staff ● SAUs/ KVKs ● GSDA and other line departments 	Village micro plans	No. of cluster micro plans prepared

Quality and Investment Review of the micro-plans	Analysis Error check Consolidation		Micro plans	No. of plans reviewed
Preparation of Cluster Development Plans	Technical feasibility. Estimates of the activities as per the guidelines	<ul style="list-style-type: none"> • External resource agencies • VCRMCs 	Cluster Development Plans	No. of CDPs prepared
Finalization and technical sanction of the CDP	Technical sanction of the CDP	Department of Agriculture PMU, POCRA	Approved Cluster Development Plans	No. of plans approved

4.1.3 Approach

Comprehensive plan will be developed at village level / micro-watershed level so that it can be used as an instrument for convergence with other schemes / departments.

The typical participatory micro-planning process is given in the figure below.



Figure 94 Typical steps in a microplanning process

COMPONENT A2

CLIMATE SMART AGRICULTURE AND RESILIENT FARMING SYSTEMS

4.2 COMPONENT A2: CLIMATE SMART AGRICULTURE AND RESILIENT FARMING SYSTEMS

4.2.1 Introduction

This component is focused on climate resilient technology transfer, demonstration of carbon sequestration through various carbon enhancement measures and soil water conservation measures. In addition the project is trying to mitigate the problem of salinity in some of the project areas. Planned adaptation is essential to increase the resilience of agricultural production to climate change.

The farmers in the project area of Maharashtra have been facing irregular & inadequate rainfall, temperature variation, soil salinity, low fertility leading to low yield and crop loss. Planned adoption of customised climate resilient agriculture system shall help them to reduce their yield variability and enhance farm production under adverse climatic conditions.

4.2.2 Situation analysis

The major crops grown in the Marathwada region are jowar, bajra, pulses, groundnut, soybean, cotton, horticulture, etc. The main cash crops of Vidarbha region are cotton, orange, soybean, and gram. Both cotton and soybean are still favoured by the farmers for their evolved value chain and ecosystem. Therefore even though the current resilience of these crops is fraught with risk, a full diversification out of this cropping system may not be feasible. The project prioritised the following crops for project interventions (a) Cotton, (b) Soybean, (c) Pigeon pea, (d) Chickpea, (e) Sorghum, (f) Mango, (g) Citrus, and (h) Capsicum (protected cultivation).

The area, production, productivity and the existing varieties of the selected crops are enumerated below.

Figure 13 Average area and productivity of selected crops in the project districts (2010-11 To 2014-15)

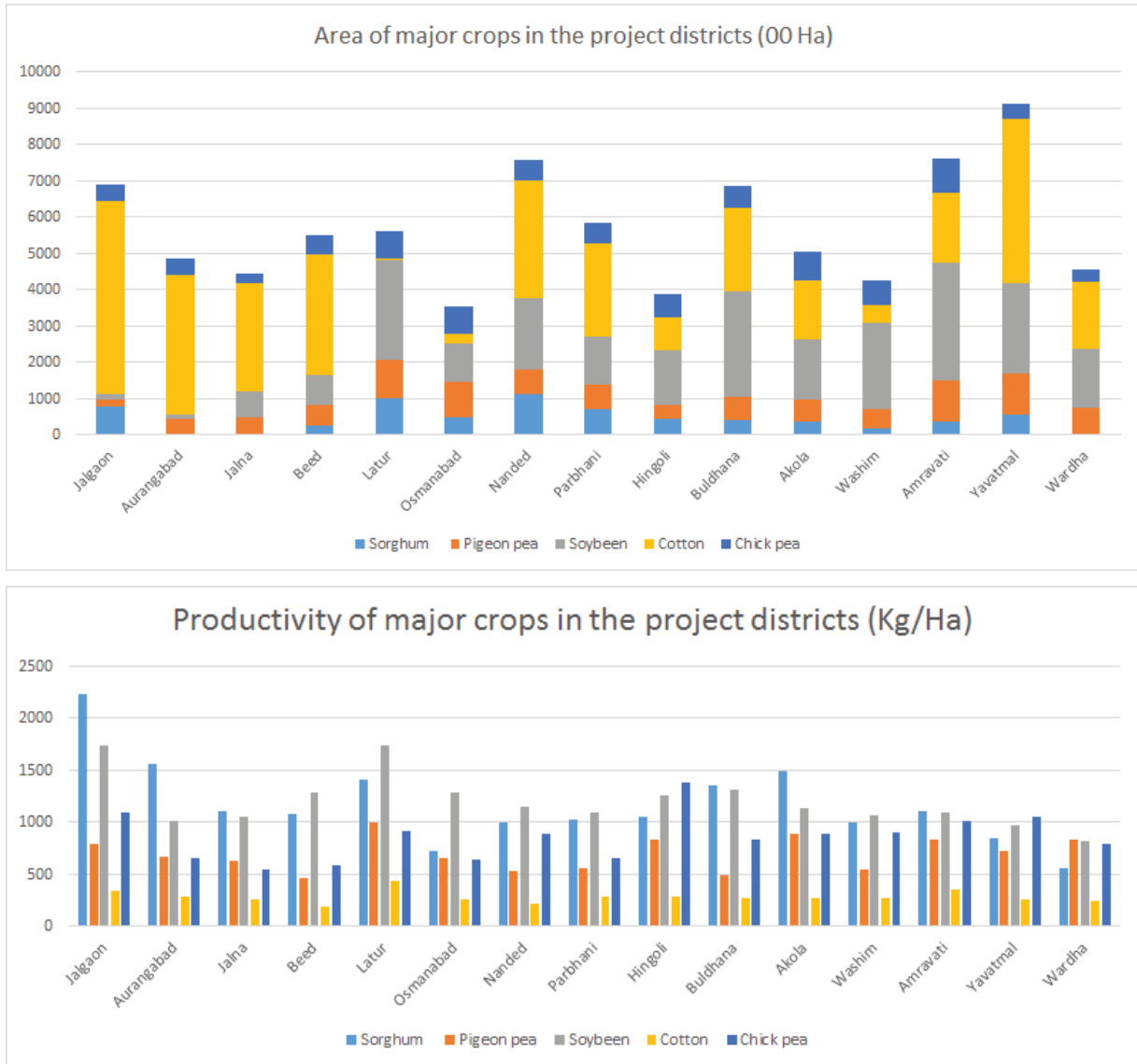


Figure 16 Area and productivity of major crops in PoCRA districts

Source: Crop statistics, Department of Agriculture, GoM

Key issues the component is addressing

Based on the situation analysis the following issues emerge:

Terminal drought, long dry Spell, disease and pests, unavailability of improved varieties of quality Seeds are the key reasons for low productivity of field crops whereas lack of proper drainage, low adoption of pruning technology account for low productivity of some of the fruit crops. Alternate bearing, low density planting, lack of pruning, lack of quality planting material are the key reasons for low productivity of Mango in the state. Lack of irrigation facilities during the period of soil moisture stress is one of the key reasons for crop failure.

This component will focus on supporting the transfer and adoption of climate-smart agricultural technologies by smallholder farmers, IPM and related practices aimed at enhancing farm productivity in the high climate variability context. The component will support bulk production as well as promotion of drought- and salinity-tolerant crop varieties, support crop diversification and appropriate farm mechanization to better cope with climate variability in the project area. The project will emphasize on promotion of field crops like Cotton, Soybean, and Pigeon Pea in Kharif, Chickpea and Sorghum in Rabi, high value vegetable crops like Capsicum, and fruit crops. It will also enhance the carbon sequestration through afforestation and promotion of fruit crops. Soil organic carbon would be improved by promoting conservation agriculture. It will also aid the saline and sodic soil management in the affected villages.

4.2.3 Objective

The key objective of this component is to maximize the crop productivity by promoting the transfer of climate-smart agricultural technologies at farm level.

This component aims at achieving this objective as follows:

- i. By supporting the transfer and adoption of climate-smart agricultural practices by smallholder farmers through on-farm demonstration that will be done through a farmer field school approach (CSAP-FF) (a) Using drought- and salinity-tolerant crop varieties of Cotton, Chick Pea, Pigeon Pea, Soya bean, Rabi Sorghum, and high value vegetables (b) Supporting crop diversification to better cope with climate variability in the project area (c) Promotion of IPM , INM and related practices aimed at enhancing farm productivity in the high climate variability context (d) Promotion of appropriate farm mechanization.
- ii. Enhancing soil health through carbon sequestration by (a) afforestation in upper reaches (b) promoting plantation of horticultural crops like Mango, Guava, Custard apple and Citrus (Orange, Sweet Lime & Kagzi lime) (c) conservation agriculture.

- iii. Improving saline and sodic soil in the affected villages by (a) organizing demonstrations of improved agronomic practices for saline soils (b) promoting appropriate soil amendment (c) improving drainage.
- iv. Promoting protected cultivation to address micro-climate variability by (a) introducing shade-net houses (b) poly-houses (c) poly tunnels in select crops along with micro-irrigation system.
- v. By promoting integrated farming system especially to meet the inclusive criteria to involve common interest groups of landless, women, scheduled castes and tribes covering activities like (a) small ruminants (b) backyard poultry (c) sericulture (d) apiculture (e) inland fishery

4.2.4 Activities

To achieve the objectives of the component, following activities and sub-activities shall be carried out with specific output and indicators.

Activity	Sub-Activity	Who will do	Output	Indicator
Demonstration of Climate resilient Varieties of field crops through a farmer field school approach	Finalizing the package of practices suitable to the selected crop and plot Visit of scientists Training of farmers Documentation	-KVK-Scientist -ATMA -Selected farmers -Cluster Executive	Conduct of farmer field schools	No of farmers who participated in farmer field school training Increase in Yield
Enhancement of carbon sequestration through the plantation of fruit trees	Use of Government and private nurseries to enhance the area under drought/salinity tolerant varieties of fruit crops such as Mango, Orange, Citrus (Sweet Lime & Kagzi Lime), guava and	Department of Agriculture VCRMC Farmers	Plantation of fruit trees of recommended varieties	Ha. Under new plantation (crop wise)

	custard apple. The perennial fruit crops enhance carbon sinks.			
Afforestation in the upper reaches of watershed and on the boundaries of farmers' lands	Digging continuous trenches (CCTs) Plantation of seedlings / seeds	Department of Agriculture VCRMC Farmers	Afforestation suitable to local climate	Hectares under new afforestation
Improvement of saline and sodic soil	Demonstrations of Climate resilient technologies, including BBF, green manuring, contour cultivation Application of gypsum	Department of Agriculture VCRMC SAU	Improvement in soil characteristics Improved agronomic practices through demonstrations	Area intervened
	Subsurface drainage wherever the land slope permits good drainage		Farm land reclaimed	Area covered with sub surface drainage
	Farm pond with inlet & outlet and grass cultivation on burms & inlet channel		Increased water availability	Cum. water stored
	Providing water pumps and sprinklers		Application of water for protective irrigation	Area covered under protective irrigation
Promotion of Protected Cultivation for Vegetable crop	Promotion of Shade net house	Department of Agriculture VCRMC Farmers	Shade-net house system with piping materials	Sqm. of Shed net house established
	Promotion of Poly house and polytunnels		Polyhouse and poly-tunnels systems with planting material	Sqm. of Poly house and polytunnels established

Integrated farming system	Identification of suitable activity	Department of Agriculture VCRMC Farmers	Provision of Small ruminants, Back yard poultry, Sericulture, and Apiculture	No of families assisted
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4.2.5 Approach

“Resilience” is the ability of a system and its component parts to anticipate, absorb, accommodate or recover from the effects of a hazardous event in a timely and efficient manner, including through ensuring the preservation, restoration or improvement of its essential basic structures and functions (IPCC, 2012).

The project would follow the following approach for various activities and sub-activities stated above:

A2.1 Demonstration of climate resilient technologies through farmer field school (FFS)

approach:

The project plans to have farmer field school approach to transfer climate resilient technology transfer for the clusters. Farm Field Schools would be operationalized at village level. These would be set up in the field of outstanding or achiever farmers. Farm Schools provide the vital link between the progressive / achiever farmers and others in a village. The list of such farmers having potential for organising farm schools in the village for different crops will be identified jointly by Cluster Assistant, Agriculture Assistant and Farmer Friend and will be approved by VCRMC. Plan of Farmer Field Schools for each season will be approved by DPMU. “Trainers/ Facilitators/Teachers” in the FFS could be progressive farmers, extension functionaries or experts belonging to Government or Non-Government Sector or KVK/ SAUs. In addition to technical support through Farm Schools, knowledge and skill of selected farmers will also be upgraded through training at district/ state level and exposure visits, etc. Also the FFS Students/ Farmers would have the responsibility of providing extension support to neighbouring farmers growing the same crops. Activities of FFS would be to operationalize Front Line Demonstrations of Climate Resilient Technologies in one or more crops. These demonstrations would focus on Integrated Crop Management including field preparation, climate resilient seed, seed treatment, IPM, INM, mechanization, protective irrigation, harvesting management etc. Farm Field Schools would provide season long technical backstopping/ training to target farmers by having an interactive session once at least during each of the 6 critical stages in a cropping season. While selecting the trainee farmers, about 50% representation would be given to small and marginal farmers. Preference will be given to members of CIGs / FIGs. Farmers will visit FFS as per specified schedule or as may be necessary.

Trainers/Facilitators visit FFS at the specified intervals or as may be necessary. Knowledge and skills of trainers would be upgraded on a continuous basis through training.

The partner agencies (SAU-KVK) and ATMA will be involved in this process to provide a comprehensive model in clusters through the life-cycle of the project. The FFS approach will also be followed for saline and sodic soil affected clusters.

A comprehensive list of some of the climate resilient technologies , the project has identified with the help of ICAR- CRIDA, ICAR-CSSIR, ICRISAT, State Agriculture Universities (SAUs) and KVKs and are planned to be disseminated to the farmers is given in table below:

Table 8 Key climate resilient technology package identified for PoCRA

Climate Resilient Technologies to be promoted under PoCRA			
Technology	Resilience Feature	Expected benefits	Suitable Crops
1. Contour cultivation	Resilience to soil erosion, moisture stress & soil nutrient loss	Helps in conservation of moisture around root zone of crops. Arrests soil and nutrient loss.	All field crops, vegetable crops and tree species
2. Cultivation by broad bed furrow (BBF) method	Resilience to moisture stress, poor soil drainage, nutrient (fertilizer) loss	Ensures optimum moisture and aeration at root level, helps drain out water in excess rainy condition, saves seed, ensures proper fertilizer placement in root zone, helps develop optimum microclimate under crop canopy, helps in proper intercultural operations, reduces cost of cultivation.	All field crops both in Kharif and Rabi season

3. Intercropping	Resilience to risk due to crop failure, moisture stress, pest incidence	Ensures optimum use of soil moisture & nutrients, overcomes risk due to aberrant climatic variabilities, helps in effective pest management, and reduces financial risk in farming.	Cotton, soybean, pulses, sorghum & pearl millet
4. Use of improved seed varieties	Resilience to moisture stress due to dry spell & drought, pest epidemic, infestation by wilt & soil borne pathogens	Higher yields than existing varieties, helps escape drought condition due to shorter durations, tolerance to moisture stress, resistance to pest & disease infestation fetches good price due to better consumer preference.	All crops
5. Seed treatment	Resilience to biotic stress	Protection from soil born pathogen and pests, enhances good root development.	All field crops
6. Integrated Nutrient Management	Resilience to abiotic stresses including soil salinity, nutrient deficiencies, susceptibility to pest & disease	Enhances crop health, higher yields, enhances quality of produce, resistance to biotic & abiotic stresses, enhances quality of produce, enhances consumer preference, helps to fetch better market price.	All crops
7. Integrated Pest Management	Resilience to pest & disease epidemic, environmental hazards	Protection from pest & disease attack, reduction in use of chemical pesticide, helps in production of residue free agriculture commodities, reduces environmental hazards, enhances quality of produce, enhances consumer preference in domestic and export market, helps to fetch better market price.	All crops

8. Furrow opening	Resilience to moisture stress,	Helps in conservation of moisture around root zone of crops during dry spell.	Cotton, soybean, pulses, sorghum & pearl millet
9. Foliar spray of 2% Urea at flowering and 2% DAP at boll development	resilience to poor nutrition & moisture stress		Cotton
10. Protective irrigation through farm pond	resilience to moisture stress during dry spell & drought condition	Overcomes moisture stress during critical stages, improves nutrient uptake, and enhances increase in yield.	All crops
11. Conservation tillage	Resilience to moisture stress, soil & nutrient loss	Enhances level of soil carbon, soil fertility & water holding capacity, better crop health and higher yields, enhances quality of produce, resistance to biotic & abiotic stresses, and enhances quality of produce.	All crops
12. Incorporation of biomass	Resilience to soil organic carbon (SOC) loss	Enhances level of soil carbon and soil fertility, Enhances water holding capacity of soil, leading to better crop health and higher yields, tolerance to moisture stresses.	All crops
13. Mulching	Resilience to moisture stress	Helps to overcome moisture stress, enhances development of microbes & earthworms around root zone, increases SOC level, enhances availability of nutrients to plants, better root development, protection from soil borne pathogens.	All crops

14. Cultivation of citrus crops on broad ridges	Resilience to poor soil drainage & soil borne diseases	Enhances proper microclimate around root zone, helps in retaining optimum soil moisture, avoids contact of water with stem collar, and prevents infection by phytophthora & other soil borne pathogens.	Mandarin orange, Sweet orange and Kagazi Lime
15. Canopy management in fruit crops	Resilience to stress management	Enhances fruit bearing capacity, enhances quality of fruits, and reduces cost of harvesting.	Citrus, Mango, Pomegranate & Guava

Key Guiding Principles:

The FFS would be organized with the following principles.

- A series of climate resilient practices as validated by NICRA in the state will be replicated in this project i.e. use of short duration varieties, use of BBF planting, Contour cultivation, maintenance of plant population, IPM & INM, Intercropping, protective irrigation, foliar spray of anti-transpirants, etc.
- The technologies to be demonstrated will be packaged by experts from SAU & KVK with involvement of project personnel, technical officers from Agriculture Department and ATMA. The achiever/ host farmers undertaking demonstration would be supported for critical inputs as prescribed by SAUs.
- VCRMC in consultation with farmer interest groups will prepare a list of progressive/ achiever farmers growing the major crops and who are willing to share the technologies used.
- VCRMC would select the farmers representing various sections of the farming community who need to be oriented in these practices and share the same with the cluster assistant. Thus crop wise selected group of farmers will be enrolled to FFS.
- Every village will have one FFS for each of the major crops
- The selected farm would be taken up for three years in succession for FFS
- Facilitation of the FFS would be done by the facilitator trained for the purpose.

- Overall technical backstopping of each FFS will be done by KVKs with the help of scientists & experts from KVK, SAU, and NRCs through regular visits at minimum 6 times during crop life/ season.
- To document the results obtained and yield achieved, harvesting of the crop on achiever farmers' field will be carried out in presence of Project staff, experts from KVK/ SAU.
- A field day will be organized at the time of harvesting to create more awareness about the climate resilient technologies among other farmers.

Table 9 Component Implementation Plan for Promotion of climate resilient farming systems through FFS

Activity	Who will do	How	Remark
Training of trainers/ facilitators	-RAMETI -SAU -KVK	Cluster assistants, selected Agriculture Supervisors, Agriculture Assistant, BTM will be trained for facilitation of FFS	
Planning phase	-SAU -KVK -ATMA -Cluster Assistant -Agriculture Assistant	VCRMC to recommend the list of Achiever Farmers, Cluster Assistant & Agriculture Assistant to finalize the list of farmers, plots and crops, KVK to finalize the package of practices	Inclusive criteria to be adhered to as far as possible
Demonstration phase	-KVK-Scientist -ATMA -Selected farmer -Cluster Assistant -Agriculture Assistant	Layout of plots, Farm operation and record keeping, field days for groups of farmers, discussion on records	KVK scientists to train and discuss the package of practices with other farmers
Harvest phase	-KVK -Selected farmer -Cluster Assistant -Agriculture Assistant	Recording of harvest, other parameters set out during the planning phase	Opinion survey of farmers
Follow up phase	-Cluster Assistant -Agriculture Assistant -Krushi Mitra -Selected farmer -M&E Agency -Communication specialist	The cluster level reports on post demonstration adoption, constraints and opportunities to be captured	PMU to document successful demo, lesson learnt and produce guidance note for scale up

A 2.2: Enhancing carbon sequestration - Greenhouse Gas Accounting for project:

The World Bank Environment Strategy (2012) adopted a corporate mandate to account for the greenhouse gas (GHG) emissions for investment lending. The quantification of GHG emissions is an important step in managing and ultimately reducing emissions, as it provides an understanding of the project's GHG mitigation potential. Further, Paris Agreement also mandates reporting of assumptions and methodological approaches including those for estimating and accounting for anthropogenic greenhouse gas emissions to achieve the goals of Article 2.

It is proposed to incorporate agriculture, water and nutrient management, agroforestry, etc., practices to build resilience in semi-arid agriculture while reducing the GHG emissions and enhancing carbon stocks.

The World Bank has adopted the Ex-Ante Carbon-balance Tool (EX-ACT), developed by FAO in 2010, to estimate the impact of agricultural investment lending on GHG emissions and carbon sequestration in the project area. EX-ACT is a land-based appraisal system that allows the assessment of a project's net carbon-balance, defined as the net balance of CO₂ equivalent GHG that are emitted or sequestered because of project implementation compared to a no project or without project scenario.

Figure.17 .EX-Ante Carbon Balance Tool (EX-ACT).

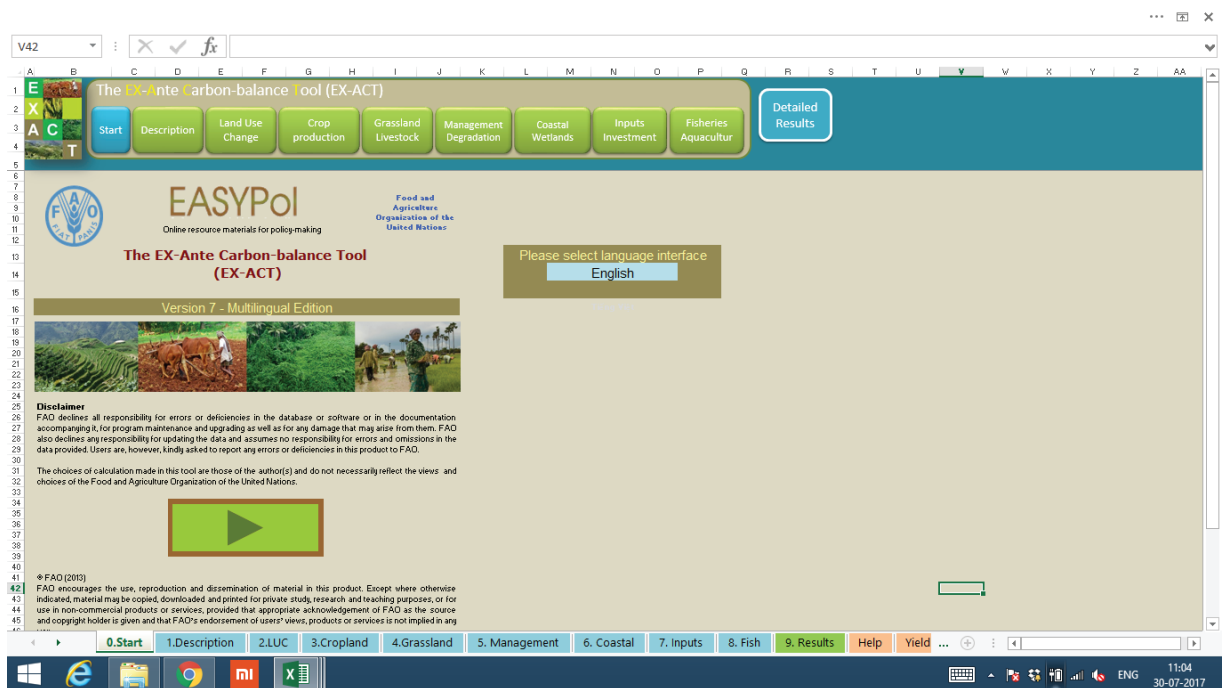


Figure 17 EX-Ante Carbon Balance Tool (EX-ACT)

Enhancing Carbon Sequestration through Plantation

Project area has huge non-arable land on the upper reaches of the mini-watersheds and the lands are moderately degraded. The degraded agricultural soils have lower soil organic carbon (SOC) stock than their capacity. Furthermore, depletion of the SOC pool also leads to degradation in soil quality and declining agronomic/biomass productivity. Therefore, conversion to restorative land uses (e.g., afforestation, improved pastures) and adoption of recommended management practices can enhance SOC and improve soil quality. These Carbon enhancement modules (CEM) and carbon enhancement

practices (CEP) help in sequestration of atmospheric carbon in the soil.

The project will make a conscious attempt to:

- identify the potential of non-arable land and possibility of bringing it to plantation
- identify and demonstrate a potential agroforestry model for creation of the Carbon sink that must be reflected in mini / micro watershed plans in terms of Carbon stocks
- reduce overall GHG emission or to create a sub-project by IPCC method, if feasible
- As an integral process of catchment treatment, tree plantation both on community land and individual land is planned. While the plantation in community land will be undertaken by VCRMC with 100 percent financial support by project as laid down in GoM guidelines for other schemes and the support is phased in 3 years.

Agroforestry: The project will aim to identify and demonstrate a potential agroforestry model for creation of the Carbon sink that must be reflected in mini / micro watershed plans in terms of Carbon stocks. Locally appropriate species of forest plants will be procured from government and approved private nurseries. The plantation in community land will be done through participatory approach to establish norms for grazing restriction or controlled grazing on treated areas, especially in areas under afforestation treatment and ban on tree felling. Plantation on peripheries of the farmlands will be promoted.

Horticulture plantation: As part of the Carbon sink creation, diversification will be promoted by the project-particularly the long rotation crops. This will be demonstrated in selected parcels. Drought/salinity tolerant planting materials of Mango, Citrus (Orange, Sweet Lime & Kagzi Lime), Guava, Custard Apple and Pomegranate shall be promoted in the project areas. Project will support the procurement of quality planting material from accredited horticulture nurseries.

Key guiding principles:

- Potential clusters for Mango, Citrus (Orange, Sweet Lime & Kagzi Lime), Guava, Custard Apple and Pomegranate will be identified by the department preferably in fallow land, with patches identified during micro planning and having reasonable water sources for perennial crops as well as market potential.

- Project will ensure adoption of the package of practices developed by the centres of excellence (Citrus and Mango) and SAU.
- MRSAC soil profiling data with soil health status data will be integrated to advise suitability of plantation crops and their nutrition management.

Table 10 Steps for SoC estimation

Step 1	Select a land-use category or project activity
Step 2	Define the project boundary and map the land-use category or project area
Step 3	Stratify the project area or land use category
Step 4	Select the plot method or agricultural farms
Step 5	Select Carbon pools and frequency of measurement
Step 6	Identify indicator parameters to be measured
Step 7	Select sampling method and sample size
Step 8	Prepare for fieldwork and data recording
Step 9	Decide on sampling designs
Step 10	Locate and lay sample plots
Step 11	Measure the indicator parameters in field and conduct laboratory analysis
Step 12	Analyse data and estimate C-Stock / CO ₂ emissions

Enhancement of soil organic carbon (SOC) will be achieved by adopting species recommended by ICAR and also as per the guidance provided in the World Bank Tool Kit for soil carbon enhancement.. Besides its value as a source of plant nutrients, organic matter has a favourable effect upon soil physical properties. The influence of organic matter (OM) on soil properties and consequently on plant growth is far greater even though the percentage of organic matter (OM) is less in the soil. Several activities under the project have been identified for enhancing the soil organic carbon.

Project activities enhancing carbon stock:

The potential synergy expected in the carbon enhancement modules (CEM) and Carbon Enhancement Potential (CEP) of different activities as applicable in this project has been given in the table 18 below.

In addition it is necessary that the project systematically tracks the carbon benefits accrued in this project. The baseline data shall be collected by the M&E agency. The steps for estimation of carbon stock have been given in Table 11.

Table 11 Carbon benefits envisaged in the POCRA project

Project components/Activities	Nature	Project components/Activities	Nature
Watershed development (A1)	CEM	Mulching (A2)	CEP
Soil water conservation (A2)	CEM	Reduced or zero tillage Contour bunding (A2)	CEP
Agro-forestry (A2)	CEM	Organic manure application; Green manure application (A2)	CEP
Efficient irrigation (A3)	CEM	Farm ponds Tank silt application (A3)	CEP
Cropping systems (A2)	CEM	Intercropping/multiple cropping (A2)	CEP
Fruit Orchards and Gardens (A2)	CEM	Cover cropping (A2)	CEP

Note: CEM (Carbon Enhancement Measures), CEP (Carbon Enhancement Potentials)

2.3 Improvement of Saline and Sodic soils:

This activity will involve improved agronomic practices, use of soil amendment, and protective irrigation with improved water use efficiency and subsurface drainage management through a farmer group demonstration approach. The activity will be taken up under the guidance of ICAR-Central Soil Salinity Research Institute (CSSRI), Karnal and in partnership with PDKV, Akola.

The other activities under this will be (a) to take up agronomic practices that include introduction of drought and saline resistant varieties and their management practices (b) farm ponds (c) installation of water pumps and sprinklers.

Guiding principles

- All villages affected by salinity in the project districts will be tackled under this component.
- Micro Plans of the cluster of villages will be prepared focusing on the salinity management issues and needs
- Management of saline and sodic soil in the project area will broadly follow ICAR-CSSRI recommendations.
- Farmers who are willing to adopt the improved technologies will be identified and their groups will be formed in each village by VCRMC
- Farm Field Schools as per the guiding principles described at A2.1 will be organized to demonstrate the improved agronomic practices and utility of soil amendments for salinity management & soil health improvement in addition to the proven technologies under NICRA.
- Integration of Farm ponds, water lifting devices and micro irrigation systems will be done to demonstrate impact of the technologies
- Subsurface drainage, dilution, gypsum application if required will be encouraged in the selected areas

A 2.4: Protected Cultivation

This sub-component intends to demonstrate high value crops under controlled environment. This includes support for poly houses and shade nets. The project will support one or two such demonstrations in a cluster. The key benefits of protected cultivation will be through better soil moisture management, higher yield and quality enhancement, lesser pest and disease incidents, and off season cultivation. This will be in conformity with many principles of precision farming recommended by ICAR.

Guiding principles:

- FFS approach described above shall be used to demonstrate the technology (poly houses, poly tunnels, shade-nets)
- Preference will be given to the clusters where there is a clear value chain linkage
- High value crops appropriate for the project area will be promoted.

- The project will promote climate controlled structures conforming to Bureau of Indian standards (BIS) (i) IS 14462: 1997 - Recommendations for layout, design and construction of greenhouse structures (ii) IS 14485: 1998 - Recommendations for heating, ventilating and cooling of greenhouse (iii) IS 15827: 2009 - Plastics films for greenhouses – specifications. The specifications are given in annexure-II

A2.5 Integrated farming system

Some of these options will be taken up as part of inclusive criteria in selected areas for the identified vulnerable households during the micro-planning process.

i. Promotion of small ruminants and backyard poultry

- Small ruminants like goat and sheep rearing will be promoted in the project area
- Back yard poultry will be promoted as an income generation activity for women
- Focus will be on landless, tribal and women beneficiaries

ii. Fishery

- Fishery activity can be taken up in community / village ponds or tanks in a given cluster
- The landless and women (who collectivise themselves as a common interest group) who depend on these water bodies would be given priority
- Short seasonal tanks with effective water spread area (25 % of the actual water spread area) can be identified in the clusters for fishery activities. The project will provide necessary input, knowledge and logistical support.

iii. Sericulture

- Sericulture is agro based business having potential for employment generation and rural development. Geography and weather of project area is suitable for sericulture.
- The project will promote sericulture among the marginal farmers group, individual farmers, SHGs, FIGs who are interested in sericulture. This will also help farmers to build alternate sustainable income source.

iv. Apiculture

- Beekeeping is very helpful for farmers practicing horticulture and floriculture. The project will help small and marginal farmers, SHGs, FIGs who are interested in beekeeping. This will also help farmers to build alternate sustainable income source and also create employment opportunities in project area.

COMPONENT A3

Promoting efficient and sustainable use of water for agriculture

4.3 COMPONENT A3: PROMOTING EFFICIENT AND SUSTAINABLE USE OF WATER FOR AGRICULTURE

4.3.1 Introduction

This component primarily deals with surface and groundwater management for improving water use efficiency. This component will help in undertaking crop-water budgeting and water security at the farm level which will be a key driver for climate resilience. This is one component which intends to create common assets that will have long term climate resilience for all in the project area. PoCRA will implement this in partnership with several partners agencies i.e. GSDA, IITs, SAUs and private sector. Details of subcomponent activities are outlined below:

This sub component will focus on the following:

- Watershed development
- Surface water management
- Groundwater management
- Soil moisture management
- Assessing the village / cluster water balance
- Protective irrigation
- Efficient water management practices

4.3.2 Situation Analysis

Some of the project districts viz., Akola, Aurangabad, Hingoli, Jalgaon, Latur, Osmanabad, Parbhani have relatively deeper groundwater levels (>10 m) and the mean groundwater level is below 15 m in these districts. However, in Akola, Jalgaon, and Latur, the coefficient of variation is relatively higher (>70%), which suggests that there is high spatial variability and there could be regions with both deeper as well as shallower groundwater levels in these districts with respect to the mean level and may present higher uncertainty in the spatial variability of groundwater levels. On the other hand, in Hingoli, Jalna, Wardha, and Washim the coefficient of variation is lower than 40% and hence it suggests that uncertainty in the spatial variability of groundwater level with respect to the district mean is relatively lower. In most of the PoCRA districts the mean groundwater levels are below 10 m indicating that the groundwater is relatively in good situation. A large fraction of the monitoring stations is dug wells, which also suggest

that the groundwater table is shallow (*Shekhar, 2017*)⁹. The report further suggests that it appears feasible to utilize the groundwater resources for development of key plans in PoCRA districts. The approach towards this would be to develop the groundwater resources in the rain-fed areas of the PoCRA districts for one supplementary irrigation combining with Kharif rainfall through state-of-art irrigation technologies, which will limit least use of groundwater resources. Since this additional development proposed would result in additional increase to the stage of groundwater development in the watersheds, the complementary approach that needs to be addressed would be to reduce the current irrigation drafts in these watersheds in higher intensive cultivated areas through improved irrigation methods, reduce use in non-Kharif seasons and alteration in cropping choices in such a manner that the stage of groundwater development is maintained overall in the watersheds at or around the current levels.

Purna basin covers 4.70 lakh ha. of saline land having shrink-swell black soils with low hydraulic conductivity. Poor quality of groundwater (saline) has resulted in low cropping intensity of 112% in this region. Several studies (Raja et.al.) have concluded that the river water is suitable for irrigation with moderate salinity and low sodicity. The dug well and bore well waters have high salinity in pre- and post-monsoon seasons but show perceptible variations with medium to high sodicity in pre-monsoon and low to medium sodicity in post-monsoon samples. These waters are unsuitable for irrigation and require management techniques such as artificial recharge and other soil-management measures.

Reducing existing yield gaps and increasing crop productivity in the semi-arid areas of Maharashtra requires first and foremost an increase in the supply of water for agriculture, especially during the period of soil moisture stress. To that effect, proposed activities (demonstrations, knowledge sharing and skills development, building farm/community assets) will: (i) help significantly scale up the adoption by small and marginal farmers of micro irrigation systems (specifically, drip and sprinkler irrigation systems) and associated water storage, delivery systems and drainage facilities; and (ii) improve water availability through a sustainable management of water resources at farm, community and mini watershed level. This sub component will also promote "protective irrigation" and support efforts to monitor the quality of the water available for agriculture.

⁹ Hydrology & Hydrogeology of the PoCRA districts and Summary of Observations. Prof Sekhar Muddu. IISc Bengaluru
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Key issues/challenges:

Maharashtra is an agriculturally advanced state and contributes significantly to the agriculture growth of the nation. The key challenges faced by farmers include the following:

- High variability of monsoon has caused significant disruption to agricultural growth resulting in low productivity and indebtedness.
- Even in assured rainfall zone, there has been sub-optimal rainwater management
- As per the economic survey of Maharashtra (2013-14), despite substantial investments made in irrigation sector over the last six decades since independence, approximately 80% of the agricultural land in Maharashtra remains outside formal irrigation systems provided by the State. Even though recently state has made large scale investment in water harvesting structures, the area under irrigation remains very low.
- Large scale private investment in bore wells has only resulted into over-exploitation of groundwater.

4.3.3 Objective

The key objective of this component is to support activities aimed at achieving on-farm water security by maximizing the use of surface water for agriculture, managing groundwater resources in a sustainable manner, retaining and enhancing soil moisture, and enhancing water-use efficiency and water productivity ("more crop per drop").

4.3.4 Activities

To achieve above objectives, following activities and sub-activities shall be carried out.

Activity	Sub Activity	Who will do	Output	Indicator
In-situ Soil conservation	Before rain, land configuration like compartment bunding, across/ contour trenches are constructed	<ul style="list-style-type: none">• KVK• SAUs• Project staff• Other line	Configured land	Area promoted with in-situ soil conservation measures before rain

	After rain – sowing across/contour, opening of furrows and use of BBF are taken up	department staff • VCRMC • Farmers / groups	Improved cultivation practices	Area cultivated with in-situ soil conservation measures
Catchment area treatment	CCT, Deep CCT,		Water recharge Soil conservation	Area treated
Drainage line treatment	Gully plug Loose boulder structures Earthen nala bund Cement nala bund		Soil conservation Water conservation Water storage	No. of bunds constructed Cum water stored
Construction of new water harvesting structure	Community farm ponds Individual farm ponds (with or without lining) Open dug well		Increased water storage	No. of water harvesting structures (category wise)
Rejuvenation of existing water harvesting structures	Repair of existing water harvesting structure Desilting of such structures		Increased water storage capacity	No. of structures rejuvenated

Recharging groundwater	Artificial recharge of open Well and bore well,		Increased discharge	No of well and bore well recharge structures constructed
Micro irrigation systems	Drip irrigation systems		Increased water use efficiency	Area covered
	Sprinklers			
Protective irrigation	Water pumps and pipes			Number of units

4.3.5 Approach

Based on the situation analysis above, this component will address a range of water management and soil conservation issues, with particular focus on improving water use efficiency for enhancing resilience of agriculture. Core activities related to water conservation include scaling up drip irrigation, establishing farm ponds and restoring/ recharging groundwater and opening of furrows will be in conformity with guideline suggested by SAUs and department. Each mini-watershed plan will identify investments based on the finding of map provided by GSDA with 1: 50000 scale. The project will devise user friendly tool developed by implementing partners (IIT and GSDA) to prepare water budget and village water security plan. Data from AWS and advisory outlined in section* will be used for the planning and customisation of interventions. The watershed approach as specified in the common guidelines given in the Annexure -III

A3.1 Catchment treatment

Based on the contour survey and the site conditions, continuous contour trenches (CCT) & deep CCT will be constructed. The seeds or seedlings of trees of suitable local varieties will be planted on the downward slope side. The technical design / details of these measures and method of survey are given in Annexure-IV The catchment treatment works will be done by VCRMC.

A3.2 Drainage line treatment

Drainage line treatment includes both vegetative and structural measures such as gully plugging, brush wood check dam, loose boulder check dam, dug out ponds and gabion structures.

Loose Boulder Structures are part of upper nala treatment with objectives to reduce the water flow rate, reduce soil erosion, and trap silt for slowing down the rate of siltation in water bodies in the lower reaches of the watershed. It enhances conversion of waste land into cultivable land. LBS induce water recharge. Plantation around the LBS helps in increasing vegetative cover.

Earthen Check Dams or popularly known as **Earthen Nala Bunds (ENB)** have proved to be most effective soil and water conservation structures as well as drought mitigation measures in all watersheds in Maharashtra. ENB is suitable for both flood control as well as gully control. Velocity of runoff is greater in nala or gully due to heavy rainfall which erodes shores and increases adjacent pan of nala. Earthen nala bunds are placed in gully or nala to restrict its widening. Water stored in ENBs percolates to wells and tube wells located in the lower part of the catchment. Also it helps the Kharif crop to overcome moisture stress due to dry spell through 'protective' irrigation. To some extent ENBs act as drinking water source for cattle.

Cement Check Dam popularly known as Cement Nala Bunds (CNB) have proven to be low cost water storage structures during various water conservation programmes implemented by central & state governments. With the major objectives to harvest surface runoff, recharging of groundwater, retain water carrying capacity of stream, the construction of CNBs is done in the lower part of the watersheds. The details of these structures have been given in Annexure VII.

A3.3 Construction of water harvesting structures

Farm ponds for protective irrigation

Construction of farm pond is a flagship scheme of Government of Maharashtra. It is seen that substantial runoff is available in cotton growing area in the season to construct one farm pond of 1 to 2 TCM capacity for every 2 to 4 ha of cultivable area. Farm ponds help to provide protective irrigation. The project is proposing construction of more than 50,000 farm ponds where natural depression exists or near a water source both in drought prone and saline tracts. The impact of farm ponds has been given in the figure below, reflecting its benefits:

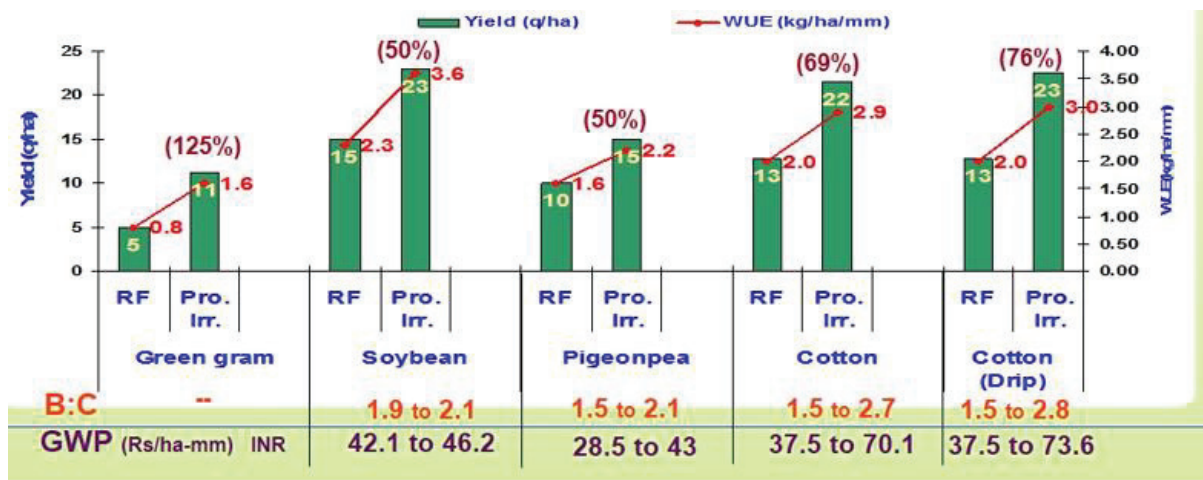


Figure 18 Water use efficiency through farm ponds for selected crops (PDKV)

Most of the farm ponds also recharge groundwater as water percolates down in unlined ponds and help in raising water tables in nearby wells. Many farmers have laid polythene cover for the stored water in the ponds to help conserve water for irrigation during Rabi season / summer periods. This is more evident in loose soil areas where water percolation is very fast and hence the storage gets depleted soon. The project will promote both the models but the farmers will be required to adhere to crop-water budget.

In saline tract of Purna river basin, adoption of Brushwood Spillway has been recommended that reduces the silt deposit by 48% and enhances life span of the farm pond by 90%.

Guiding principles for the farm ponds

- GSDA will guide PoCRA on net-withdrawal capacity in cluster based on which the number of farm ponds can be given technical sanction.
- The net-withdrawal capacity will depend on available run-off which will be estimated for each cluster
- Project will encourage Community farm ponds

The most common farm pond size is 30 meter X 30 meter X 3 meter. The technical specifications and designs including options of farm ponds (including community farm ponds) is given in Annexure -V

A3.4. Rejuvenation of water harvesting structures

Situation analysis shows that rehabilitation structures (earthen and cement nala bunds) are becoming deficient over the years of operation. These structures will be revived to its original potential through active community participation (i.e., reducing silt load). The protocol for rejuvenation will be based on the existing policy of GoM. The details of this policy are given in Annexure -VI

Nala Bunds and Earthen Check Dams are very important structures in the watershed based approach. Proper maintenance of these structures is of paramount importance. As part of the comprehensive watershed treatment all drains, gully plugs, check dams and retention walls, etc. will be treated using the structures and specifications (in Annexure -VII

A3.5 Construction of ground water recharge structures

Attempts will be made to identify available natural depressions in the project cluster to convert them into recharge structures. Rejuvenation structure will be created around existing bore wells and open dug-wells to maximize the conservation of runoff water. All tanks, ponds and water harvesting structures will be modernised to improve their storage capacity. However, the net-withdrawal potential (as determined by GSDA) of the area has to be estimated and that should be the main driver for recommending investment in these structures in a cluster.

Assessment of Water Balance in mini-watershed

One of the important aspects of ensuring resilience is to assure availability of soil moisture at the critical stages of the crops. Since most of the project clusters are in rain-fed areas, management of rainwater becomes critical. Host of factors like rainfall pattern, total rainfall, geomorphology of the watersheds, groundwater recharge potential, surface water & soil moisture management and cropping pattern have impact on the resilience. The long term climate change projections indicate increased moisture stress on agriculture sector. Therefore a scientific planning of this critical resource with stakeholder participation engagement is the key to ensuring enhanced water and crop productivity.

The project aims to build a framework, i.e., a series of tools and analyses designed to help water availability assessment and water budget using both supply side analysis of surface and groundwater resources and demand side analysis of current water use.

The developed framework will be used to enable hydrological analysis for 790 mini watersheds in the project. The water balance computation for the salinity affected areas will also be reviewed.

Water Budgeting exercise at micro watershed level will include the hydrological analysis and crop evapo-transpiration of prevailing village cropping pattern in addition to other sector water needs. The water balance will address spatial and seasonal aspects of water availability (surface water and groundwater) at village level based on current water use.

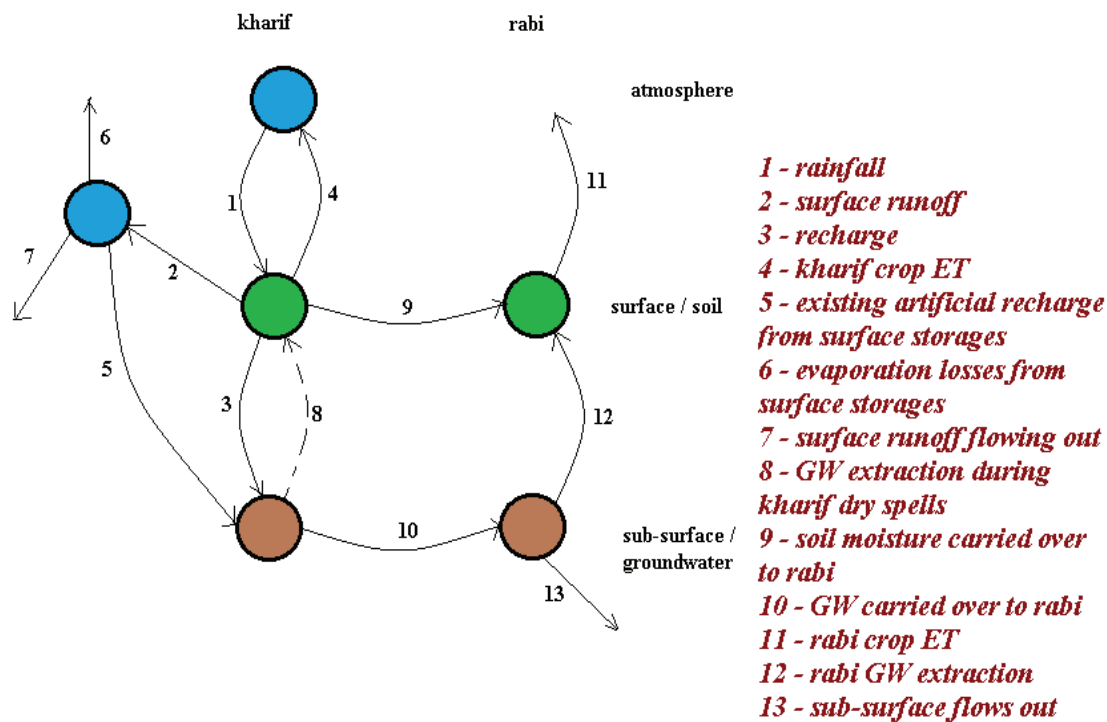


Figure 19 Water budgeting

Methodology for Water balance assessment

The project will consciously promote water balance assessment and develop social norms during the micro-watershed planning process for incentivising and dis-incentivising specific crops and agronomic practices to achieve the goal of water use efficiency. The methodology for village level water budgeting will be developed based on protocols prepared in the past and ongoing research. It will take into account seasonal water availability (supply) and extraction (demand).

The components of the water budget are as follows:

- Surface runoff
- Groundwater recharge
- Recharge from other structures
- Crop Evapotranspiration
- Groundwater extraction
- Sub-surface flows in and out

A3.7 Micro-irrigation systems (MIS)

It has been recognized that use of modern irrigation methods like drip and sprinkler irrigation is very effective for efficient use of surface as well as ground water resources. The table below shows the comparative efficiency.

Table 12 *Comparative Irrigation Efficiency*

Irrigation Efficiencies	Method of Irrigation		
	Surface	Sprinkler	Drip
Conveyance Efficiency	(Canal) 40-50 (Well) 60-70	100	100
Application Efficiency	60-70	70-80	90
Surface water moisture evaporation	30-40	30-40	20-25
Overall efficiency	30-35	50-60	80-90

Source: Sivanappan (1997)

Guiding principles for micro irrigation

- Micro-irrigation systems with requisite BIS standards would be eligible for project support.
- Krushi Mitras will guide the farmers to make online application through the website of the department.
- Assistance for installation of drip and sprinkler irrigation system shall be limited to 2 ha. per beneficiary
- The subsidy is to be calculated as per the unit cost for different spacing given under the scheme guidelines issued by GOI.
- Based on the suitability, the prioritization of beneficiaries will be done by VCRMC.
- The vendors shall train the eligible farmers on the proper use and maintenance of the system.

Judicious use of water for agriculture crops is possible with irrigation at proper stage of crops and in proper quantity. When the availability of water goes below the requirement, farmer has to take a conscious decision for water use at the critical growth stage of the crops. The project is making effort to make rain-fed farming more economical by creating awareness and also supporting the practice of protective irrigation. The project may use the harvested rainwater to be used effectively using the water lifting devices for Kharif crops that regularly face such stress i.e. cotton, soybean, pulses and cereals.

COMPONENT B

Climate Smart Post Harvest Management and Value Chain Promotion

4.4 COMPONENT B: CLIMATE SMART POST HARVEST MANAGEMENT AND VALUE CHAIN PROMOTION

This component will build on existing Farmer Producer Companies (FPCs) as a major driver of change in the selected value chains. Successful implementation of the activities in this component will help achieve the PDO by: (i) contributing to an increase in farmers' participation in selected value chains through the support to FPCs/FIGs and the strengthening of FPC linkages with other actors in the value chains and (ii) promoting practices and technologies in post-harvest management and value-addition that support climate adaptation and/or mitigation.



4.4.1 Introduction

As part of the value chain development the interventions under this component

Figure 20 Key sub-components under Component B

will extend beyond a production cluster. Therefore creating value chains around select crops is an important element of this project. The climate change impact and resilience are also intertwined elements in this value chain.

A value chain promotion intervention can range from improving business operations at production, processing, storage level or the relationship between different actors or the access to knowledge, information and innovation. Successful value chain interventions that achieve poverty reduction goals can be beneficial to climate change adaption, as they build farmers' assets and institutional linkages.

The sustainability of the food value chain revolves around three dimensions.

1. *Economic dimension*, which focuses on activities that each actor or service provider provides that is Commercially feasible (profitable) or services that are financially viable.
2. *Social dimension*, which refers to social and cultural aspects regarding societal acceptance of the distribution of benefits and costs associated with the increased value that has been created.

3. *Environmental dimension*, which refers to the sustainable use of inputs and resources throughout the chain as well as any impact on biodiversity, the amounts of greenhouse gas (GHG) emissions released, and the carbon sequestration and reduction potential of GHGs in the process of value creation.

Effective climate interventions in value chain promotion shall include the following three elements:

- a) *Climate-proofing*: Specific interventions to make key stages of the value chain more climate resilient in ways that is beneficial to farmers e.g. watershed investments that can address longer term risks, crop diversification etc.
- b) *Supply chain efficiencies*: Measures such as waste reduction or inventory management that increase efficiency, deliver higher profitability (and hence higher adaptive capacity in a general sense) to farmers and small business in the value chain, and generate mitigation co-benefits.
- c) *Knowledge management*: Timely access to information relating to weather forecast, agro-advisories, market trends, post-harvest services and their providers, and, sharing of best practices is the key to developing a resilient value chain.

The overall framework has been given in the table below although project will work with existing FPOs to strengthen their link to the value chain:

Table 13 Framework for developing a climate resilient value chain integration

Phase	Key activities	Process
Inception	During micro-planning create awareness about the project and also what is a value chain	Participatory Planning exercises
Phase I (3-4 months after the project commencement and after the baseline study is completed)	Mapping process, functions, actors, geography, resources, governance structure and vulnerability to climate risks	Key experts meetings
Phase I: (6-8 months) Climate risk analysis I (horizontal integration)	Understanding climate impact and responses within each segment of the value chain (focus on key actors' perceptions and narratives)	Dialogue theatres at the production, transformation and marketing levels (new product and new market) using a SWOT framework
Phase II (12 month-24 months) Climate risk analysis I (horizontal integration) when some of the project interventions grounded	Understanding climate impact and response chains across the different segments of the value chain (focus on risk transmission/distribution as perceived by key actors)	Multi-stakeholder dialogue (possibly national and regional scale)
PROJECT WILL INTERVENE in the existing FIG/FPOs/FPCS in the clusters who are at least 2-3 years in operation		

Phase III (24-36) Scale development (aggregation along the value chain)	Creation of Aggregation Centre, Storage, Logistics Hub, Platforms, Networks of related enterprises	Incubation, Core investment, PPP/PPCP models. Existing FPCs promoted under different schemes can be linked to the project after their fresh assessment
Phase IV Development of Platform (spread from Phase I from 6-48 months)	Creation of Farmer Producer Companies along the value chain and provide linkage	Linkages with commodity chain, industry associations
Phase V (spread over from phase II 12 months-60 months)	Grading, Quality Control, Branding (GI, Organic, Carbon Neutral)	Marketing and Advertising and Buyer Seller platforms on a global scale

This component will develop a set of comprehensive climate-sensitive interventions and investments to promote value addition to a select number of commodity chains. It will provide end-to-end solutions for adopting climate-smart agricultural technologies for improving and sustaining crop productivity. This component will also promote market access and support increased participation of organized small and marginal farmers in existing and emerging value chains.

4.4.2 Situation analysis

Department of Agriculture has been bringing the farmers together in the form of Farmer's Interest Group (FIG), Farmer's Activity Group (FAG), Commodity Interest Group (CIG) or a simple Farmers SHG. These groups are federated either into a cooperative or a Farmers Producer Company to give desired scale either for input buying or output marketing. There have also been attempts to have tie ups with processing industries to whom raw material can be catered. Chapter XI A of the companies Act 2002 enables registration of producers companies. There are several agencies promoting FPOs in the state. The activity has been spearheaded under World Bank assisted MACP project, small farmer agri-business consortium (SFAC) and NABARD. As on 30 June 2017, 1211 FPCs are registered in the state out of which 581 are in project districts. The details are given in the table below:

Table 14 Farmer Producer Companies in Project districts as on 30th June 2017

SI No.	District	No. of FPC
1	Akola	25
2	Amaravati	54
3	Aurangabad	61
4	Beed	46
5	Buldhana	42
6	Hingoli	19
7	Jalgaon	33
8	Jalna	34
9	Latur	57
10	Nanded	27
11	Osmanabad	60
12	Parbhani	20
13	Wardha	39
14	Washim	22
15	Yavatmal	42
	Total	581

A quick survey of 148 FPOs in the project district gives the following picture:

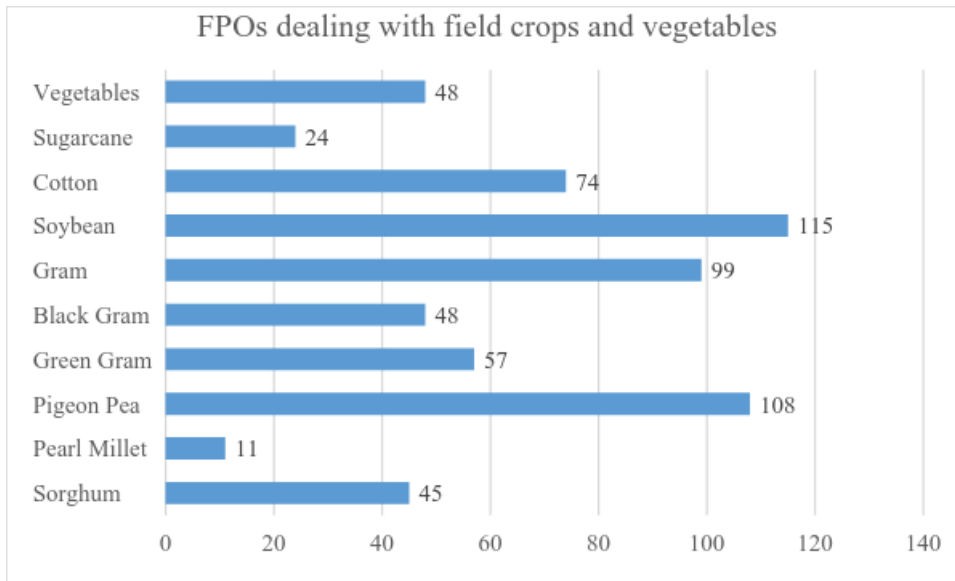


Figure 21 *FPOs dealing with field crops and vegetables*

Soybean, pigeon pea, gram, and cotton are the major field crops where FPOs are active.

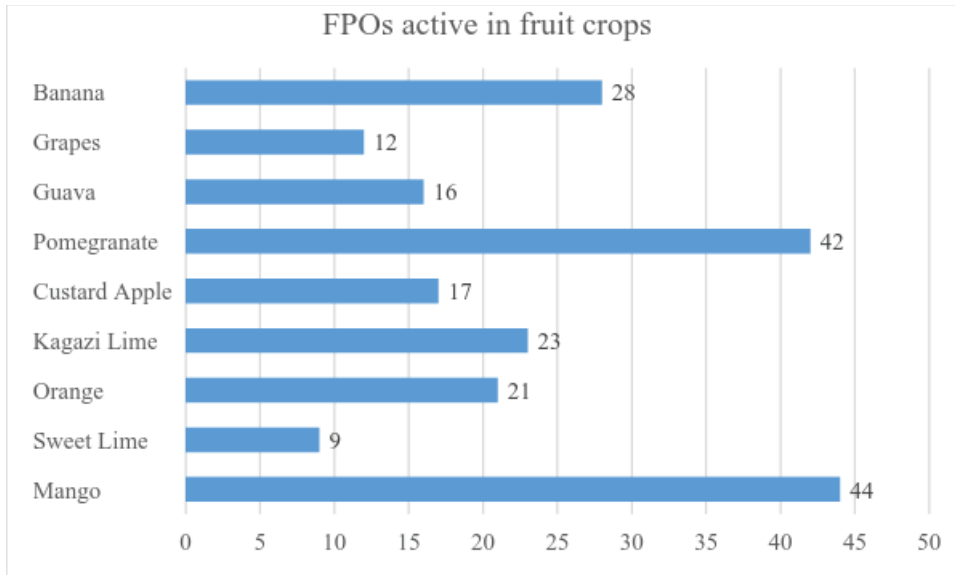


Figure 22 *FPOs dealing with major fruit crops*

Types of businesses the FPOs are involved in have been detailed out below:

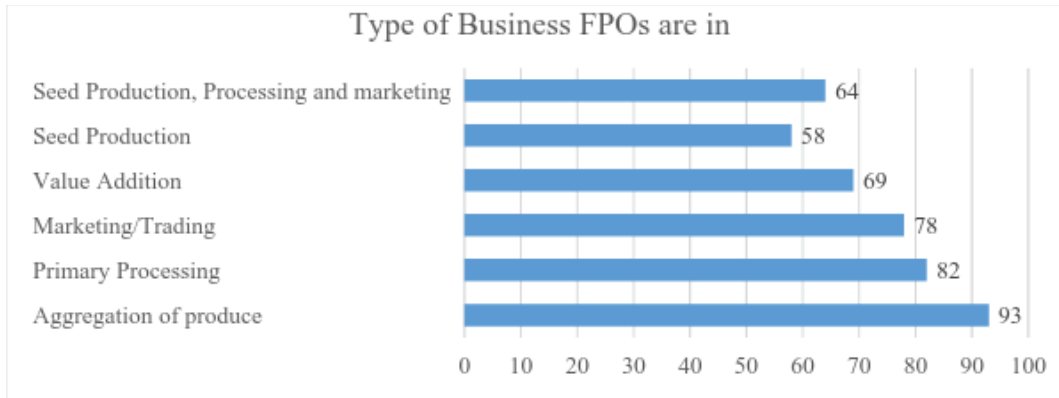


Figure 23 *Agribusiness categories in which FPOs are active*

FPOs are predominantly active in aggregation of produce, their primary processing and trading. 58 FPOs are also involved in seed production.

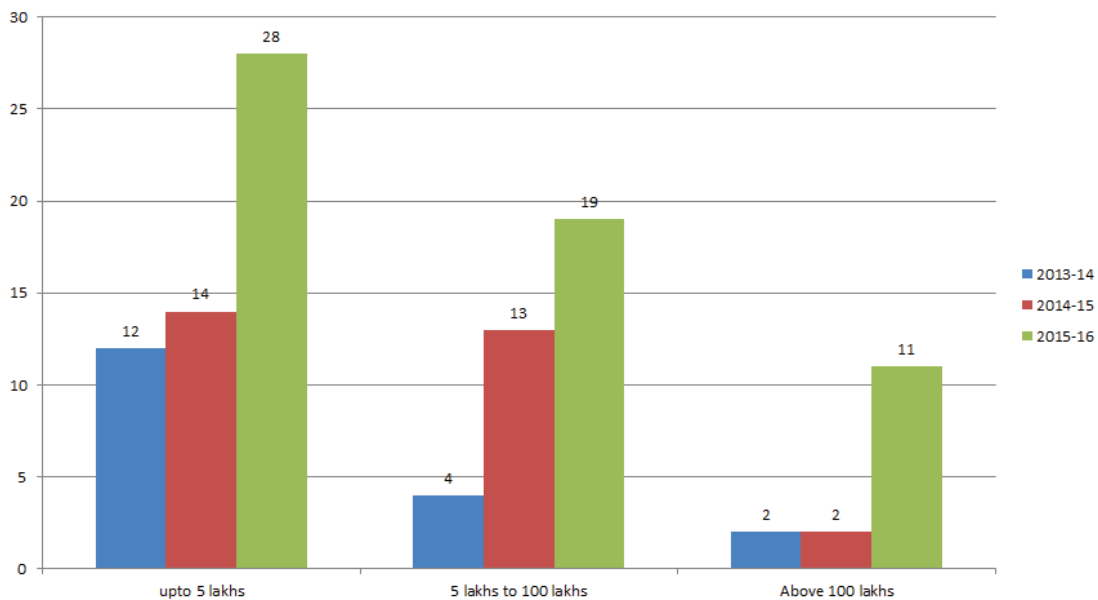


Figure 24 *Turnover of FPCs during last 3 years (2013-14, 2014-15 & 2015-16)*

Maharashtra is the highest producer of coarse cereals and cotton and ranks second in sugarcane production in the country. The state has unique strength in production of grapes, mangoes, banana, pomegranate, oranges, tomato, and onion. Though the production of these fruits and vegetables has increased many folds, lack of adequate post-harvest practices results in substantial loss in value of these commodities. Maharashtra is also a major cereals and pulses producer. Inadequate availability of post-harvest facilities at the village level leads to loss to cereals and pulses producers.

The state has 306 main markets and 612 sub-markets of APMCs. In the state, 264 main markets and 54 sub-markets have been computerized and connected through internet to MSAMB. Major commodities traded through APMCs comprise rice, pigeon pea, green gram, black gram, chickpea, soybean, cotton, onion, potato, vegetables and fruits. Marketing channels of horticultural crops are different and may vary, mostly including pre-harvest contractors; the routing may involve farmer cooperative societies, APMC market- to varying degrees and direct deals with traders/commission agents of distant markets, by some farmers.

The seed industry in Maharashtra is fairly segmented, with the main focus of private seed companies being on the high value - low volume seeds (e.g. GM and hybrid varieties of cotton, vegetables, maize etc.), while the market for low value - high volume seeds (e.g. cereals, pulses and oilseeds) is dominated by public sector seed corporations. It is estimated that the direct contribution of quality seed alone to total agricultural production is about 15–20% depending upon the crop and it can be further raised up to 45% with efficient management of other inputs. Seeds contribute about 8-12% of the cost of production. Adequate and timely supply of seeds of short duration varieties and having features of drought and salinity tolerance, is an essential strategy of this component. Production cycle of breeder seeds (by SAUs) to the commercialization of certified seed is a multi-year cycle (3-4 years), resulting in shortage of getting a relevant climate resilient seed especially for the field crops on time. The other problem is associated with the poor preparedness of the farmers to respond to bumper harvest as no transit storage or clearing market exists to get remunerative price. There are also gaps in post-harvest management of produces especially in the horticultural scopes.

The situation analysis also shows that considerable untapped potential exists in the sector. If the institutions like FPOs are strengthened to establish and showcase a few value chains of select commodities through aggregation and market access, it is possible to improve the farm income.

4.4.3 Objective

The objective of this component is to build climate resilience beyond farm gate and provide end-to-end solutions focusing on selected agricultural value chains that are key to the farmers' livelihood (food security), have clear market opportunities (income security), and have the potential to create jobs in rural areas.

This component aims at achieving the following objectives through;

- i. Developing a set of comprehensive climate-sensitive interventions and investments to promote value addition and prevent losses in a select number of commodity chains using existing farmer producer organisations.
- ii. By providing end-to-end solutions for adopting climate-smart agricultural technologies and processes to strengthen the emerging value chains of field crops and horticultural crops
- iii. By improving the seed supply chain

4.4.4 Activities

To achieve the objectives of the component, following activities and sub-activities shall be carried out with specific output and indicators.

Activity	Sub-Activity	Who will do	Output	Indicator
Promotion and strengthening of existing Farmer Producer Companies	Develop business plan and build capacities around select value chains	-Project staff -Line departments -Specialized resource agency -SFAC -NABARD -MSAMB	Support to existing FPCs	Number of business plans around select value chain
Strengthening of farmer Consumer market Linkage	Buyer-Seller Meet as part of the professionalizing of FPOs Initiatives for direct marketing	-Project staff -Line departments -Specialized resource agency -private sector	Buyer-Seller meets organised in every district	Number of Buyer-Seller Meets organised

Promotion of Farm Mechanization and custom hiring centres	Establishment of Custom Hiring Centre for farm machineries	-Project staff -Krushi Mitra -Lead Farmer / Farmer Groups / FPCs	Establishment of Custom Hiring Centres	Number of Custom Hiring Centres established Area serviced through CHC
Support to FPCs for product aggregation, handling, transformation & marketing	Construction / procurement of Godown/ small warehouse Ripening chamber Primary processing units Vegetable/ fruits carrier/ ve Market outlet (Environment controlled) Vending cart Refer van Precooling chamber Cold storage	-Project staff -Line departments -Specialized resource agency -Private sector -Warehousing corporation -NABARD -SFAC -Private sector		Number of units
Improving the performance of seed supply chain	Production of foundation and certified seed of drought/salinity tolerant crop varieties of Soybean, Pigeon pea, Chick pea & Sorghum	SAU Mahabeej Project staff	seed production in 55000 hectares area	% of certified seeds produced against target & distributed
	Seed processing equipment Training Strengthening Seed Testing infrastructure	SAU Mahabeej Project staff	Establishment of seed processing infrastructure	% of achievement of against target

4.4.5 Approach

The following approaches have been envisaged for this component:

- i. **Promotion of farmer producer companies and linking with the value chain:** A comprehensive database of all existing FPOs /FPCs and their activities will be compiled and their assessment would be carried out to get an understanding of the level of their current operations.
- ii. For climate smart post-harvest management, emphasis shall be given for establishment of aggregation centres with Grading and Packaging facility in the project area. The aggregation centres shall provide facilities to the farmers for sorting, grading, weighing and proper packaging of their farm produce. Farmer Producer Companies and interested FPC/FIG/SHGs shall be encouraged for establishment of aggregation centres with sorting, grading, weighing and packaging facility.
- iii. Primary processing units like Mini Dal Mill/ Oil expellers/ vegetable and fruit based primary processing units/ Cotton bale making units shall be established in the project area for value addition of the farm produce which shall help farmers for fetching better price, long shelf life and better marketability of their farm output. Farmer Producer Companies and interested FPC/FIG/SHGs shall be encouraged for establishment of primary processing units.
- iv. The project will support existing Godowns/warehouses for transit storage and will also support constructions in the project area where such structures are not available for storage of agri produce with appropriate treatment. FPC/FIG/SHGs shall be encouraged for establishment of Godowns / Warehouses.
- v. Existing FPOs shall be strengthened and encouraged to actively participate in value chain development of selected crops like Cotton, Chick Pea, Pigeon Pea, Soya bean, Rabi Sorghum, Capsicum, Mango, Guava, Custard apple and Citrus.
- vi. For strengthening farmer Consumer market linkage, effective buyer-seller meets shall be organised in the project area. For obtaining best result from buyer-seller meet, following steps to be followed;
 - Assessing the volume and type of agri-commodities to be available for sale in different months in the production clusters of the project district

- Identifying potential buyers. The potential buyer may be wholesaler / processor / consumers/ industrial buyer / corporate buyer / institutional buyer / hostels / hotels, etc.
 - Appraising the potential buyers on the availability status of agri commodities in the project area and also assessing their requirements regarding the type and volume of agri commodities
 - Facilitating inspection of material and facilities for satisfaction of the potential buyers if required
 - Facilitating negotiation of both the parties
 - Completing the contract/agreement process
 - Farmer Producer Companies shall be encouraged to participate in marketing and sale of agri commodities of their member farmers and other farmers under the project.
- vii. The project will **promote custom hiring centres**, so that small and marginal farmers are able to access the costly machines on rent to achieve desired farm productivity without compromising soil health and water use efficiency.
- viii. One of the critical elements of this project is to make available climate resilient quality seeds to the farmers on time. Without improving the **seed supply chain**, the adaptation to climate variability and drought will be challenging. The project will support creation of seed hubs linking FPOs, Universities and also other public sector players like Mahabeej and private sector. The project will also make an attempt to leverage on the support available for breeder seed production through national programmes, and would support new varieties recommended under these programmes.

COMPONENT B1

Strengthening Farmer Producer Companies

4.5 COMPONENT B1: STRENGTHENING FARMER PRODUCER COMPANIES

This component will build on the outcomes of other GoM programs and projects that have focused on FPCs as agent of change (e.g. MACP). Project will intervene with existing FIG/FPO/FPCs in the project clusters who have been in existence at least for about 18-24 months. A rapid appraisal exercise, with mapping, profiling and capacity needs assessment of the 581 FPCs in the project area (most of them in early development stage), will provide the basis for a series of activities tailored to the growth potential of existing FPCs.

B1.1 Strengthening of Farmer Producer Companies:

There are several initiatives under which the farmer producer organisations have been promoted and set up. The component will also support the development of farmer-group based organizations into entrepreneurial, market-oriented, financially sustainable companies with the capacity to perform selected value-adding activities and deliver a range of services. The component will support viable mechanisms to further consolidate and set up new business linkages for FPCs with private sector (e.g. exporters, seed companies, farm machinery, agro-input suppliers, and financial institutions).

Farmer Producer Organizations have a vital role to play in the transfer of knowledge, quality production, input supply, marketing and promoting value added products, organizing growers for these purposes. Project will attempt to strengthen the Commodity specific Farmer Groups and Farmer Producer Organizations in the project area. FPOs shall be encouraged to actively participate in value chain development of selected crops like Cotton, Chick Pea, Pigeon Pea, Soya bean, Rabi Sorghum, Capsicum, Mango, Guava, Custard apple and Citrus.

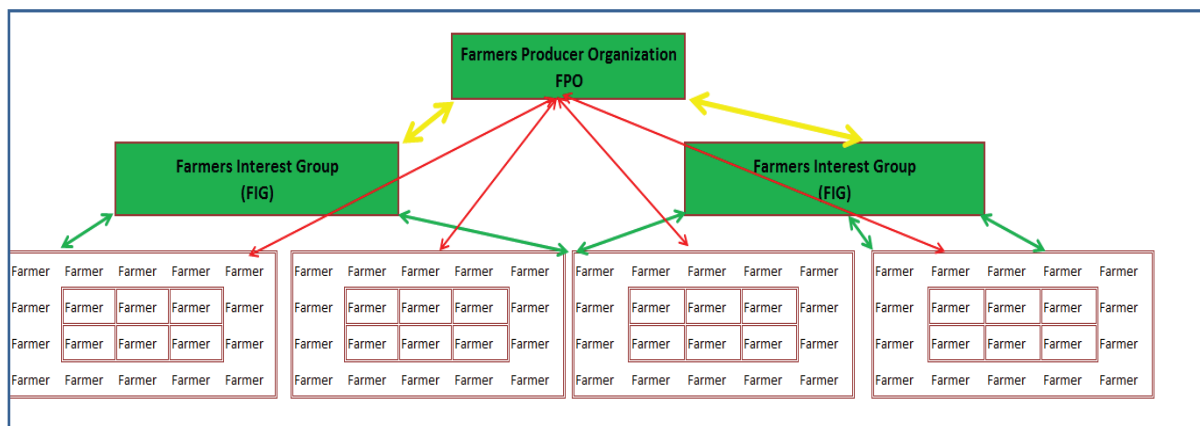


Figure 25 Building blocks for FPO/FPC

Areas of assessment while choosing FPOs for strengthening:

Following steps to be followed for assessing a Farmer producer Organization in the project area;

Farmer Sensitisation: It is important to find out whether the farmer members are properly sensitised at the village level and this process involves all categories of farmers (especially to check whether the voices of small and marginal farmers and their issues have been considered) at the village level.

Selection of Farmers/FIGs: Whether the small and marginal farmers have been prioritised for interventions and support based on their interest to get associated in the process into FIG. The project will provide a perfect platform to enhance their value share and natural progress to form a FPO/FPC. It will also support the FIG or a group of FIGs to be commercially sustainable and profitable.

Share Capital: FPOs would be encouraged to generate share capital from the farmers for financial operation. Supporting them for maintaining proper books of accounts, estimating break even volume, cash flow issues will be a first step towards mentoring them as part of the strengthening process,

FPO Governance : The governance process of FPOs would be carefully looked into to assess its representational character. Typically, selection/election of FIG leaders (President/Secretary) by FIG members is required who become the executive members of the proposed FPO. The executive members shall choose Board of Directors of the proposed FPO by selection/election in the democratic process. If this is missing and it is just a family member grouping or groupings of very large and influential farmers, project would assign such FPOs a low priority as compared to the ones who have higher representation of small and marginal farmers as described in the overarching beneficiary selection criteria.

Key guiding principles:

- Any pre-existing FPO/FPC/FIGs in project cluster to be tapped first.
- In the absence of any such FPO in a cluster, linkage will be established with neighbouring cluster which has an FPO.
- The focus would be to promote FPOs having a strong linkage with any commodity value chain
- A proper assessment of FPOs will be conducted and also where FIGs are available they will be strengthened based on the assessment of gaps.
- Project will give priority assistance to FPO/FPCs who have built with base of farmer interest groups as per the GoI/SFAC guideline for FPO formation and have representation of small and marginal farmers in their board.
- The FPOs will be assisted by the project in the preparation of a comprehensive business plan. This may include aggregation centre, primary/secondary processing, primary storage, sale centres, etc. that is aimed at cost reduction and value enhancement.
- The plan will focus on various aspects of aggregation, market linkage, value addition, etc. the key objective of the plan shall be ensuring higher profit through value addition and reduction of cost of production
- Synergy with project activities will be built in the following areas i.e. seed production, nursery raising, input buying and selling, etc.
- The project will also help the FPOs to access, debt, equity contribution and matching grant in helping them building a good governance practice for which it would provide a coaching support.
- Suitable service providers who have experience in the FPO promotion, business planning, and value chain development shall be mobilized to coach the FPOs as part of this strengthening exercise.

B1.2 Establishment of Custom Hiring Centres (CHC)

CHCs shall be established at cluster level to promote appropriate farm mechanization for coping up with climate variability in the project area. Farmer producer Companies along with FIGs and SHGs shall be encouraged to establish such Custom Hiring Centres for the benefit of the farmers in the project area. Custom Hiring Centres shall be responsible for promoting Mechanized farming in the sector.

CHCs help in inter-culture, harvest and post-harvest operations. It is emerging as a major community based institution to employ unemployed youth in agriculture and allied sectors. The use of farm machinery helps in in-situ moisture conservation, soil health enhancement, and efficient application of nutrients as well as productivity enhancement and cost reduction. Typical custom-hiring centre will have the illustrative economics as shown in Table-24 below, however a detailed feasibility based on the demand has to be done at cluster level consulting the farmer groups.

Table 15 *Economics of a model custom hiring centre*

S N	Implement	Initial Cost, Rs.	Annual Use, h	Operating Cost, Rs/h	EFC, ha/h	Operat ing Cost, Rs/ha	Proposed Hiring Charges, Rs/ha	Area Covered per day, ha	Profit per day, (8-hrs), Rs/day	BEP (Days)
1.	Rotavator	72,347	240	586.74	0.3	1956	2500	2.4	1306	56
2.	Seed Drill	41,000	360	412.0	0.45	915	1375	3.6	1656	25
3.	BBF Planter	37,500	360	409.54	0.4	1024	1125	3.2	323	116
4.	Power Weeder	75,000	480	100.62	0.12	805	1125	1	320	235
5.	Bullock Drawn Boom Sprayer	43,000	480	72.82	0.86	85	250	6.88	1136	38
6.	Thresher	85,000	480	554.9	9 qt/hr	62 Rs/qt	110 Rs./qt	72 qt/day	3456	25

EFC=effective field capacity

Source: Based on Field Visit and presentation by Farm Power & Machinery Dept., PDKV, Akola

Table 26 Operationalisation of the Custom Hiring Centre

Activity	Who will do	How
Demand generation for mechanisation	Agriculture Assistant / Cluster assistant, Krushi Mitra, Farmers, FIG, FPC	This will be done through the micro-planning process and will be captured by CHC owners.
Due diligence for CHC based on Demand	Project staff Krushi Mitra Lead Farmer / Farmer Groups / FPCs	Bankable proposal will be needed
Demonstration cum training	SAU KVK Vendors Lead farmers Project staff	The vendors with the project partners will prepare self-explanatory videos and brochures for operation and maintenance.

Guiding principles:

(i) The following parameters would be considered while selecting village for setting up of custom hiring centres:

- (a) Extent of mechanisation
- (b) Number of tractor population
- (c) Number of small & marginal operational Holdings
- (d) Crop Productivity and crop diversification

(ii) Each CHC will be set up on specific crop based, cost based and cluster based approach. Each custom hiring centre will have small crop specific machinery suitable for local requirement for mechanized farming under small and marginal holdings.

(iii) Assistance will be given to FPOs /FPCs/FIGs who submit a bankable proposal

COMPONENT B2

Strengthening emerging value-chains
for climate-resilient commodities

4.6 COMPONENT B2: STRENGTHENING CLIMATE-RESILIENT VALUE-CHAINS

This component will support viable investments in the prioritised commodities and/or fruit crops value chain through product aggregation, handling, transformation and marketing (e.g. collection centres, grading and packaging units, cold storage facilities, ICT-based market information systems).

The FIG/FPOs/FPCs will offer a variety of services to its members. Effort would be made to cover almost all aspects of cultivation (from inputs, technical services to processing and marketing). The FPO will facilitate linkages between farmers, processors, traders and retailers to coordinate supply and demand; and to access key business development services such as market information and intelligence, input supplies, and transport services. Based on the emerging needs, the FPO will provide one or more of the following services:

Input Supply Services: The FPO will help in facilitating access to low cost and quality inputs to member farmers because of economies of scale. It will help in coordinating the ensuring the timely supply of inputs, i.e. fertilizers, pesticides, seeds and farm equipment and machineries.

Technical Services: The FPO will promote best package of practices for climate resilient agriculture, maintain marketing information system, diversifying and raising levels of knowledge and skills in agricultural production and post-harvest processing that adds value to products.

Procurement Services: The FPO will coordinate the procurement of agriculture produce from its member farmers; will help in arranging storage, value addition and packaging.

Marketing Services: The FPO will help in direct marketing after procurement of agricultural produce from member farmers. This will enable members to save in terms of time, transaction costs, weighing losses, distress sales, price fluctuations, transportation, quality maintenance etc.

Financial Services: The farmer members will coordinate with financial institutions to facilitate access to credit during different seasons through FPO and the same will be deducted from their selling. It will help to make the farmers free from pre farming contract with different traders.

Networking Services: Making channels of information (e.g. about product specifications, market prices) and other business services accessible to rural producers; facilitating linkages with financial institutions, building linkages of producers, processors, traders and consumers, facilitating linkages with government programmes, etc.

The details of various climate control structures such as pack house, storage structures, ripening chambers are given in Annexure II.

COMPONENT B3

Improving the performance of the
supply chain for climate-resilient seeds

4.7 COMPONENT B3: IMPROVING THE PERFORMANCE OF THE SUPPLY CHAIN FOR CLIMATE-RESILIENT SEEDS

Adequate supply of seeds with short duration, drought-, salinity- or heat-tolerant features, is a key priority for the project in its strategy to build climate resilience in the agriculture sector.

Production of Foundation and Certified seed of Climate Resilient Varieties

A climate resilient variety of major crops is one of the most important interventions intended to build resilience to changing climate and climate variabilities. Production of nucleus and Breeders seed is taken up by the respective breeders. Further breeders seed is used to produce foundation seed and foundation seed is used to produce certified seed. The emerging FPO/FPCs in the project area will be promoted for seed production besides Maharashtra State Seed Corporation (Mahabeej). The climate resilient varieties recommended by SAUs, ICRISAT, CICR, etc. are given below.

Table 16 Climate resilient seed varieties (major crops)

Crop	Climate Resilient Varieties recommended for State
Pigeon pea	BDN 711, BDN 708, Vipula, PKV- Tara, ICPH 8863 (Maroti), ICPL-87
Chickpea	JAKI-9218, BDNG-797, Vijay, Digvijay, Akash, Virat, Raj Vijay, Vishal
Soybean	JS-335, MAUS-158, MAUS-612, MAUS-71, PHULE AGRANI, JS-93-05, JS-95-60, NRC-86 (AHILYA-6), JS-20-34, DS-228
Cotton	NHS250, AKA-5, AKA-7, NS615, PA402, NHH-44 Bt., PKV HY-2 Bt., MAHABEEJ-123 Bt., Suraj
Sorghum	M-35-1, Phule Anuradha, Parbhani Shveta, Parbhani Moti, Phule Revathi, Phule Vasudha, PKV Kranti, Phule Schetra, CSH -9

Development of Seed Hubs

Seed Hubs shall be developed at cluster level. Seed Hubs shall cover the range of operations like seed production, seed processing, storage and certification. Support would be extended to Farmer Producer Companies (FPCs), Farmer Producer Organizer (FPO), Farmers Interest group (FIGs) for establishment of various components of seed hub, creation of seed processing unit, creation of storage unit and certification including branding.

Prevailing seed production and supply system has been presented in the figure below:

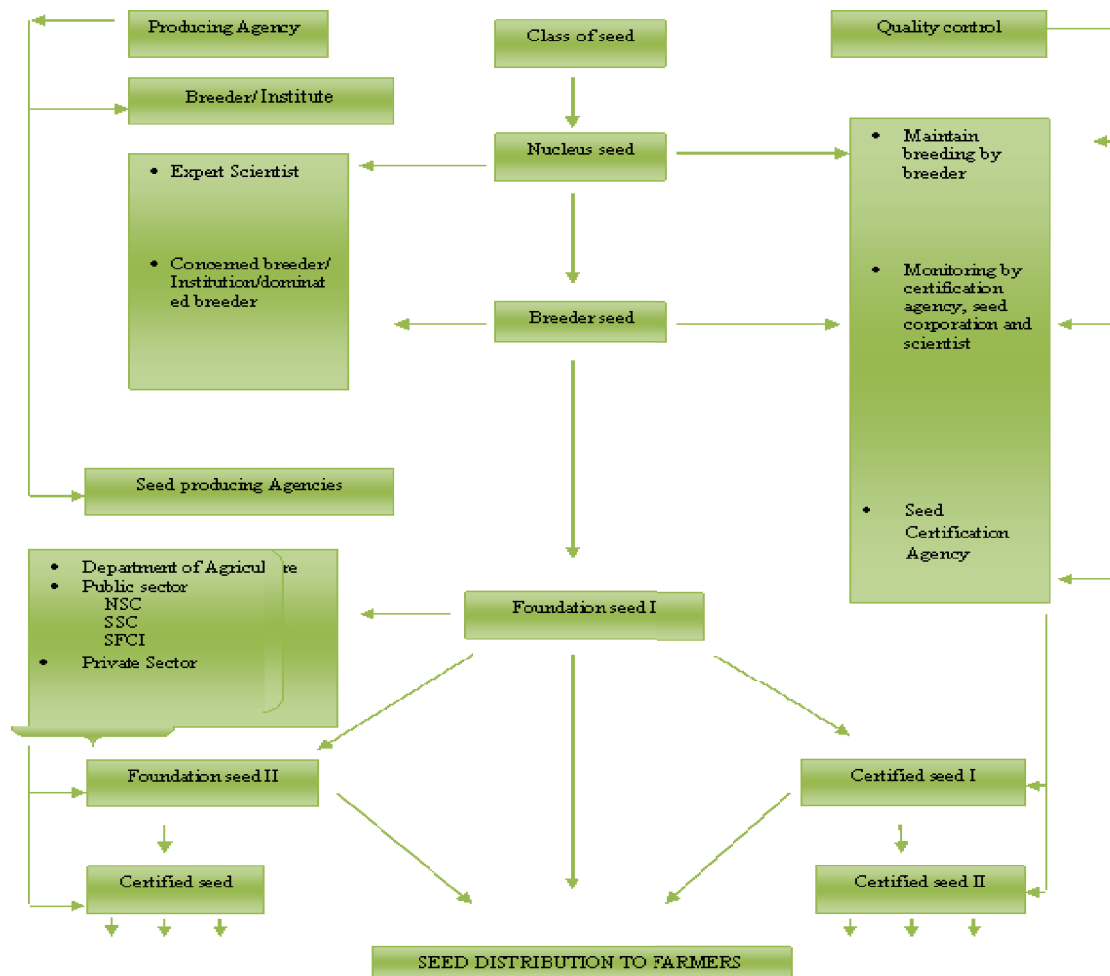


Figure 26 Seed Supply Chain

Table 17 Process flow for drought and salinity resistant variety production

Activity	Who will do	How	Remark
Identification of varieties	PMU, Department of Agriculture, ATMA and KVK	SAUs, ICRISAT, ICAR institutes, have recommended resilient varieties for project area	Database of CRV will be developed Taluk wise by the PMU
Seed/Variety Demand- Supply and gap analysis	Mahabeej and University Department of Agriculture	Mahabeej has a demand and supply forecast plan and would prepare a business plan to bridge the gap	A five year perspective plan for resilient seed production along with annual rolling plan shall be prepared by the project
Identification of seed grower farmer/ FIG/FPOs or FPCs	Cluster assistant ATMA NSC Mahabeej FPO/FPCs	During the cluster planning exercise willing farmers/ groups will be assisted to prepare the plan. Farmers will be imparted training regarding seed production technology. Registration with Maharashtra Seed Certification Agency (MSCA)	DPMU will prepare seed production & training plan in consultation with Mahabeej and FPO/FPCs Availability of Breeder & Foundation seed be ensured by DPMU with the help of SAU, NSC and Mahabeej.
Supervision of seed production process	State seed Certification agency NSC Mahabeej FPC/ FPO	The agencies will develop the capacities of the farmers for maintaining the quality.	MSCA, NSC, Mahabeej will provide chart, tools for the quality control and production process and educate the cadres.
Certification of seed	MSCA	Seed Certification Act 1966 and Seed Certification Rules 1968 will be strictly followed. Seed production plots will be inspected by MSCA.	Certified seed will be labelled.

Table 18 Process for creation of additional seed hubs

Activity	Who will do	How	Remark
Identification of seed hubs	DPMU ATMA KVK	Potential seed business FIG/FPO/ FPC will be identified. Business plans will be prepared by FIG/FPO/ FPCs Business plans will be appraised by commercial banks	Plan for one or more components of seed hub will be prepared as per the demand of FIG/ FPO/ FPC
Production target 3 year rolling	DPMU ATMA, SAUs Mahabeej	Assessment of demand of certified seed from clusters will be done by VCRMC, Agriculture Assistant & Cluster Assistant	
Storage and processing infrastructure	DPMU ATMA FIG/FPO/FPC	Seed certification agency / Department of Agriculture will technically validate the infrastructure and processing requirement with specification	
Sale of seeds	FIG/ FPO/FPC	The FIG/ FPO/ FPCs will be authorised to sell the certified seed through a licence as provided under Seed Act, 1968 & Seed Rules, 1968.	Quality assurance of seed will be done by Agriculture Department.

COMPONENT C

Institutional Development, Knowledge and Policies for a Climate-resilient Agriculture

4.8 COMPONENT C: INSTITUTIONAL DEVELOPMENT, KNOWLEDGE AND POLICIES FOR A CLIMATE-RESILIENT AGRICULTURE

4.8.1 Introduction

The project of this nature is complex and would require partnerships with various specialised agencies and networks. Simultaneously, a process of institutional development and transfer of technology and processes to the community based institutions will also be an important component of the project. A capacity development programme is defined as a set of activities which strengthen the knowledge, abilities, skills and behaviour of individuals and improve institutional structures and processes to efficiently meet the objectives of the project in a sustainable way.

Since the project revolves around the initiative to enhance on climate resilience, the sequencing of capacity building in this project will focus on the awareness about the issues related to climate change as well as the capacities of the communities to cope with it. The capacity development framework will evolve around the following:

- i. Dissemination of the project objective, concepts, and approach.
- ii. Development of knowledge, tools, models, policies that are workable on ground and scalable for resilience
- iii. Empowerment of stakeholders, enabling learning and attitudinal change and creating ownership of various interventions proposed under this project, entrepreneurship and risk taking ability.

4.8.2 Objective

The objective of this component is to ensure adoption of the approach proposed for building climate resilience through a longer term adaptive management of agriculture, soil and water resources. The project envisages large scale capacity development programmes for the small farmers and other stakeholders in the drought and salinity vulnerable regions in the project area. It is expected that improvement in the farmers' productivity could be augmented by suitable capacity improvement of the stakeholders most

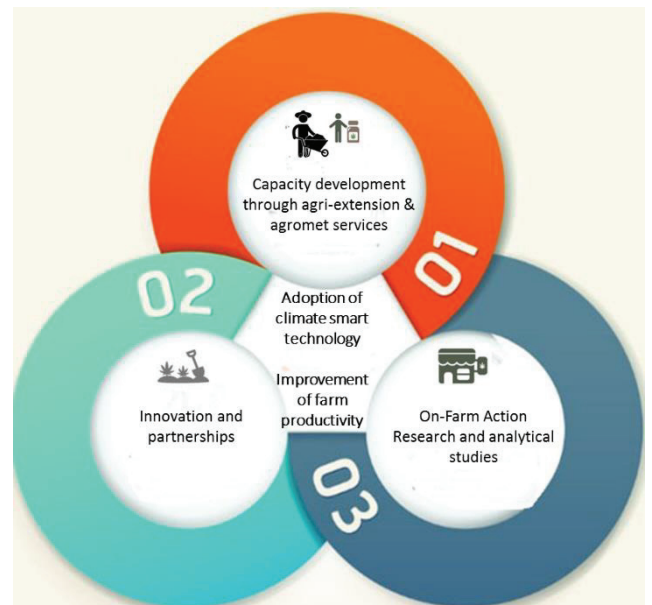


Figure 29 Key sub-components under component C

particularly farmers under POCRA intervention. This component bears adequate potentiality to have sustainable impacts on farm productivity and crop management. In addition, action research and analytical studies will enhance the knowledge base and there will be significant thrust on innovation especially on resilient technologies in the farm sector.

4.8.3 Activities

This component will have three main activities: (i) sustainability and institutional capacity development for various institutions in the project (ii) establishing a Climate Innovation Centre, and (iii) knowledge and policy: promoting an evidence-based policy dialogue on climate resilience and sharing various knowledge products developed during the project implementation with the stakeholders.

Apart from training of the farmers, the project also aims at the capacity development of the project management unit and organisations directly associated with the capacity development of the farmers. This is proposed to be done through training and exposure visits. Capacity development of the farmers will include skill development encompassing a wider variety of thrust areas like natural resources management, farm mechanization, development of agricultural systems in the context of climate change and adaptation. Partnership with various institutions associated with the project to address the issue of climate change will be an added dimension of capacity development.

Under the project the capacity development framework shall be as follows:

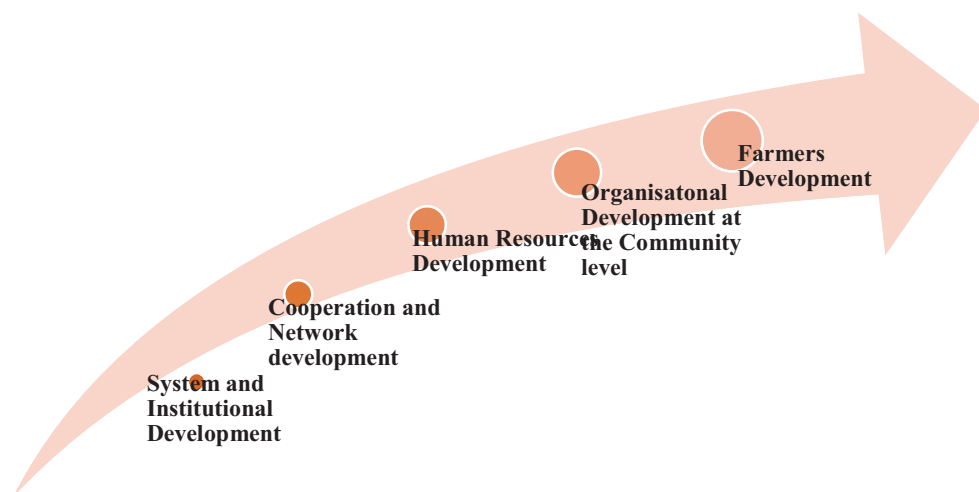


Figure 24 Capacity development framework

- **System / Institutional Development:** The project will focus on establishment and capacity development of VCRMC which would play a pivotal role as the main community institution in the project planning and implementation. It will also build capacity of the PMU at the state level and units at the taluka and district level for bringing in the change in their approach to address the issue of climate resilience through all interventions.
- **Cooperation / Network Development:** The project at different phases of its implementation will seek the support from a number of organisations through necessary collaborations. The basic purpose behind network development is for developing knowledge, tools, models, policies that facilitate the workability and scalability of the project. This will be network of research institution around specific themes.
- **Human Resources Development:** Keeping in view the specific goals of the project, a new cadre of project staff would be recruited and they would be groomed through proper training support on all the aspects of the project, including climate resilience, planning process, activity implementation, and reporting, procurement, financial, and safeguards requirements.
- **Organisation Development at the community level:** The project is aimed at capacitating certain community based organisations like Women Self Help Groups (SHGs), farmers Interest Groups (FIGs), and farmer Producer Companies (FPCs)
- **Farmer Development:** Ultimately the farmers are to be sufficiently trained under the project on various interventions that address climate stress and bring resilience by doing certain things differently.

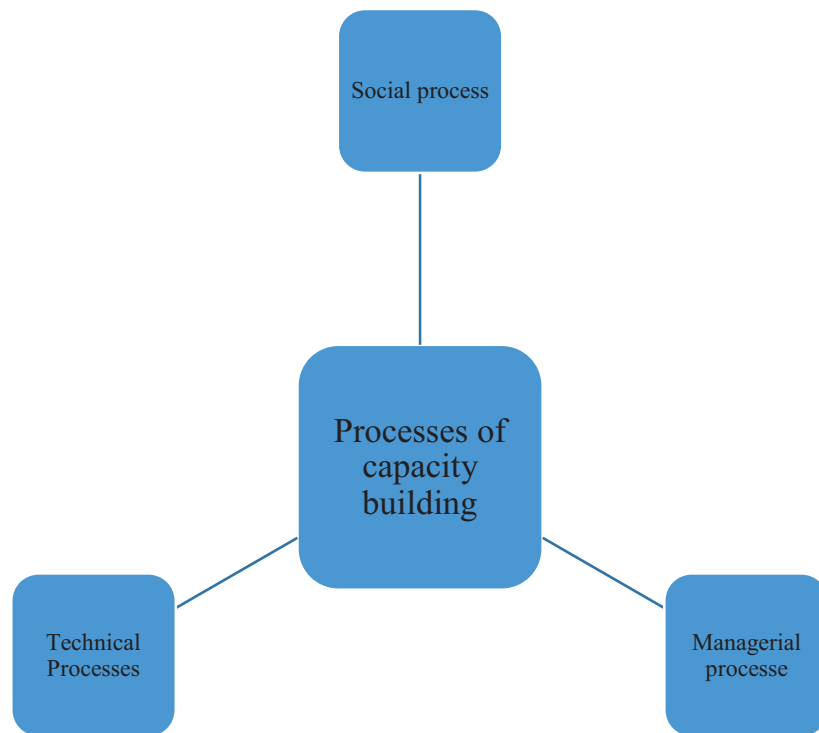


Figure 29 capacity development process

Most of these activities will be carried out by partners, resource agencies and ATMA. PoCRA will make conscious attempt to identify a cadre of master trainers and extensions specialists to get oriented with resilience aspects and technical issues/challenges in the project. While some of the regular activities in agricultural extension and research are already part of earlier components with cost inbuilt therein. Specialised training and research initiatives as required for demystifying climate resilience actions (i.e. ex -ante assessment of GHG as well as extent of carbon sequestration, climate resilient variety/technology adoption, etc.) in the field will be covered in this component.

ATMA will have the responsibility of Training Need Assessment (TNA), Skill Gaps Analysis (SGA) on the basis of feedbacks gathered during micro planning exercise. The type of training programmes to be undertaken, type of knowledge partners (resources agencies) to be involved and all sorts of training arrangements would be decided in consultation with state level and regional level state government supported training providing agencies i.e. Vasant Rao Naik State Agricultural Extension Management Training Institute (VANAMATI) and Regional Agricultural Extension Management Training Institute (RAMETI) respectively.

To mainstream the capacity development programmes in the project area, ATMA would prepare a training calendar in consultation with VANAMATI and RAMETI. The training will be provided in a phased manner. KVKs will be next level of interface capitalizing their technical expertise as well as their understanding of local issues. KVKs will have a major extension-cum-training programme through FFS. Project Director, ATMA will be responsible for extension and capacity development programmes.

To facilitate the micro planning exercise in the project villages, ATMA functionaries including technical consultants would be provided with Trainers’ Training on how to conduct micro planning in alignment with project objectives. They, in turn, will train cluster resource persons and Krushi Mitras operating at the village level. Ultimately, the Krushi mitras are expected to be instrumental in anchoring the entire micro planning exercise at the village level.

One of the key objectives of the project is to develop a series of learning materials for smallholder farmers with communication message about how to build a more effective climate resilient agricultural system. These learning materials would focus on increasing awareness level of climate change and climate change adaptation requirements. These materials would set the foundation of the entire capacity development process. Yashwantrao Chavan Academy of Development Administration (YASHADA) would be considered as knowledge partner in addition to VANAMATI, and RAMETI.

The project will have a comprehensive communication strategy and will use (a) mass media, (b) social media (c) audio-visual material on good practices, case studies and thematic knowledge products.

Activity	Sub Activity	Who will do	Output	Indicator
Update SREPs	SREPs for each district will be updated and aligned with the project approach	ATMA Project staff	Updated SREPs	Number of SREPs updated
Agro-met advisory centres	Real time agro-met advisory services to	SAU / KVK Agriculture Department	Setting up the Centre with	Number of farmers accessing the agro-met advisory service

	farmers in the project area		partner organizations	
Preparation of contingency plans	Cluster level contingency plan to be prepared	SAU KVK	Cluster level contingency plans	Number of plans prepared
Analytical studies	The studies would be focussed on climate resilience in the project area	SAUs IIT IISC and other knowledge partners	Thematic analytical studies	Number of studies completed; Key findings in a synthesis report widely shared
Maharashtra climate innovation centre	Assess and promote start up incubators in agri-services, agricultural technology	PoCRA PMU & other Private partners Research Institutions	One climate innovation centre established	one centre
Innovative technologies- demonstration/ testing/ consolidation	Innovative technologies to be demonstrated in the farmer field	CIC	Innovative technologies to be demonstrated	No. of technology demonstrated in farmer fields and results documented
Strategic partnerships with other institutions	Partnership terms agreed and timelines are aligned with project	PMU	Agreements indicating deliverables, timelines,	Number of MOU/agreement signed

			costs involved, and resources to be deployed	
Capacity building	PMU officials - International Training/ workshops/ seminars	YASHDA RAEMTI VANMATI SAU Project staff		Number of training man days
	PMU officials- Within country training/ workshops/ seminars			Number of training man days
	Div./ District/ Subdivision officers training			Number of training man days
	Taluka and below project officers/ assistants training			Number of training man days
	Accounts personnel			Number of training man days
	Accounts officials			Number of training man days
	Other stakeholders			Number of training man days
Training of Farmer Friends &	To be covered under various capacity building initiatives such technology	ATMA SAU/KVK Line department personnel at		Number of farmers covered (training days) No. of programmes

VCRMC members	demonstration, skill development etc.	Block level linked with POCRA Programme		
Exposure visits	To locations (intra and interstate and international) for learning best practices	RAMETI and other resource agencies		Number of days

A tentative convergent framework for various modules has been given in the table below. This can be revised during the project implementation after the training need analysis is conducted.

Farmers	<ul style="list-style-type: none"> Crop demonstration for drought and salinity treatment crop varieties. Production of Foundation and certified seeds. Shed net cultivation. Poly house cultivation. Farm Mechnisation by tractors, power tillers etc. Water Management through drip and sprinler irrigation
Farmers' Interst Groups	<ul style="list-style-type: none"> Crop specific value added activities like soyabean oil crushing. Dal processing citrus Fruits value added activities
Farmer Producer Organisations	<ul style="list-style-type: none"> FPO Management Training Financial Management Training Business Manageemnt Training
Krsihi Mitras	<ul style="list-style-type: none"> Induction Training about POCRA Activities. How to form village level climate resilient Committee. How to provide handholding support to the project specific Community Based Organisations.
POCRA PMU Staff	<ul style="list-style-type: none"> Induction Training, Domain based Exposure visits, Training on POCRA specific climate resilient agriculture, Training on POCRA specific climate smart Agriculture, Agricultural Value Chain, Promotion and stabilization of Farmer Interest Groups (FIGs) and Farmer Producers' Organisations (FPOs)
POCRA field Staff	<ul style="list-style-type: none"> Induction Training Domain based Trainers' Training. Training on POCRA specific climate resilient agriculture, Training on POCRA specific climate smart Agriculture, Agricultural Value Chain, Promotion and stabilization of Farmer Interest Groups (FIGs) and Farmer Producers' Organisations (FPOs) inter state exposure visit and overseas exposure visits.

Figure 30 Possible training modules

S. No.	Activity	Sub Activity	Stakeholders	Who will do	Phasing
1	System and Institutional Development	Induction Training Programme	All Freshly recruited project staff above cluster level	SAUs, Yashada, VANAMATI, KVK, and need based sector specialized Organizations	Within 1 month of joining
			Cluster assistant	RAMETI, KVK and need based sector specialized Organizations	Within 3 months of joining
			Krushi Mitras	KVKs	Within 3 months of joining
		Refresher Programme	Senior Management-PMU	SAUs, CRIDA, Yashada VANAMATI	Every year
			Mid/ Junior Management-PMU	SAUs, VANAMATI	Every year
			Project specific Experts at PMU Level	VANAMATI, SAUs	Every year
			Project specific Experts at District ATMA level	SAUs, RAMETI	Every year
		Exposure Visit	Senior Management-PMU	To be decided	As per requirement
			Middle level and Junior - PMU	To be decided	As per requirement
		Enhancing capacity of line department officials	Line department personnel at Dist./ Subdivision/ Block level linked with PoCRA Programme	YASHADA/ VANAMATI/RAMETI	As per requirement
		Action Research	With knowledge partners	IIT- Mumbai, CRIDA, Gokhale Institute of economics and Politics	One action research to be completed each year
2	Cooperation and network development	Project Networking	Organizations and Institutions to be linked with POCRA activity through MOU routes	To be decided	
3	Organizational Development at community level	Training on FPO Management	Farmer Interest Groups, Farmer Producer Organizations, Farmer Producer Companies, Women Self Help Groups	SAUs, Resource agencies, Project staff	
		Training on Financial Management		Resource agencies, Project staff	
		Training on Business Management		Resource agencies	

		Training on Contingency Planning		SAUs, Project staff	
		Management of Custom Hiring Centres		SAUs, Project staff	
		Farmer Field Schools	Learning and documentation centre for generating continuous knowledge	KVKs	
		Climate Innovation Centre	A dedicated institution for developing climate resilient sustainable agricultural practices	GoM, Private Sector, Research Institutes, GoI institution	
5	Farmers' Development	Farmers' Training and Technology Demonstration	Farmers of the POCRA intervention area	KVK and SAUs	Each Batch consists of 50 members
		Exposure Visit to the farmers	Farmers of the POCRA intervention area	To be decided by PMU	
		IT Training to the farmers	Farmers of the POCRA intervention area	Project staff, Resource agencies	
		Livelihood Expansion	Landless households with special emphasis to women headed, ST, SC and other vulnerable households	Line Departments of the concerned project area.	

4.8.4 Approach

In compliance to the project objectives, adequate training is to be given to Commodity Specific Groups. Due to technical expertise available with KVK, it is proposed that KVKs are to undertake climate resilient technology demonstration programmes in FFS. Besides institutional arrangements are to be made for crop specific specialized training programmes for the farmers in the project area. A case in point is of State level Banana Research Institute, Jalgaon which may conduct banana cultivation training programme for the farmers. Citrus centre, Nagpur can be mobilized for training in Citrus crop

management. Based on the evolving needs, the partner agencies would be identified. A Joint Training Calendar would be prepared by the KVKs to mainstream the capacity development programmes in the project area.

Update of Strategic Research and Extension Plan (SREP):

Strategic Research and Extension Plan (SREP) is a comprehensive document prepared at the district level identifying research/ extension priorities for district, keeping in mind agro-ecological conditions and existing gaps in technology generation and dissemination in all agriculture and allied sector areas/ activities including in the area of Seeds, Mechanization, and Plant Protection. Existing SREPs will be updated to include the project approach and strategies in coordination with the line departments, Krushi Vigyan Kendras (KVKs), VCRMC, Private Sector, lead farmers and other stakeholders.

The updated SREPs will be aligned with the mini watershed plans developed under Component A.

Agro-met advisory

For weather advisory services, project activities will include (i) collecting, processing and managing agro-meteorological data, (ii) issuing agro advisories using the IT system and farmers' feedback, and (iii) enhancing local capacity for community-level pest and disease surveillance. To that effect, the project will work closely with the two partner universities and Indian Meteorological Department (IMD). MoU will be signed with the universities for this purpose. It is planned to develop suitable mobile apps to communicate with the farmers on agro meteorological information.

Real time contingency planning

Climate variability, varying rainfall trends during the monsoon season and long term climate change will impact cropping pattern, crop productivity and profitability of small holder farming systems. Climate variability includes; inter-annual variation in total rainfall and rainfall distribution within the cropping season, drought, delay in onset of monsoon, mid-crop season dry period, unseasonal rains, etc. There is a need to adopt a strategy of "Contingency Planning" to adapt to changing rainfall pattern during the cropping season. CRIDA has been experimenting with contingency planning in selected districts of India.

Contingency crop planning refers to implementing a plan for making alternative crop or cultivar choices in tune with the actual rainfall situation and soil in a given location. In rain-fed areas, as a general rule early sowing of crops with the onset of monsoon is the best-bet practice that gives higher realizable yield.

Major crops affected due to monsoon delays are those crops which have a narrow sowing window and therefore cannot be taken up if delay is beyond sowing window. Crops with wider sowing window can still be taken up till cut-off date without major yield loss and only the change warranted could be the choice of short duration cultivars.

Beyond the sowing window, choice of alternate crops or cultivars depends on the farming situation, soil, rainfall and cropping pattern in the location and extent of delay in the onset of monsoon. Breaks in the monsoon cause prolonged dry spells and are responsible for early, mid, and terminal droughts. These aberrant situations often lead to poor crop performance and or total crop failures.

While early season droughts have to be combated with operations like gap filling and re-sowing, mid and late season droughts have to be managed with appropriate contingency measures related to crop, soil nutrient management and moisture conservation measures. Drought also causes loss in livestock productivity due to shortage in fodder production. Appropriate location specific fodder production strategies are essential for reducing the adverse impact in livestock which is the major source of livelihood in dryland area.

“Any contingency measure, either technology related (land, soil, water, crop) or institutional and policy based, which is implemented based on real time weather pattern (including extreme events) in any crop growing season” is considered as Real Time Contingency Planning (RTCP).

The stakeholders in each cluster will be oriented with the real time contingency planning developed by CRIDA and SAUs. The training would be conducted by the KVK network of the partners SAUs. A draft contingency planning framework has been given in Annexure -VIII

Knowledge Products

The project shall arrange to avail the technical support from the public sector institutions like Central Research Institute for Dryland Agriculture, Vasundhara Watershed Development Agency, Maharashtra State Seeds Corporation (MAHABEEJ), State Agriculture Universities, Maharashtra State Marketing

Board, National Institute of Abiotic Stress Management, National Innovations on Climate Resilient Agriculture (NICRA), Central Soil Salinity Research Institute, Central institute of Agri Engineering, International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), India Meteorological Department, IIT Bombay, and Yashada for overall success of the project. The project will have strategic partnership with institutions to develop several knowledge products. This will include the following:

- Development of long term climate change model for the project area and its implications
- Various thematic studies on climate resilience
- Creation of tools to carry out resource and opportunity analysis for project clusters
- A risk matrix on project activities

The results of these partnerships would also contribute to other initiatives of the GoM.

Capacity Development

Capacity Building of farmers and project staff shall focus on the following:

- i. System and institutional development*
- ii. Cooperation and Network Development*
- iii. Human Resources Development*
- iv. Organizational Development at Community level*
- v. Technical Training*
- vi. Social Processes and Managerial Training*

Action Research and climate resilient technology demonstration

As a part of project activity, it is desirable to have a series of action research projects to be undertaken by strategic partners during the entire length of the project period. These action research projects are to provide strategic directions for the effective implementation of the project. Lessons learnt from these action researches would be carefully documented and widely publicised to enrich the existing knowledgebase. Besides some of the validation works could be completed on the basis of the results of action research projects pertaining to drought and salinity tolerant crop varieties. Some of the strategic action research projects would also be carried out through the knowledge partners to be identified under the project. It is viewed that results emanating from action research projects would guide the PMU to implement the project in right direction.

Exposure Visits

PoCRA will explore learning partnerships with national and international agencies. Under such exposure visits for the farmers and PIAs at different levels would be arranged within the district, within the state

and outside the state. The purpose of these visits would be to give exposure to the best practices in the climate resilient agriculture. The project will identify a partner like ICRISAT who specialise in identification and facilitation of visits to project sites to learn best practices.

4.8.5 Climate innovation centre

A CIC shall be established at state level for dissemination of innovative ideas, knowledge, technology, information, etc. This component will finance the planning, launch and start-up phase for a CIC till it operates in a self-sustained manner. The CIC will support local private sector capacity – with focus on entrepreneurs and SMEs – to commercialize and deploy emerging technologies and business models in growing climate sectors (e.g. climate-resilient agriculture, water, energy) to provide local solutions to climate change. The project is expected to promote innovations that can be scaled up.

Establishment of Innovation Centre: At the state level a CRC would be established under the auspices of a special purpose vehicle (SPV). The centre may provide various types of paid services to the companies, agri-entrepreneurs, FPCs, and other institutions who would like to avail of cutting edge technological solutions to improve farm productivity and create resilient value chain. The CIC would also provide policy input to the government.

The **key objective** of the climate innovation centre is to convert climate change related challenges in the state to a growth opportunity. The centre established at the state level will have the following components.

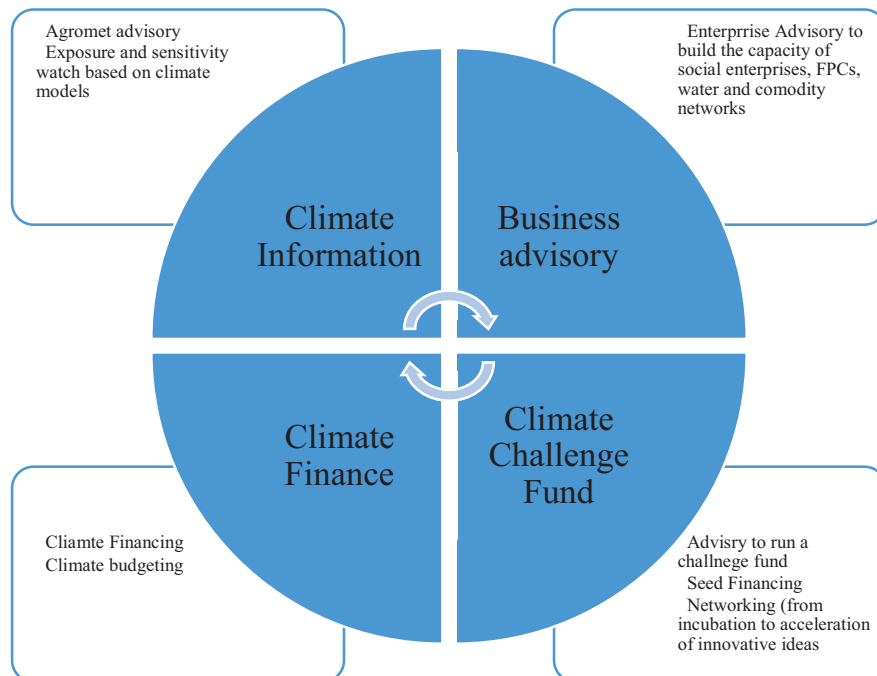


Figure 31 Components of Climate Innovation Centre

Rationale of CIC

- a. A CIC within PoCRA could serve a vital purpose to enhance climate resilience in the state: The CIC's focus on supporting actors – primarily private sector entrepreneurs and SMEs – to commercialize and deploy climate technologies and business models could address barriers to scaling solutions that undermine the agricultural climate-resilience in the state.
- b. The CIC would use its finite resources most effectively to support private sector to overcome standard barriers in taking proven technologies from the lab into the field on a commercial basis at scale.
- c. The CIC would enhance and complement rather than duplicate existing entities.
- d. The CIC would support a range of diverse stakeholders and deal with the highly dynamic nature of innovation. The institutional structure would ensure its ability to do so effectively.
- e. The CIC's role as a conduit to linking local actors to international players and information on latest technologies being developed globally would be an effective role in accomplishing its goals.
- f. In addition to directly enhancing local agricultural climate resilience, the CIC can also boost capacity of local private sector to create a sustainable means to continually provide farmers with the latest technologies. This could lead to increased investment and job creation.

4.8.6 ICT Strategy

The ICT strategy will help PoCRA to have a (a) decision support system, (b) tracking tools, (c) knowledge management system (d) MIS framework for the sector (e) input for policy and regulatory reform.

While this strategy will be pre-tested under program it should aim to be a platform for the department in the future to track various activities of the department.

Proposed ICT Systems to support POCRA Components

The project intends to adopt a Climate Risk Management (CRM) approach for smart systems development. As per the United Nations Framework Convention on Climate Change (2011): ‘CRM refers to different aspects of the risk management process, including: (a) risk assessments for informed decision-making; (b) risk reduction: planning and preparation; and (c) risk sharing, pooling and transfer in the context of adaptation’.

Under the proposed CRM based systems development approach, the POCRA project would use climate, local conditions data, soil and farming data and socio- economic data / information in a multidisciplinary context to address the climate’s impacts on development and resource management problems being experienced in the state of Maharashtra. The proposed CRM based ICT and new media systems would therefore plan to cover a broad range of potential actions, including early- response systems, strategic diversification, dynamic resource-allocation rules, financial instruments, infrastructure design and capacity building.

The proposed approach is of immediate relevance to small and marginal farmers, because it plans to focus on a ‘coordinated response’ for addressing climate risks with active engagement of all key stakeholders including farmers, agricultural support agencies, agriculture and rural services providers, rural and agricultural institutions.

An important requisite of the proposed approach will be to bring together two key objectives:

Support actions and activities to improve adaptive capacity and preparedness to cope with the current climate variability, and

To build the necessary resilience and preparedness to better respond and cope of with disaster / crisis situations due to climate change.

POCRA – Climate Risk Management System

A common integrated platform – POCRA CRM System is proposed that is able to collect data from multiple sources, seamlessly integrate and analyse the data / information and provide useful information to support informed decision-making, improve operational effectiveness of project activities and monitor and evaluate performance to facilitate quick corrective action, where required.

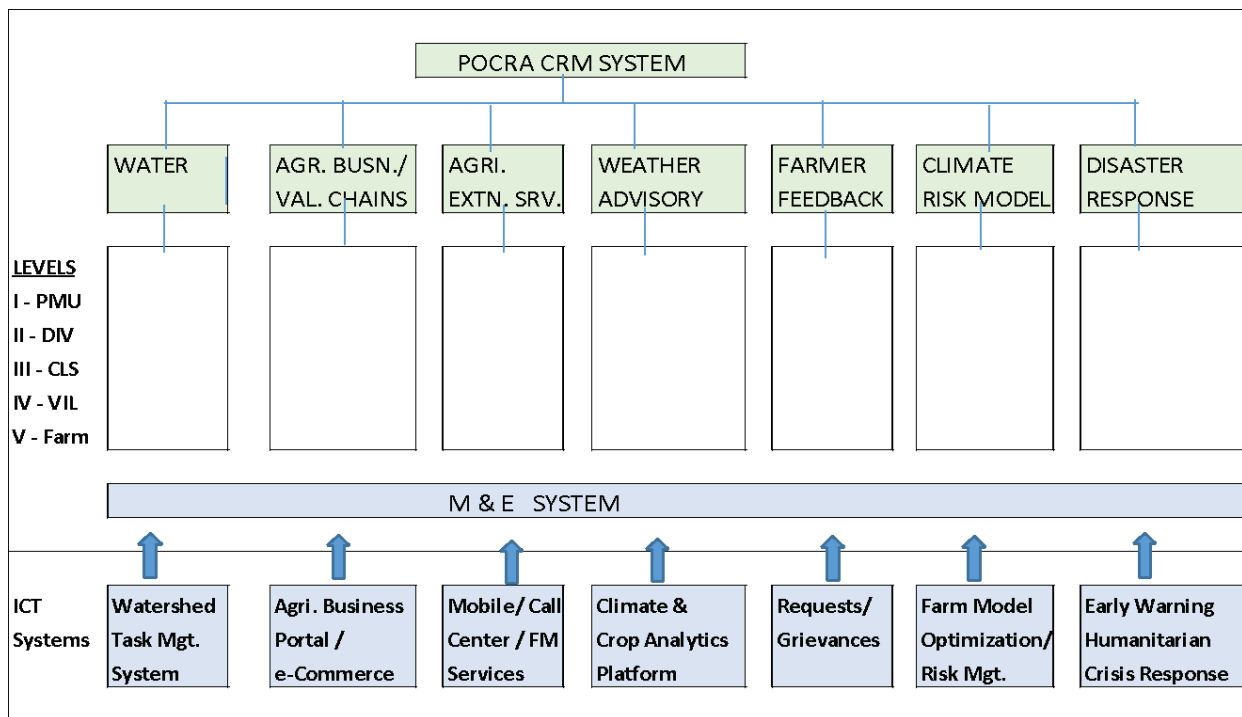


Figure 32 PoCRA Climate Risk Management System

The proposed ICT System platform would be required to support POCRA’s objectives and a broad range of potential project actions and activities, and will therefore comprise of the following eight sub-systems:

- Watershed Mgt. System
- Agri Business & value Chain Mgt. system
- Agriculture Extension Services system for practices for sustainable production,
- Weather Advisory and Warning system
- Farmer Engagement & Feedback System (Multi-channel access for farmers)
- Climate Risk Modelling (Farm level Planning & Risk Mgt. Advice)
- Climate Disaster Management - Crisis and Humanitarian response,
- Monitoring & Evaluation System

All subsystems under the proposed platform will be designed and deployed to allow multichannel access (Web, Mobile, IVR, and Touchscreen Kiosk). The designed system will utilize SMAC (Social, Mobile, Analytic and Cloud) technologies coupled with IOT for real time collection, analysis of and dissemination of data and information to all the stakeholders (Suppliers as well as users) of the project.

Key milestones

Timeline (Months)	0-9	10-18	19-21	22-24
Phase	Diagnose	Design	Deliver	Sustain
Road-Map	KPI development, Stakeholder mapping, Best practices adoption, ICT platform, Change management, RFP with vendor identification	Development of user modules, Prototype, User acceptance testing	Go-Live, User workshops, training	Support stable system, Changes identification, Open items review

Information, Education, and Communication (IEC) strategy

The key objective of the IEC strategy shall be to familiarise all stakeholders about the project approach, activities, guidelines and outcomes. Effort would be made to maintain uniformity in messages and production of high quality, cost effective, and target specific IEC products based on the key messages and thereby ensuring better uptake of the project activities by the community. The strategy will be innovative and may take a little detour from the conventional mass media driven approach in message dissemination to focus on mid media and interpersonal media initiatives to ensure that the messages reach the target group in an effective and sustainable way. Advantages of social media websites will also be utilized and importance will be given on the branding of POCRA. The media advocacy plan would also focus on orientation of staff to achieve the desired objective. IEC strategy will also try and assess the communication need assessment it will have provision for engaging a professional agency to run a focused campaign in the project districts.

COMPONENT D

Project Implementation Management

4.9 PROJECT IMPLEMENTATION MANAGEMENT

The project implementation framework is based on tight convergence with government departments and with limited project staffing specifically not to create any parallel structure. To improve the efficiency of the project staff, the project relies heavily on IT driven MIS system. Project partners would also be integrated with the IT system to facilitate monitoring.

The overall project structure is given in the diagram below:

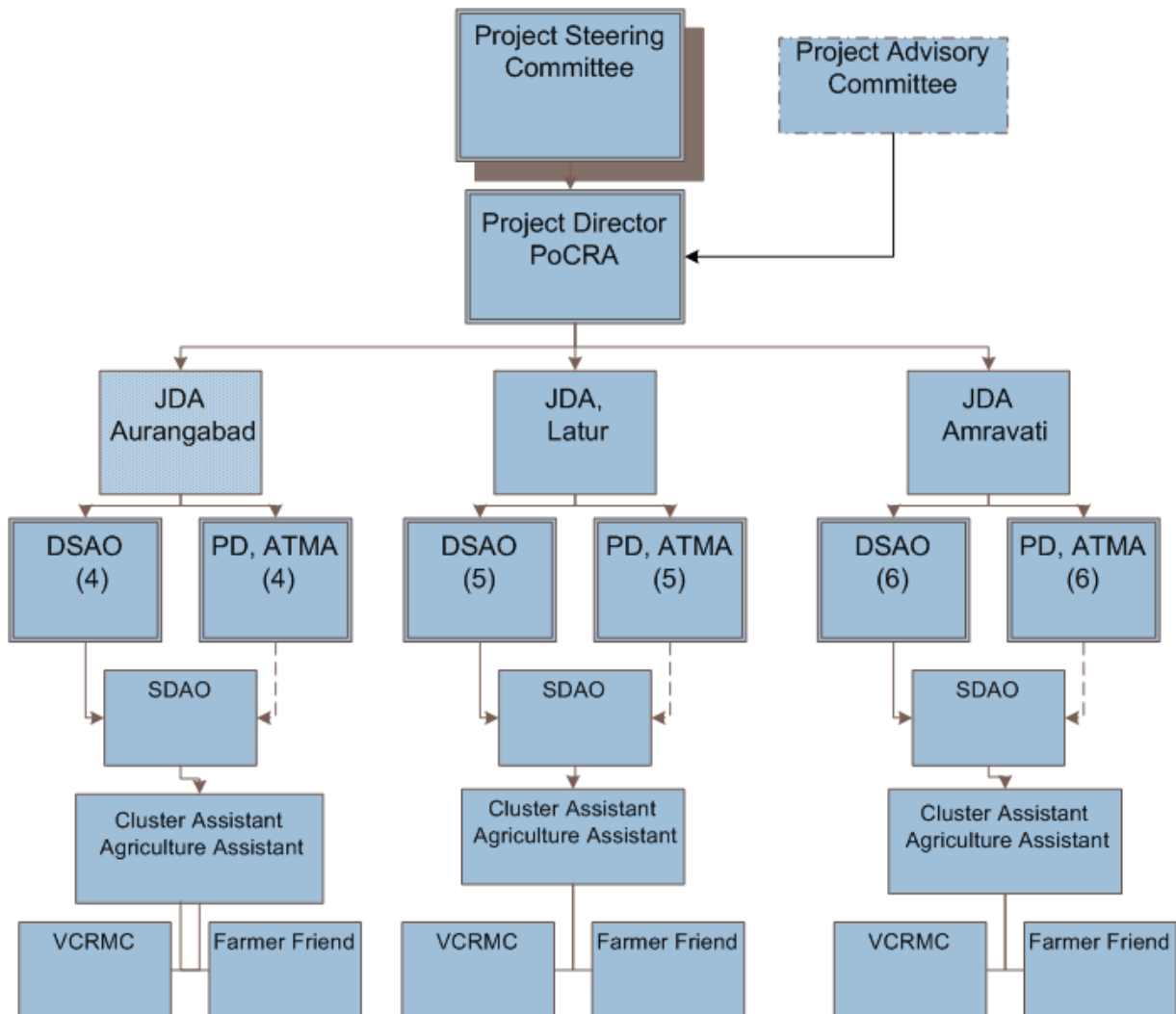


Figure 33 Overall project implementation structure

4.9.1 Project Governance

4.9.1.1 Project Steering Committee

A high level steering committee has been proposed under the chairmanship of the Chief Secretary. The proposed members of this committee and the responsibilities have been outlined below.

Table 19 Project Steering Committee

Composition	Role
Chief Secretary	Chairperson
Secretary, Agriculture Department	Member
Secretary, Water Conservation Department	Member
Secretary, Animal Husbandry Department	Member
Secretary, Marketing Department	Member
Secretary, Planning Department	Member
Secretary, Finance Department	Member
Vice Chancellors (PDKV and VNMKV)	Members
Commissioner, Agriculture	Member
Project Director, POCRA	Member Convener
Any other person	Invitee

The roles and responsibilities of the Project Steering Committee shall be as follows:

- Provide conceptual, strategic and policy guidance for the design and implementation of the project activities.
- Review Annual Work Plan and Budget, ensuring adequate budget provision for the activities
- Review the progress of Programme Implementation based on progress and monitoring reports, impact assessment studies and make recommendations
- Guide inter-departmental convergence and coordination
- Review and resolves the issues arising out of field implementation
- Undertake such tasks that may help the effective implementation of the project

4.9.1.2 Project Advisory Committee

A Project Technical Advisory Committee has been formulated under the chairmanship of the Principal Secretary (Agriculture) by Department of Agriculture, GoM as per GR dated June 13, 2017. The composition, roles & responsibilities are as follows:

Table 20 Project Advisory Committee

Sr. No.	Designation	Role
1	Principal Secretary(Agriculture)	Chairperson
2	Project Director , PoCRA	Member
3	Commissioner (Agriculture)	Member
4	Director of Research ,VNMKV , Parbhani	Member
5	Director of Research ,Dr. PDKV , Akola	Member
6	Director, CRIDA	Member
7	Director, MRSAC	Member
8	Deputy Director General, IMD	Member
9	Director , GSDA	Member
10	Director ,Maharashtra State Seeds Corporation Ltd(Mahabeej), Akola	Member
11	Director , Marketing	Member
12	Deputy Project Director , PoCRA	Member Secretary
13	Non-Government Members(2)	Member (By approval of Govt.)
14	Invitee Member(s)	By Approval of Chairperson

Roles & Responsibilities:

- 1) To give technical advice on the components and activities of approved Project Plan
- 2) To suggest proper solutions to the technical problems arising during the implementation of the project.

4.9.1.3 Project Management Unit

The state has already set up a state project management unit vide government resolution dt. 10/08/2016. The structure of the PMU has been given below:

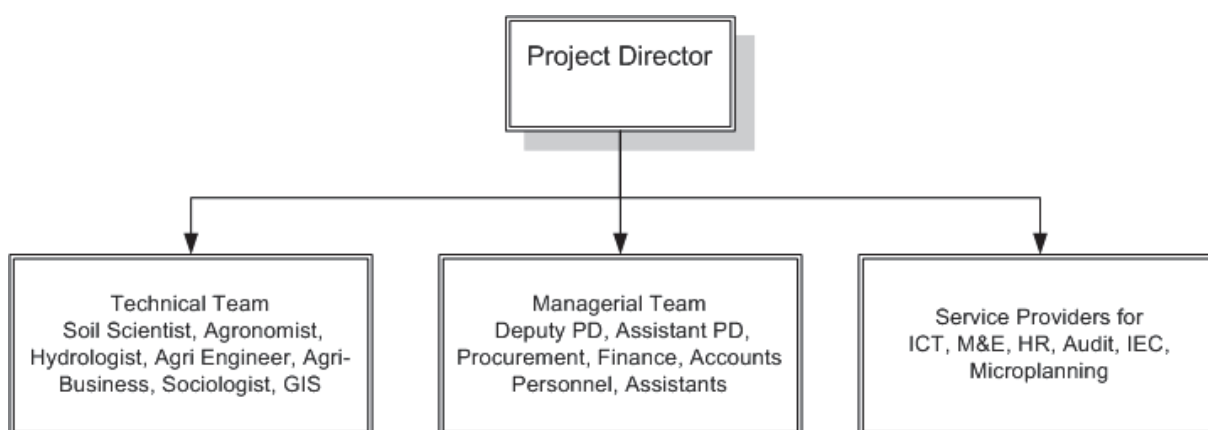


Figure 34 *Project Management Unit*

The PMU is headed by a Project Director who is responsible for overall implementation of the project activities.

Table 21 PMU positions

Position	Qualification	Role
Project Director	Senior Officer from Indian Administrative Service in the rank of Secretary to the state government	Overall leadership for the project

Deputy Project Director	Under Secretary Rank, on deputation	Administrative support
Assistant project Director	Desk Officer Rank, on deputation	Administrative support
Finance specialist	Deputy Director Rank officer from Maharashtra Finance and Accounts Service, on deputation	In charge of project accounts and finances, internal and external audit, fund flow
Procurement specialist	Fully conversant with the world bank procurement process	To manage centralize procurement function as per the guidelines and manuals; work with district level agencies to assist them in the decentralized procurement functions
Agronomist	Deputy Director Rank officer of Agriculture Department	To plan, coordinate with district and field implementation units on crop production and management practices.
Hydrologist / Geologist	Specialization in Hydrology	To conduct hydrological assessment of clusters
Soil Scientist	Deputy Director Rank officer of Agriculture Department	To plan and coordinate soil conservation measures, soil improvement, soil reclamation
Sociologist	Specialist with post graduate degree in Social Work preferably in Community / Rural Development and experience in social aspects of agriculture or rural development	To ensure social inclusion, to identify social inequity and genders issues and safeguard issues relating to vulnerable segments in the project. Prepare strategy and follow up for social inclusion
Agriculture Engineer	Deputy Director rank officer of Agriculture Department/ SAU / Specialist with Post graduate degree in Agricultural Engineering	To provide technical support, planning, coordination of watershed development, water use efficiency, farm mechanization, agro-processing, activities.
Agri-Business specialist	Specialist with experience in agribusiness promotion	To design agribusiness component, prepare guidelines, promote agribusiness activities, support & monitor preparation of agribusiness plans, promote producer groups/ companies.
GIS specialist	Specialist with experience in GIS / Geoinformatics and / or Remote Sensing	Geo-referencing & Fusion of remote sensing Data & Preparation of cluster & village wise maps, analyse remote sensing data, provide IT support to PMU

4.9.1.4 Division Level

There are three divisions in the project area, headquartered at Amravati, Latur and Aurangabad. In each of these divisions, Divisional Joint Directors will be designated as PoCRA nodal officers. The primary function of these offices will be to coordinate with the districts in their jurisdiction. These offices will also procure human resources (other than technical assistance consultants) for their respective areas. PoCRA will provide IT/MIS support to their office and requisite guidance from the state PMU. The structure for this office is given below:

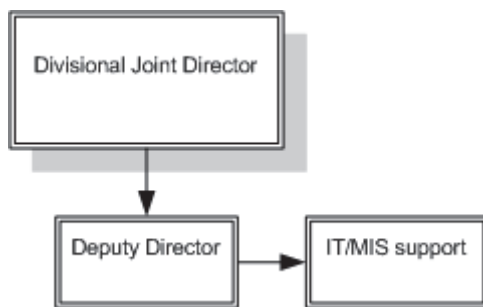


Figure 35 Interface structure for PoCRA at Division Level

4.9.1.5 District Level Structure

The role of the district level unit has to be that of a facilitator, collaborator, supervision, and bringing convergence. The natural coordination for project activities can be provided by the district collector who also chairs the district ATMA, and Jal-Yukt Shivar initiative. Collector will chair the district level steering committee for PoCRA. The district level structure for the project has been given below:

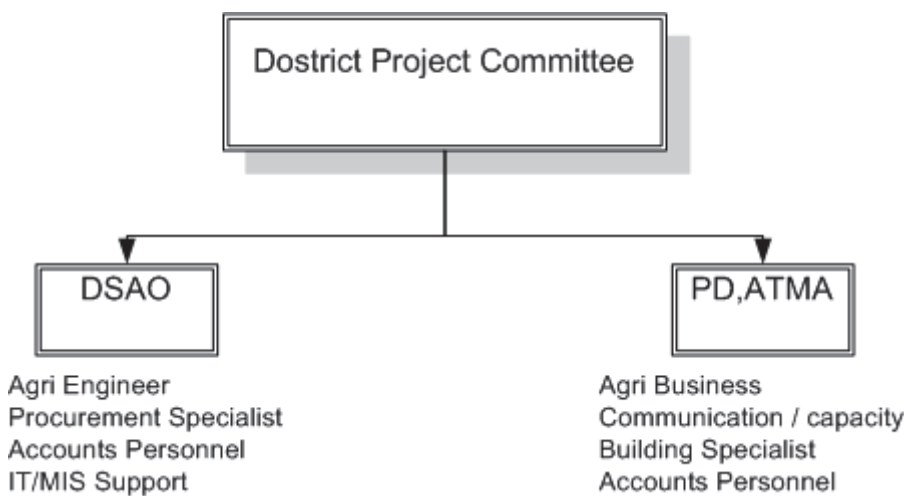


Figure 36 District Level Interface structure

4.9.1.6 Subdivision level structure

The districts are further divided into subdivisions. One Sub-Divisional Agriculture Officer (SDAO) is normally in-charge of about 3-5 talukas in a district. The project area is spread over 36 subdivisions. SDAO would also be the drawing and disbursing officer. The project will provide accounts personnel to support proper utilization of funds at the level of SDAO as well as VCRMC.

The subdivision level implementation structure has been given in the diagram below:

Structure at Sub-Division Level

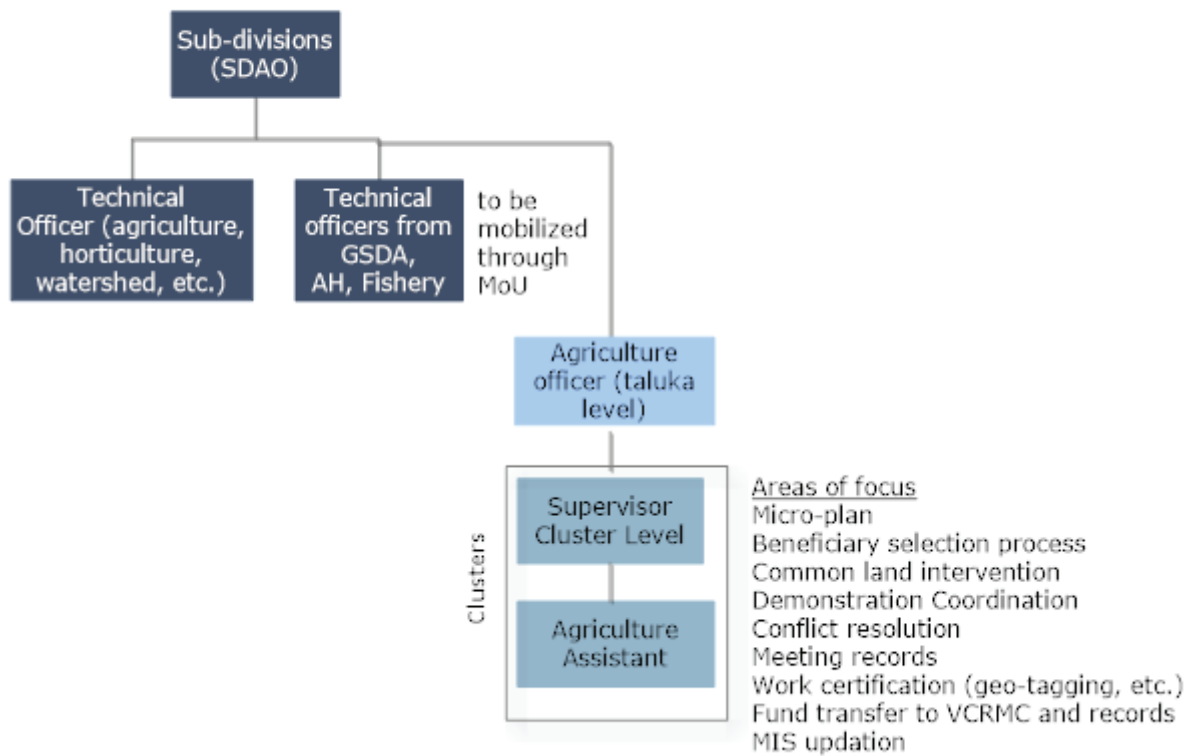


Figure 37 Figure 31 Sub-division Level Implementation Structure including Cluster

4.9.1.7 Village level structure

The village level structures are given below:

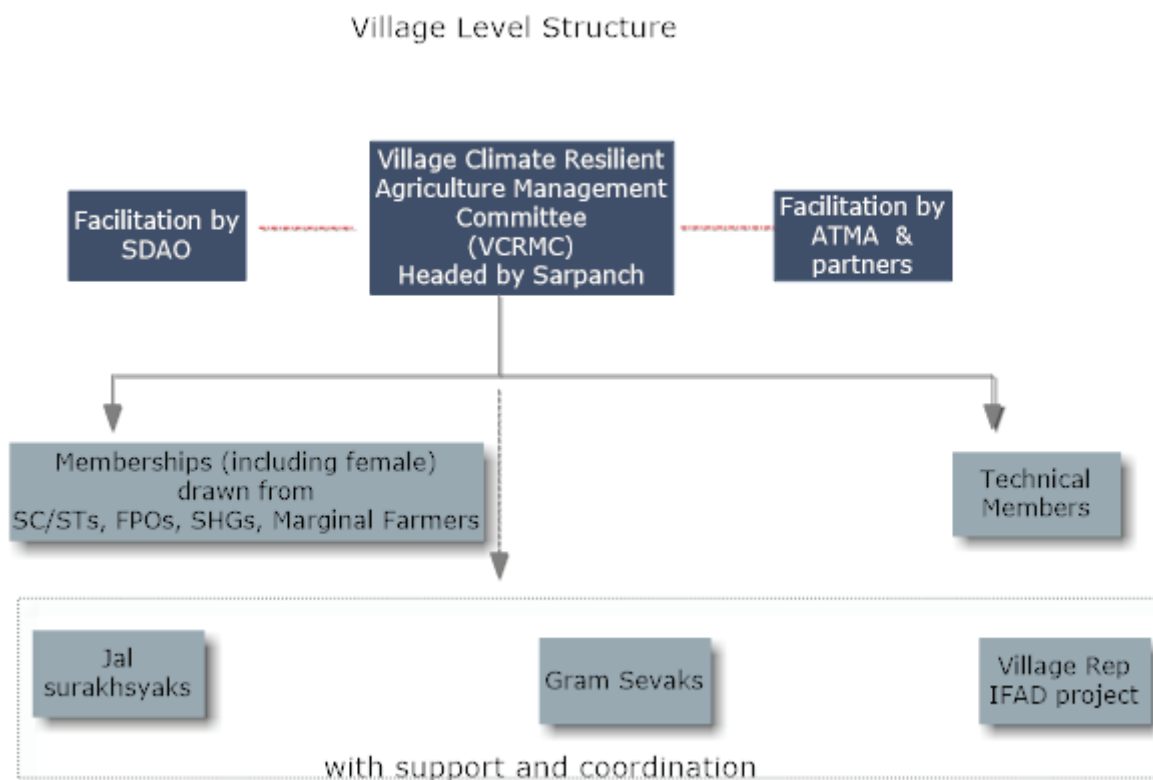


Figure 38 Figure 32 Field Level Implementation Structure: Cluster and Above

As evident from the diagram above, many field level committees have already been formed under different programmes. The project will work with such institutions to gain from their expertise and strength. The composition and functions of the VCRMC are as below:

Composition of Village Climate Resilient Agriculture Management Committee (VCRMC)

1. Chairman: Head of Gram panchayat (Sarpanch)
2. Members (10)
 - a. Farmers' Friend (1)
 - b. Progressive Farmer - Male (General-1, Scheduled Caste/ Schedule- 2)
 - c. Progressive Farmer - Female (General-1, Scheduled Caste/ Schedule- 1)

- d. Farmers Producer Organization/ Company - 1
 - e. Women Farmers Self Help Group (SHG) - 1
 - f. Farmer doing allied activity – 1
3. Technical Expert (Agriculture Assistant) - Member
 4. Cluster Assistant - Convenor

Roles & Responsibilities of VCRMC

1. Preparation of participatory village micro-plans and get approval of Gram Sabha
2. Selection of beneficiaries for individual benefit activities
3. Ensuring beneficiary contribution as well as assistance from commercial banks, wherever necessary
4. Planning and execution of community works as per approved annual action plan
5. Maintenance of assets created through project assistance on community land including books of accounts. This will be by a trained community book-keeper hired by the VCRMC for the purpose to be met out of the expenditure estimated for the works/services.
6. Preparation of contingency plans with the help of technical experts and ensuring its application during contingency situation.

4.9.2 Role of project units at various levels

The details of leadership team role have been given below:

4.9.2.1 PMU

- Overall leadership, control, monitoring, and supervision of the project activities and staff.
- Ensuring implementation of Govt. orders and to make fund available to the field units/ functionaries
- Ensuring timely submission of reports to GoM and World Bank
- Ensuring deployment of field staff, resource agencies, service providers and other functionaries
- Coordination with line departments at state level
- Ensuring consolidation of the annual work plan and budget of various units for submission to the state for sanction of the Budget.
- Ensuring approval of annual work plan and budget by Project Steering Committee/ Governing Body and Executive Body

- To receive the funds from additional sources for integration
- Ensuring timely distribution of the funds to various field units and service providers as per the physical and financial targets and other deliverables
- To submit Consolidated Statement of Expenditure to the World Bank for reimbursement of Claims.
- To monitor the activities and progress of works in project.
- To provide necessary guidance and coordination and ensure proper implementation of the Project.
- Conflict Resolution

4.9.2.2 Office of the DSAO

- DSAO will be the administrative head at the district level and responsible for smooth implementation of the project in the district.
- DSAO will be responsible for Implementation of annual work plan, regular monitoring of the project activities, and to make fund available to the field functionaries
- Coordinate with line departments at cluster, block, and district level and office of ATMA
- To provide technical guidance regarding technical matters
- Ensure formulation of village micro-plan, review and appraisal of Cluster Development Plan, preparation of Annual Action Plan
- Consolidate the Annual Action plans of all the GPs under them to make consolidated budget for GPs.
- To add their own administrative budget in the consolidated budget of GPs for further submission to Project Director.
- To receive the budget envelop from Project Director.
- To allocate budget to various GPs and execute Financial Agreements / MoUs with GPs or agencies, if any.
- To consolidate expense statement
- Timely submission of all reports to higher officers and monitor the progress
- Field appraisal and to suggest alternatives in action plan.
- Provide guidance for effective implementation of Annual Action Plan.
- Assist SDAO office in procurement of goods, works, and services, wherever required.
- To resolve conflicts and grievances

4.9.2.3 Office of PD, ATMA

A) PD ATMA-

- a. Liaison with SNO and SAMETI at State level and coordination between line departments including KVK, PRI, Private Sector and Planning Units at district level as far as training & technology dissemination is concerned.
- b. Effective implementation & coordination of different project component
- e. g. Training need assessment & Preparation of yearly training calendar for training of Farmers & field staff, farmers field school & strengthening of FPOs, FIGs, CIGs etc.
- c. Use of audio visual aids for awareness, publicity & effective program implantation
- d. Review of the project progress
- e. To receive the budget envelop from DSAO
- f. To consolidate expense statement
- g. Timely submission of all reports to higher officers and monitoring the progress
- h. Field appraisal and to suggest alternatives in action plan.
- i. Provide guidance for effective implementation of Annual Action Plan.
- j. To resolve conflicts and grievances

4.9.2.4 Office of SDAO

- a. SDAO will be the administrative head at the subdivision level and responsible for smooth implementation of the project in the sub-division.
- b. SDAO will be responsible for Implementation of annual work plan, regular monitoring of the project activities, and to make fund available to the field functionaries
- c. Coordinate with line departments at cluster & block level and office of ATMA
- d. To provide technical guidance regarding technical matters
- e. Ensure formulation of village micro-plan, review and appraisal of Cluster Development Plan, preparation of Annual Action Plan with in his jurisdiction.
- f. Consolidate the Annual Action plans of all the GPs under them to make consolidated budget for GPs.
- g. To add their own administrative budget in the consolidated budget of GPs for further submission
- h. To receive the budget envelop from DSAO.

- i. To allocate budget to various GPs and execute Financial Agreements / MoUs with GPs or agencies, if any.
- j. To consolidate expense statement
- k. Timely submission of all reports to higher officers and monitor the progress
- l. Field appraisal and to suggest alternatives in action plan.
- m. Provide guidance for effective implementation of Annual Action Plan.
- n. Assist Cluster assistant in procurement of goods, works, and services, wherever required.
- o. To resolve conflicts and grievances

4.9.2.5 Office of the Cluster Assistant

- Facilitate the process of preparing Cluster Development Plan.
- Focal interface for all project related activities with community
- Execute and facilitate the implementation of the project activities
- Supervise and conduct inspections for project activities including maintaining records of social audit
- Extension work
- Coordinate with farmer friends for mobilization and extension support

4.9.2.6 Agriculture Assistant

4.9.3 Staffing structure

The staffing structure of various units of project is given in the annexure-IX

4.9.4 Village Level Institutions, their Roles & Responsibilities

The project will take the assistance of strong and robust community level institutions in the planning, implementation, supervision and sustainability of the project activities.

Table 22 Village level institutions: roles and responsibilities

Sl No	Institution	Composition/Qualification	Roles and Responsibilities	Accountable To
1.	Gram Sabha	All voters of the village	To discuss & approve all major decisions related to Village Development Approval of village micro plan, annual plan, and list of beneficiaries Ensure inclusion of disadvantaged groups such as women, poor, SC/ST, landless Formation and monitoring the working of VCRMC Conduct social audit of the project activities at periodic intervals	Village Community
2.	Gram Panchayat (GP)	Sarpanch & elected ward members	Sign all necessary and appropriate agreements related to the project Convene Gram Sabha meetings Assist project staff and agencies in mobilization of village communities Initiate and complete the village development plan Open project bank account & judiciously manage project funds and expenditure Ensure complete transparency & accountability by all GP-level institutions & individuals involved in the project	Gram Sabha and Project

3.	Village climate resilient agriculture management committee (VCRMC)	A subcommittee of GP headed by the Gram Sarpanch, constituted under the provisions of The Bombay Village Panchayat Act, 1959.	<p>Assist resource agencies in mobilization of village communities</p> <p>Lead the process of planning, preparation & implementation of village development plan</p> <p>Maintain the project account</p> <p>Help cluster coordination committee for implementation of common works and activities</p> <p>Submit periodical reports</p> <p>Comply with the audit requirements</p> <p>Recommend the eligible and deserving beneficiaries as per the project guidelines</p> <p>Prioritization and sequencing of activities</p>	Gram Panchayat and project
4.	Cluster coordination committee	Cluster coordination committee will draw two members from each of the VCRMC in the cluster. Half of the members would be the women	<p>Lead the process of preparing Cluster Development Plan</p> <p>Ensure sequencing of the watershed activities</p> <p>Plan for convergence regarding issues concerning more than one village</p>	GPs and POCRA
5.	Krushi Mitra	A community resource person with qualification of matriculation and above with grassroots experience in agriculture and experience in agri business, etc.	<p>Facilitates the process of community interface with social mobiliser and cluster executive in micro-planning</p> <p>Works with lead farmers and farmer groups on front line demonstration and on farm demonstration</p> <p>Works with VCRMC on keeping records of minutes</p>	ATMA

4.9.5 Inter-departmental convergence

There are two levels of departmental convergence. The first is top-down and the second is bottom up. The high level project steering committee provides strong convergence mandate for this project in the sense that the project is not in isolation but an additional catalytic investment for the drought mitigation initiative of the GoM. The state has prepared irrigation plans, agri-business plan, watershed development plan, crop-plan, and contingency plans for all the districts. In addition, specific crop / varietal advisories are available through the university extension machinery. Now the bottom up planning process from cluster upwards through micro-planning and facilitation by ATMA has to be integrated so that there is no duplication of resources and the allocation is optimal and efficient. The twin goals are water use efficiency and higher value share to small holder farmers. All opportunities around these objectives are to be tapped and constraints addressed. For all relevant agencies viz. agriculture, water conservation, rural development, MRSAC, GSDA, marketing, animal husbandry, social justice, tribal development, women and child development, and any other departments that have strong bottom up approach, this project would serve as an ideal platform.

4.9.6 Strategic Partnerships

The project will have strategic partnerships around the thematic areas with organisations of national and international repute. An indicative list has been given in the table below:

Table 23 Strategic Partnerships

Thematic Area	Partner	Remark
Contingency Planning (district and below)	CRIDA, SAUs	For integrating climate risk management and variability in the planning process
Weather Information and agro advisories	IMD, SAUs	Weather data monitoring and forecast, generation of agro-advisories
Water Management	IIT Bombay, GSDA, SAUs	Hydrological modelling, water balance
Soil profiling	NBSSUP, Nagpur	Soil health
Extension services	SAUs, KVKs	For crop management, varietal selection, agronomic practices
Watershed	Vasundhara Units	Watershed Alignment in clusters

Geo-spatial planning	MRSAC, Vasundhara, IIT Bombay	Cluster Planning
Resilient seed	Mahabeej, SAUs	Seed production and processing
Market Intelligence	MSAMB	Market information
Credit	NABARD, new age commercial banks, cooperative banks, payment banks, post bank pilot	For farm and no-farm credit coordination, Jan Dhan account saturation. Financing of FPCs
Commodity Platform and Value Chain	NAFED, SFAC, MAHAFPC, MSWC, Water Resource Group	Strengthening of value chain
Fruit and Vegetables	National Research Centre for Citrus	technological backstopping for Citrus crops
	National Horticultural Board	Convergence for infrastructure development for high value vegetables & fruit crops
Capacity Building	Yashada, Vanamati, Rameti	For microplanning, induction, and refresher training
Saline land management	CSSRI	For technical assistance for management of saline & sodic soils in project area.
Skill development	Skill development mission, UNDP, MAVIM	For assistance in social inclusion strategy

5 MONITORING AND EVALUATION

The project aims to mainstream climate resilience in the farming community through a bottom up approach. A robust monitoring framework and project management information system (MIS) would capture all the important outputs and outcomes. In addition, it will also provide PMU with real time information of physical progress (outputs) and financial milestone vis-à-vis outcome indicators.

The key building blocks of the M&E system will comprise of: (a) the results framework for the project including Key Performance Indicators (KPIs); (b) a baseline survey for sampled clusters; (c) impact evaluation studies for each Cluster Development Plan (CDP); and (d) midline and endline surveys.

The PMU will have the responsibility for planning and coordinating M&E activities for the entire project. It will have an experienced M&E consultant in the PMU to coordinate with field units and outsourced service provider responsible for M&E. The M&E process in the project will be managed in the following manner:

- A baseline study of relevant indicators shall be conducted by the PMU through an M&E service provider who has adequate experience in climate change adaptation planning and monitoring and impact assessment.
- Line departments associated with the project and strategic partners will report the progress (physical and financial as well the processes agreed under MoU) to PMU every month to be consolidated in each quarter through project MIS.
- The team of technical specialists and finance and procurement specialists in PMU with M&E coordinator will be responsible for the quarterly consolidation and reporting.
- The M&E consultant based within the PMU will concurrently monitor and evaluate the identified indicators.

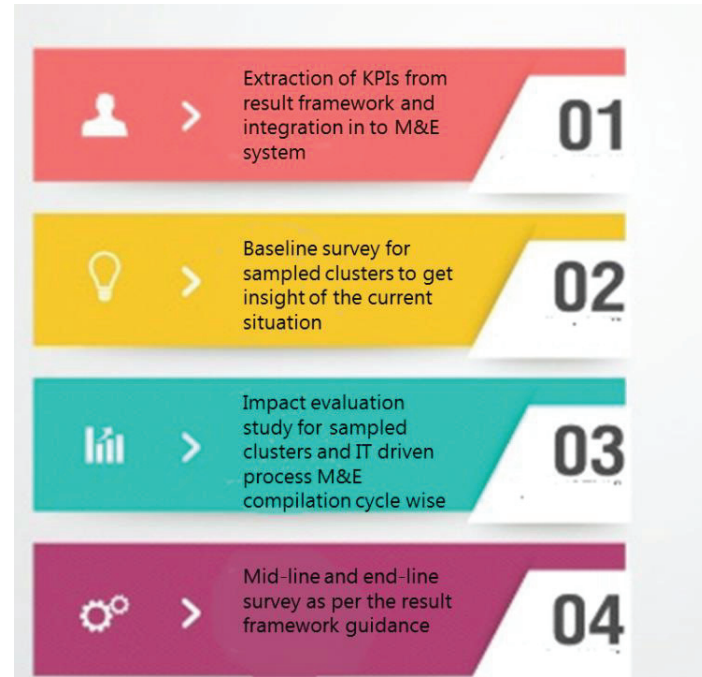


Figure 39 Key sub-components under M&E system

5.1 RESULT MANAGEMENT FRAMEWORK AND INDICATORS

Considering the scope of the project intervention, it is envisaged that there will be large scale generation of data on a recurring basis during the entire length of the project period. This data is expected to provide support to analysis, research, and mid-course correction of the project and most specifically, concurrent monitoring and evaluation for the entire length of the project period. Positive learnings generated from the project would need to be imbibed and changes will be made in operational procedures, as and when required. There would also be a need of spreading good practices beyond the boundaries of the targeted intervention area to ensure cross-learning. Monitoring and Evaluation System aids in assessing the performance of the project against the pre-determined project indicators. The system, in addition, will help PMU and policy makers in assessing the trends in important parameters arising out of the project. Imaginative use of M&E framework can help in understanding some of the core issues in a public sector development programme like: the functioning of new community level organisations such as Farmers' Interest Groups (FIGs) and their associations in the form of Farmer Producer Organisations (FPOs), governance issues, empowerment of the people, inclusiveness, democratic principles, principles of equity, etc. In view of these, there is an imperative need for a systematic assessment and understanding of the key project indicators at project conceptualisation / starting phase, implementation phase, project completion, and post project completion phase.

M&E system would help in improving the accountability and transparency, meeting timeframes and project milestones, maintaining quality of goods/works/services, and meeting the targets that contribute to Project Development Objective (PDO) level indicators.

For developing a preliminary result framework, a workshop was conducted in Pune. Subsequently two rounds of interactions were undertaken with the World Bank task team and PMU.

5.1.1 Objectives

Keeping the above in view, objectives of the Monitoring, Learning & Evaluation Component include the following.

- To integrate activities, outputs and outcomes
- To understand the effects of development interventions and the progress in comparison to the baseline situation
- To set up a system for baseline data collection, analysis, evaluation and generation of reports and monitoring through measurable indicators during the course of project and also ex-ante and ex-post
- To set up standardized learning and evaluation process for stakeholders and dissemination of learning from the development process for use by the stakeholders as well as wider community.
- To conduct implementation audit, monitoring, tracking, impact and outcome analysis and building the capacity of implementation partners

5.1.2 Approach

To achieve the above mentioned objectives the key approach is to have an internal and external Monitoring and Evaluation system, a participatory monitoring, learning and evaluation process, an MIS and GIS product designed to store, track, analyse and present data and information.

The main focus of the project MLE system will be on

- Results-based management (timely monitoring, analysis and feedback on project activities)
- Evaluation (of project outputs, outcomes and impacts, using appropriate baseline and controls)
- Self/participatory monitoring and learning on a concurrent basis
- Periodic Benefits tracking on sample basis to understand status and changes in various activities and project processes

The system will also be used for

- Planning and Defining Course of Action
- Learning for all Stakeholders
- Empowerment and Capacity Building of the community based institutions

The introduction of the external MLE agency will help the Project Management Unit (PMU) to gain an external perspective of the work being carried out under the project. The MIS and GIS will provide a quick and easy understanding of data and information not just at the project management level but also

at other levels involving direct and indirect stakeholders as it would be web enabled. Additionally, the IT-MIS system will promote transparency and accountability in procurement and financial system. It is planned to design a multi-channel IT system, which would also include a mobile application to collect and aggregate information at various levels.



Figure 40 *Participatory M&E system*

5.1.3 Component-wise details of the M&E System

- (a) MIS: The MIS will be an important tool for project management. It will cover primarily the input and output monitoring. Standard reports on inputs against the annual action plans will be produced and used by the project teams to assess the progress on inputs. MIS will also be integrated into a portal with various sub-systems, outreach documentations, special orders/guidelines issued from time to time.
- (b) **Third Party or External Monitoring:** The external monitoring would be by a third party agency. It is planned that external monitoring of the project would be undertaken at three different times periods of the project i.e. a baseline study would be undertaken at the initial phase

of the project. A midline study would be done after the completion of first phase implementation of the project. Ultimately an end line study would be undertaken at a time when the second phase implementation gets completed and project consolidation phase started.

Baseline Survey: A baseline survey will be undertaken by the project to understand the pre-project situation on key parameters covering socio-economic dimensions as well as the environmental aspects. The baseline survey will not only cover the project areas but also relevant “control sites” which will be used to assess the (incremental) impact of project interventions vis-à-vis generic growth influences over time. The M&E resource person will provide support in finalizing the coverage and sampling strategy of project clusters, villages, farmer interest groups/social groups, and keeping in mind issues of statistical validity and operational feasibility. The baseline survey will be completed and a draft report prepared before the end of the fourth month after effectiveness of the project.

Concurrent Monitoring: Field level implementation would be independently monitored by identified external MLE agency. This will be done by selecting representative clusters within each major area for intensive periodical visits. These reviews will focus on understanding the critical processes as well as the progress of performance indicators. Field visits will also include random verification of the information of progress reports as well as understanding the sequencing of events. The progress reports data prepared by M&E agency with a half yearly cycle (including sample and control areas) will be used to understand overall progress.

Six-monthly progress reports would be prepared covering the following-

- up-to-date physical and financial expenditure data compared to annual and end project targets
- updated Key Performance Indicators (KPI) compared to annual and end-project targets
- successes and problems encountered during the reporting period with suggested remedial actions
- Socio-economic and environmental impacts of the project

Joint reviews of the project will be undertaken on a six monthly basis wherein a number of stakeholders will participate to discuss progress and achievement of results compared to the plan. The joint review teams will use quantitative input / output data from the MIS database, supported by analysis, as well as processing monitoring and other information.

Impact Assessment: Two full-scale impact evaluation studies will be undertaken at midpoint (Mid-Term Assessment Report) and at completion (Final Assessment Report) of project implementation. The studies would include comparative analysis of performance in project areas with those of selected “control sites” in non-project areas.

Mid Term Assessment: The study would include an impact assessment of the project to date, but also focus on implementation processes and recommend adjustments in the project design and/or implementation arrangements to overcome identified bottlenecks. The Assessment Report would be a comprehensive overall impact assessment including quantitative and qualitative assessment of progress against project development objectives. The assessment will include socio-economic and environmental impacts of the project. This will also include GHG assessment for the project.

Final Assessment: The Final Assessment will be taken up towards end of the project. It will focus on understanding the outcomes of project interventions and effect of the same on the target population and compare these with the baseline situation to assess the effectiveness of the project in terms of physical infrastructure development, socio economic changes environmental impacts as well as institutional strengthening (of FPOs/FPCs, CHCs, etc.) Both the impact assessments will update the financial and economic analysis of project returns undertaken at the start of the project. These assessments will also undertake analysis of issues relating to sustainability of project outcomes and impacts. This will also include GHG assessment at the end of the project.

Social and Environmental Management Audits: The M&E agency will undertake two audits during the project period to assess the implementation of Environment and Social Management Framework (ESMF) of the project. These audits will focus on understanding the implementation and outcomes of the social and environmental management measures proposed in various stages of project cycle and also changes that have occurred in the project villages with respect to key concerns identified by the ESMF. Two audits will be undertaken – one in the mid-term of the project and second at the end of project period. IPNM as required under component A2 will be part of this audit.

5.2 RESULT MANAGEMENT FRAMEWORK AND INDICATORS

Proposed indicators at various levels are given below. A table indicating year-wise proposed achievements against each indicator is enclosed at Annexure -X

Table 24 Key Indicators for monitoring

PDO Level Indicators	
1. Climate resilient agriculture: Farmers adopting improved agricultural technology	
	Farmers adopting improved agricultural technologies promoted (CRA) (% targeted farmers) (% share of female)
2. Climate resilient agriculture: Improved water-use efficiency at farm level	
	Area provided with new/improved irrigation or drainage services (in ha)
3. Climate resilient agriculture: GHG Accounting	
	Net GHG emissions (in tCO ₂ eq/ha)
4. Profitability: Annual farm income	
	Farm income comparator (as ratio with/ without farm income)
5. Direct project beneficiaries	
	Number of farmers reached with agricultural assets or services (% of female)
Intermediate Outcome Indicators - Component A: Promoting Climate-resilient Agricultural Systems	
6. Climate resilient agriculture: improved yield uniformity and stability	
	Spatial and temporal yield variability for crop A (std. deviation of avg. yield in kg/ha)
	Spatial and temporal yield variability for crop B (std. deviation of avg. yield in kg/ha)
7. Climate resilient agriculture: Improved availability of water for agriculture	
	Surface water storage capacity from new farm ponds (in 1,000 m ³)
8. Climate resilient agriculture: Enhanced soil health at farm level	
	Area with GAPs for improved management of saline and sodic soils (in ha)

Intermediate Outcome Indicators - Component B: Climate-smart Post-Harvest Management and Value-chain Promotion
9. Seeds supply: Promotion of climate resilient crop varieties
Share of arable land under cultivation with improved seed varieties (in %)
10. Farmer Producer Companies: Strengthened and financially sustainable FPCs
Number of project-supported FPCs with growth in annual profit
Intermediate Outcome Indicators - Component C: Institutional Development, Service Delivery and Knowledge for Climate-resilient Agriculture
11. Research and Extension: Mainstreaming climate-resilience in agricultural research and technical advisory services
Number of updated district SREPs centered around climate resilience (x out of 15)
12. Climate Innovation Centre: Private sector participation
Number of clients (FPCs, SMEs, ...) receiving services from the CIC
Cross-cutting Indicators
13. Beneficiary Participation and Civic Engagement
Number of approved participatory mini watershed plans implemented / under implementation

5.3 FEEDBACK AND LEARNING MECHANISM

Apart from the responsibilities assigned to the M&E agency, the PMU will constitute an internal team who will undertake the field visits on a periodic basis. The PMU team will consist of the subject matter specialist. Supplementation of the work of M&E agencies with these internal monitoring teams will facilitate integration and comprehensive review of project activities at the cluster and district level. This review will help the PMU as well as the district level officials in getting a 360⁰ feedback which will also create the opportunities for learning of project functionaries.

6 COMPLIANCE PROCEDURES

6.1 FINANCIAL MANAGEMENT FRAMEWORK

6.1.1 Introduction

A sound Financial Management system is critical for the efficient and effective decision-making for the implementation of the project. This includes proper planning, budgeting, accounting, financial reporting, internal control, auditing and physical performance of the project with the aim of managing the project resources properly for achieving the project objectives. Since the financial transactions of PoCRA will be done at different levels viz. the State, PMU, DPMU and the cluster level, it is imperative that the financial management framework captures the details of all transaction at every level and reflects them through proper accounting system.

6.1.2 Objective

The objective of financial management system of PoCRA is to ensure effective management and utilisation of project resources for achieving the project objectives. The primary objective of sound financial management is

- to ensure smooth flow of funds to the different project implementing level/agencies, so that there is no delay in implementation of project activities.
- all financial transactions are as per the rules and procedures and in line with the norms of the project,
- all such transactions are duly accounted for in the prescribed formats and
- all payments due to be made to any service providers are done in efficient, speedy and transparent manner.

Since the implementation is at different levels, it is important that there is a coherence and standardisation in project budgeting, accounting, financial reporting and audit, etc. aligned with the norms of the World Bank. An important objective of this document and the Financial Management Manual is to guide all the project implementing authorities and participants in general and the finance persons in particular, in the financial issues in the project. The financial management of PoCRA aims at producing real time, relevant and reliable financial information that would allow the project executives to plan and implement the project, monitor compliance with agreed procedures, and guide the project progress towards the set objectives.

6.1.3 Fund Flow

The State Government prepares its own budget, which comprises a receipts section and an expenditure section. All incoming receipts of loans and grants through the central government (called additional central assistance) are included in the receipts budget. Estimated expenditure on all externally aided projects (comprising both the share of the state government and the external agencies) is included in the expenditure budget. The flow of funds in this project shall be at GOI level, at State level, at PMU level, at District level and at Sub-divisional level.

6.1.3.1 GOI level

The World Bank shall transfer funds into a Special Account opened for the PoCRA project with the Reserve Bank of India. This account will be operated by the Controller of Aid, Accounts and Audit (CAAA), Department of Economics Affairs (MoF), GoI. The Department of Economic Affairs (DEA) in Ministry of Finance acts as the administrative authority in respect of all fund flows originated under an externally aided program (EAP). Under the proposed arrangements there shall be back to back transfer of funds from GOI to the State Government on receipt of funds from the World Bank.

6.1.3.2 State Level

Government of India will transfer funds to the Loan Account of Government of Maharashtra. Government of Maharashtra will pass on the funds (Bank finance and own contribution) to project implementing agencies through budgetary grants. The Finance Department shall allocate budget to Department of Agriculture.

6.1.3.3 Fund Flow to PMU PoCRA

The Department of Agriculture will further allocate the budgetary grants through BDS to Controlling Officer in PMU. The budget allocation for Project Director PoCRA will specify the funds provided for activities to be carried out at PMU Level. The DDO in the office of PMU will incur expenditure through Pay and Account Office (PAO) for following purposes:

1. Project Management expenses
2. Project Component expenses

6.1.3.4 Fund Flow at District level

6.1.3.4.1 Fund flow to DSAO

The Controlling Officer in PMU will further allocate the budgetary grants through BDS to the District Superintending Agriculture Officer (DSAO). The DDO in the office of DSAO will incur following expenditure through treasury for following purposes:

1. Project Management expenses
2. Project Component expenses

6.1.3.4.2 Fund Flow to ATMA

The funds sanctioned to ATMA shall be released on BDS to DSAO. The DSAO will draw funds from district treasury and deposit in a separate account of Project Director ATMA. The Project Director ATMA will make payments from the funds deposited in his account for following expenditure:

1. Project Management expenses
2. Project Component expenses

6.1.3.5 Fund Flow at Sub-Divisional level

The DSAO will further allocate the budgetary grants through BDS to the Sub-Divisional Agriculture Officer (SDAO). The DDO in the office of SDAO will incur following expenditure through treasury:

1. Project Management expenses
2. Project Component expenses

The actual fund flow for the project & units under the project is depicted in detail in the finance manual.

6.1.3.6 Fund Flow at Cluster/Village Level

The Funds sanctioned to VCRMC for meeting project related expenses shall be released by Sub-Divisional Agriculture Officer through core banking system. The SDAO will draw funds from treasury and deposit in a bank account of VCRMC. The VCRMC will make payments from the funds deposited in bank account against the project expenses.

The funds for project implementation will be channelled to the project implementation agencies as per the flow as envisaged in Figure below.

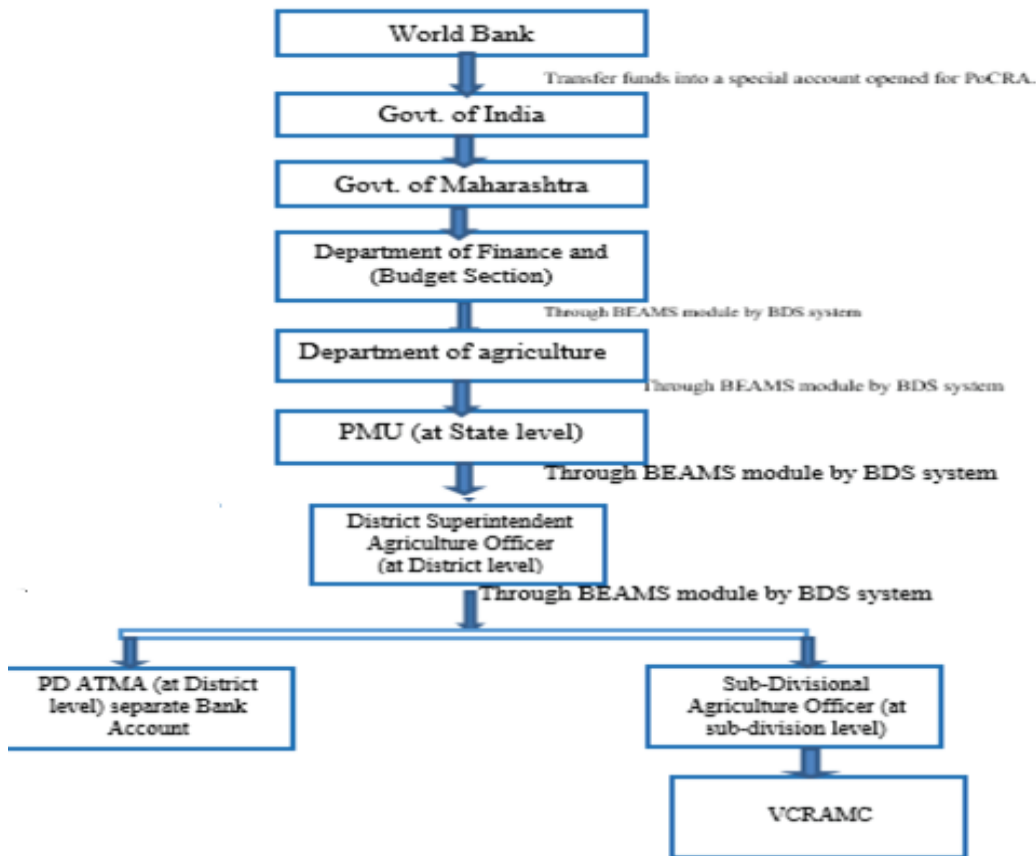


Figure 34 Fund Flow Mechanism

The Annual Work Plan of the project will be approved by the Steering Committee.

Audit: There shall be external & internal audit arrangement for the project. Utilisation Certificates will be verified by the internal audit system.

6.2 DIRECT BENEFIT TRANSFER MECHANISM

6.2.1 Objective

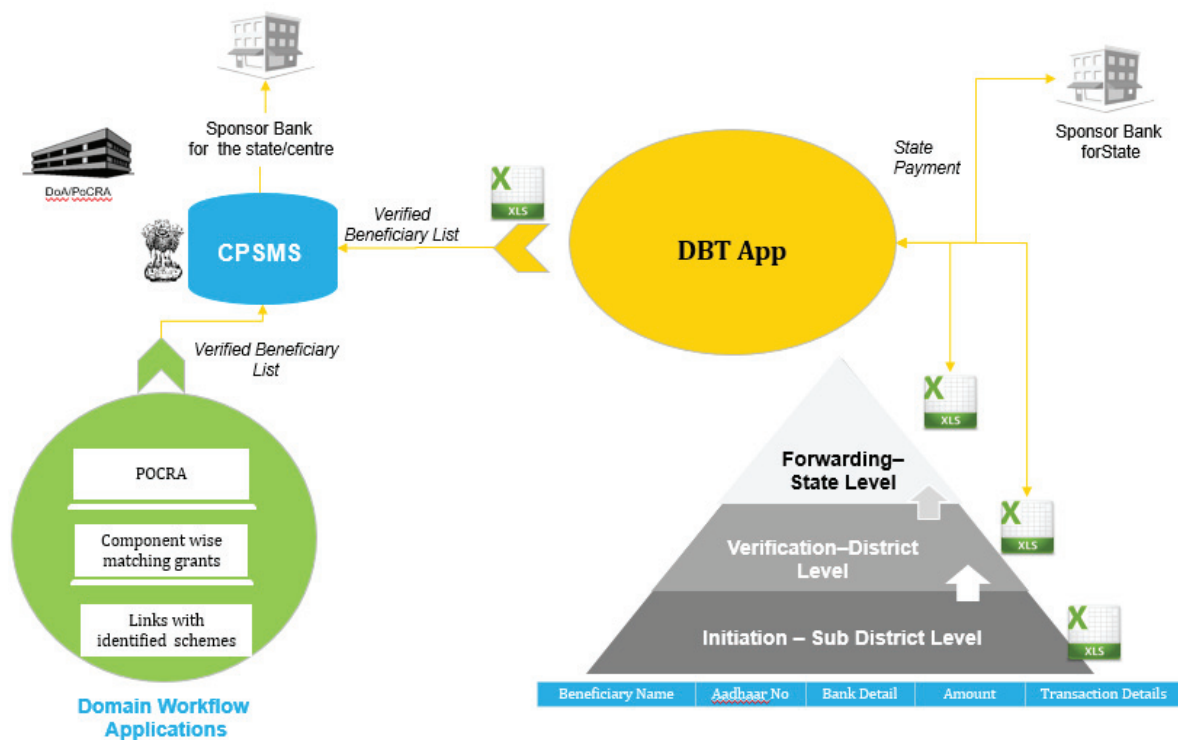
Direct benefit transfer scheme aims to improve the efficiency of various schemes and programmes.

Government of India has advised States to adopt this method for transfer of various subsidies and grants under different schemes. So far DBT has been rolled out for as many as 20 schemes in 43 pilot districts since 2013. The three most promising pilot schemes of DBT are PAHAL (modified DBTL for LPG Subsidy), Public Distribution System (PDS) and Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA). Maharashtra is one of the pioneers in adopting DBT under various schemes. PoCRA will adopt the same process for transferring project related matching grants to beneficiaries adopting the DBT framework. This will be built into the project MIS.

6.2.2 Approach

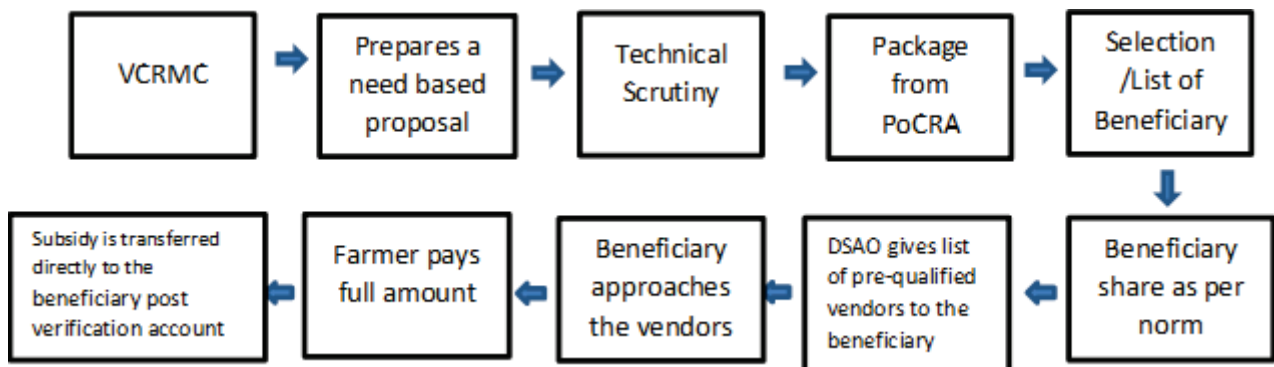
Since the state is following the DBT process, the project will follow this workflow as given below to integrate with the state DBT cell. Project MIS will also have an interface to the DBT App.

Figure 35 DBT workflow integration with PoCRA



6.2.3 Guidelines

The following workflow from VCRM upwards will be followed for seamless integration:



Step 1: POCRA beneficiary list is generated from clusters as per the project components from the clusters

Step 2: Beneficiary database to be digitised as per the format below by the trained cluster assistant as per the format below:

Step 3 Aadhar ID has to be seeded with the beneficiary database with the support of district NIC unit and to be coordinated by DSAO. Whoever, does not have AADHAR card has to be enrolled by enrolled agency.

Step 4: The bank account of the beneficiary has to be linked with Aadhar. Whoever does not have bank account, new account to be opened with Aadhar along with bank specific KYC.

Step 5: The Department/Ministry/Implementing Agency(PoCRA) will furnish to the Sponsor Bank a list of beneficiaries for issue of Payment Advice, based on the Aadhar number, Scheme reference number and the amounts to be paid.

Step 6: For all those beneficiaries whose Aadhar number have been seeded into the beneficiary database by the Department/Ministry/Implementing Agency (PoCRA) as well as in the bank's Core Banking Solution (CBS), Payment Advice may be made only using Aadhar through the Aadhar Payment Bridge (APB).

Step 7: Payment Advice would be sent to the Sponsor Bank in an electronic form, in XML/ Excel sheet duly authenticated containing a Unique Transaction Reference Number, beneficiary Aadhar number and amount.

Step 8: The bank, after execution of the Payment Advice will send the confirmation, or, in case of failed transactions, the details thereof, to the concerned Department / Ministry/Implementing Agency.

6.3 PROCUREMENT

6.3.1 Procurement Arrangement

The Project shall adhere to World Bank's New Procurement Framework comprised of policies and World Bank Procurement Regulations for IPF Borrowers" (July 2016) ("Procurement Regulations").

Accordingly, a separate Procurement Manual is prepared for the project describing Procurement Strategy, Procurement Approach, methods of procurement and procedures of procurement of Goods, Works, Non Consulting services and consulting services.

This is, by principle, to be a reference document for undertaking any type of procurement as might be necessitated under POCRA. The procurement manual defines the constitution and scope of Procurement Cell under the aegis of PMU, POCRA. It also chalks out about procurement plan and risk mitigation plan.

The rights and obligations of POCRA, Government of Maharashtra (the Borrower) and the providers of Goods, Works, Non-consulting Services and Consulting Services for IPF operations are governed by the relevant request for bids/request for proposals document and by the contracts signed by POCRA and the providers of Goods, Works, Non-consulting Services, and Consulting Services, and not by procurement regulations or the legal agreement. No party other than the parties to the legal agreement shall derive any rights from, or have any claim to financing proceeds.

6.3.2 Procurement Implementation Arrangement

PoCRA is primarily a Community demand driven project. The project proposes to develop and implement 790 mini-watershed plans in 5000 villages.

The planning process for the project starts at the village level and Mini-watershed based planning in clusters of villages in the project area will play an important role.

A village level micro plan will be developed in participatory manner and further consolidated into Cluster plan. The micro plan will cover

1. Cluster Profile- Socio Economic, Geo-physical, Agriculture, Livestock
2. Constraint Analysis- Water status, Soil health, Crop production, Marketing, Social, Gender

3. Causal analysis of crop wise yield gaps
4. Causal analysis of commodity value chain gaps
5. Opportunity mapping- resources & opportunities
6. Scope for major interventions like Water conservation & water harvesting structures, Soil & salinity management, Micro-irrigation, Plantation, Production technology, Mechanization, Agribusiness infrastructure, FPO/ FPC strengthening etc.
7. Training and Skill need analysis of farmers
8. Special needs of small holders, SC/ST farmers and Women farmers.

Based on the outcome of participatory micro plan, a detailed cluster development plan (CDP) will be developed. CDP will be the basic unit of planning for this project and it will give account of activities under Components A, B & C to be implemented in the cluster. Each CDP will be backed up by a technical sanction by the SDAO and Gram Sabha resolutions of the participating villages.

Therefore, the procurement requirements are substantial in quantity but are of small value.

6.3.3 PROCUREMENT CELLS

Procurement Cell at State Level in PMU

Procurement under project will be managed by the State Project Implementation Unit (PMU) headed by the Project Director (POCRA) who is overall in-charge of project implementation, procurement Specialist and adequate staff for overall Procurement Management under the project. The PMU will be the Project Nodal Agency responsible for guiding, monitoring and supervising the overall procurement implementation under the project. It would be responsible for all contracting and procurements in the project at state level and the PMU shall have the oversight and do the needful handholding and training as required for district and sub-district level procurement. It will also do the supervision of contracting and procurements at State/ district/ community level, across all components as advised by technical staff, consultants and specialized agencies contracted for this purpose.

In addition to overall responsibility of procurement activities, the Procurement Cells will:

- a. Review the Procurement Plan for procurement to be conducted at the respective level and submit for Bank's clearance through STEP;
- b. Ensure that consistent and correct methods of procurement as specified in the Financing Agreement and as per procedures outlined in this Manual are consistently followed by all the procurement entities of the Project;
- c. Finalize technical specifications for goods/civil works and terms of references for consulting services respectively and preparation of bid documents;

- d. Evaluation of quotations/ bids for goods & works and proposals for consultancies followed by preparation of evaluation reports;
- e. Develop and maintain Procurement Management Information System through banks STEP portal and project MIS of all procurements done in the Project;
- f. Maintain records of all procurement related complaints received and their disposal;
- g. Collect, collate all procurement related information for review by Bank and its auditors;
- h. Ensure that all procurement related records and documents required by the Bank Procurement Regulations are properly maintained, kept by the various procurement entities; with a system to retrieve the required document within a reasonable time.
- i. Seek Bank No Objection for all Prior Review cases and wherever required as per the Bank's regulations or Procurement Plan.

PIU Level Procurement Cells at Regional / District /Sub-Division Level:

At the Regional/District/Sub-division Level the procurements under project will be managed by the PIUs led by the Regional Joint Directors of Agriculture / District Superintending Agricultural Officers/Sub-divisional Agricultural Officer of respective Region / District, who are overall in-charge of implementation of project activities under POCRA within the Region /District/Sub-division. The Procurement Cells under PIUs will be created at District level supported by designated Supervising Officers at the Regional / District /Sub-division level and designated procurement/finance management support staff.

6.3.4 PROCUREMENT PLAN

The PMU with involvement of District PIUs will prepare a procurement plan based on the projected activities in the Project Implementation Plan. The PMU will be the nodal agency with the responsibility of preparing the procurement plan and getting it cleared from Bank through the online STEP system. The Procurement Plan will include description of goods, works and non-consultant and consultant services to be procured (year-wise over the implementation period) along with their values which are consistent with technically and administratively approved cost estimates and milestones for all procurement activities. List of goods, works and services to be procured under the project year-wise, with estimated cost and method of procurement have been mentioned in the format specified by the Bank.

During preparation of the procurement plans, packaging shall be done appropriately indicating realistic dates. Items of similar nature, which can be supplied by same set of firms, should be packaged together

to achieve economies of scale. Aggregate value of total package will form the basis for determining the procurement method as well as the review requirement of the World Bank. For procurement of goods, works, equipment etc. suitable package shall be framed which shall be determined by below noted factors, namely

- Time limits, Geographical location (dispersal of works)

Following points should be borne while preparing the Procurement plan

- (a) All procurement shall follow the agreed processes and procedures as specified in Bank Regulations and is elaborated in this manual.
- (b) Bidding documents as agreed with Bank shall be used.
- (c) Procurement plan shall be based on activities in the agreed cost tables. All procurements to be carried out on the basis of core principles i.e. Economy, Efficiency, transparency.
- (d) The prepared 18 month plan shall be revised/updated at least once in 12 months and sent to bank for prior clearance through STEP. After the clearance the Procurement Plan will be published on the project website and Bank website.

6.3.5 STEP

STEP is a web-based system which is to be used for submission and publication of procurement plan, notices, documents etc. by the IFP Borrowers of the Bank and the Project Officials shall use STEP initially to create and later to revise Procurement Plans under Investment Project Financing (IPF), and to monitor performance, manage and store related documentation for all steps in a procurement activity. This will include both activities that are prior reviewed by the Bank and contracts subject to post review. STEP portal enables Bank Team to view activities at several levels of aggregation, including activity, project, and portfolio levels.

The major functions of STEP are procurement notices, procurement planning, tracking, correspondence system, checking supplier eligibility.

6.3.6 METHODS OF PROCUREMENT

The following are the methods of procurement of goods and works to be adopted in the Project:

- o Request For Proposal

- o Request For Bids
- o Request For Quotations
- o Direct Selection
- o Framework Agreement
- o Force Account

Following are the approved selection methods for the consulting services:

- o Quality Cost Based Selection
- o Fixed Budget Based Selection
- o Least Cost Based Selection
- o Quality Based Selection
- o Consultants Qualification Based Selection
- o Direct Selection

Procurement Manual provides detailed description of each methods of procurement mentioned above.

6.3.7 COMMUNITY PROCUREMENT

All the village level civil works are expected to be done by the village level community itself through VCRMC. Also Farmer Producer Group/Organization engaged in village/cluster level agri-business/agri-entrepreneurship are expected to procure necessary goods and works for establishing agri-enterprises by themselves.

Community participation in the works/ activities from planning to post implementation can help in smooth operation and maintenance and successful implementation of the projects.

The procurement Manual provides simple step by step instructions to the VCRMC on how they will go about procuring the various goods, works and services required for implementation of the project and includes simple forms and formats to be used during procurement procedures applicable in the project. This is intended to enhance the capacity of the VCRMC to undertake procurement to meet project needs.

6.4 ENVIRONMENT AND SOCIAL MANAGEMENT FRAMEWORK (ESMF)

6.4.1 Environmental management framework

The Environment Management Framework (EMF) is prepared taking into account the key concerns of different stakeholders and their suggestions on different project components. The framework also encompasses learning from various research studies and implementations at national and international level, including similar interventions in other places. While designing the framework, the project has taken a holistic view to deal with the concerns and ensures the outcomes of the project are realized in coherence to the environment. The project is intended to improve the local environmental conditions and ecosystem services. Focus on promotion of climate resilient agricultural practices will improve the natural resource management options in a more scientific manner along with conservation measures.

Following the classification of the World Bank on the project category, it can be concluded, after environmental screening, that the project falls in to “Category B”, i.e., the project is likely to have moderate environmental impacts. The EMP reflects in detail about different mitigation measures that the project will take to improve the current environmental conditions that are most likely to benefit the community in general and farmers in particular.

Environmental Management Framework elaborated the potential negative and positive impacts of project activities on environment. This assessment based on the secondary data and stakeholder consultations. The summary has been given below. The details are available in the environmental assessment report separately.

Table 25 Degree of Environmental Impact of Selected Project Activities

Broad Project Activities	Impact Category	Implications of EMF
Mini Watershed Planning	No Impact	As per Guidelines / Finalized Framework
Promotion of FPC		
Farmer Field School	Minimal to Low	Adoption of Recommended Practices / Best Practices / Technical Feasibility Dimensions
Sub-Surface Drainage in Saline-Sodic Land		
Farm Pond		
Construction of Water Harvesting Structures		
Drainage Line Treatment		
Micro Irrigation System		
1. Support to FIG/FPO/FPCs for product aggregation, handling, transformation & marketing		
2. Seed Production and Processing infrastructure		

Broadly it has been assessed that project will not have any major negative environmental impacts. Rather, it will be helpful for the environmental restoration. However, some of the anticipated impacts are listed below:

Table 26 Environmental Impact

Particulars of Components & Subcomponents	Environmental Impact (Yes / No)	Potential Environmental Impact
Promoting Climate-resilient Agricultural Systems		
Participatory development of mini watershed plans	No	
Climate smart agriculture and resilient farming systems		
Demonstration of climate resilient agronomic practices: Farmers Field Schools	No	
Enhancement in Carbon sequestration		
Afforestation in upper reaches	Yes (+ve Impact)	Check on topsoil erosion Check on siltation of water courses and waterbodies Check on speed of runoff water Improvement in infiltration of the water into the ground Improvement in groundwater level Improvement in carbon sequestration (depending on the species being planted) Improvement in biomass availability
Plantation of horticulture plants	Yes (+ve Impact)	Improved availability of biomass and organic content in the long run
Conservation agriculture	Yes (+ve Impact)	Improvement in soil moisture Improvement in soil carbon Improvement in benevolent soil microbes and fauna Lowering in consumption of synthetic fertilizers and pesticides

Improvement of saline and sodic soils		
Farm Field Schools (FFS)-Saline soils	No	
Subsurface drainage	Yes (+ve Impact)	Decrease in soil salinity
Application of soil amendments	Yes (+ve Impact)	Decrease in soil salinity Increase in application synthetic fertilizers
Catchment / Land Treatment		
Catchment treatment; Continuous Contour trenches	Yes (+ve Impact)	Decrease in topsoil erosion Decrease in speed of volume of runoff water Increase in water infiltration and thus volume of groundwater
Drainage line treatment		
Construction of Earthen Nala Bunds	Yes (+ve Impact)	Decrease in runoff water Increase in water infiltration and thus volume of groundwater Increase in volume of surface water Decrease in siltation of watercourses
Construction of Cement Nala Bunds	Yes (+ve Impact)	Decrease in runoff water Increase in water infiltration and thus volume of groundwater Increase in volume of surface water Decrease in siltation of watercourses
Improvement of water courses; Deepening of nalas	Yes (+ve Impact)	Increase in volume of surface water available
Construction of new water harvesting structures		
Construction of community farm ponds	Yes (Overall +ve Impact)	Increase in use of non-biodegradable material (if plastic sheet lining is used) Increase in volume of surface water

		Increase in water infiltration and thus volume of groundwater available
Construction of individual farm ponds	Yes (Overall +ve Impact)	Increase in use of non-biodegradable material (if plastic sheet lining is used) Increase in volume of surface water Increase in water infiltration and thus volume of groundwater available
Rejuvenation or desilting of existing water harvesting structures	Yes (+ve Impact)	Increase in volume of surface water Increase in water infiltration and thus volume of groundwater available
Construction of groundwater recharge structures; Recharging of open dug wells/ bore wells	Yes (+ve Impact)	Increase in water infiltration in the soil Increase in volume of groundwater
On-farm water security; Compartment bunding	Yes (+ve Impact)	Decrease in soil erosion
Micro irrigation systems		
Installation of drip irrigation systems	Yes (+ve Impact)	Increase in energy consumption (due to pumping of water) Decrease in water consumption Decrease in water wastage Improved water use efficiency / water productivity
Installation of sprinkler irrigation systems	Yes (+ve Impact)	Increase in energy consumption (due to pumping of water) Decrease in water consumption Decrease in water wastage
Strengthening Emerging Value-chains for Climate-resilient Commodities		
Support to FPCs for product aggregation, handling, transformation and marketing.	Yes (+ve impact)	Aggregation and bulk handling will reduce post-harvest wastage

The project by virtue of PDO and by design is a positive mitigation project and there is no major anticipated negative impact. However, if any project intervention is not implemented properly there may be some temporary and localized adverse impacts for which the mitigation measures are listed below:

Table 27 Expected Negative Impacts and Mitigation Measures

Project Activities	Anticipated Impacts	Potential Mitigation Measures
A2. On-farm climate-resilient technologies and agronomic practices		
A2.1 Demonstration of Climate Smart Agriculture	<ul style="list-style-type: none"> · Inappropriate use of fertilizer · Inappropriate use of fertilizer 	<ul style="list-style-type: none"> · Encourage use of bio-fertilizers; bio-compost, vermicomposting, green manure, microbial inoculants, etc. · Adoption of INM / IPM to reduce chances of soil contamination and water pollution. · Promotion of bio-pesticides · Prohibition of banned pesticides · Plantation of pest controlling plants (in feasible / suitable cases). · Promotion of suitable cultural practices like deep ploughing, seed treatment, mixed cropping etc.
Catchment treatment	all efforts made under PoCRA aims at maintaining standard hydrological flow around drainage line in addition conjunctive use around catchment	This will be judiciously monitored
A2.4 Protected Cultivation Shed net house (GI/MS pipes);	By default protected cultivation should reduce adverse pest attack, however, if there is any incidence	<ul style="list-style-type: none"> · - Remove debris materials that might harbour or provide habitat

Project Activities	Anticipated Impacts	Potential Mitigation Measures
Shed net house – Bamboo; Poly house (open vent)	of pest / insect due to conducive environment may be higher	<p>for pest multiplication on the site of the greenhouses</p> <ul style="list-style-type: none"> · Avoid fumigation of soils by chemicals wherever possible · Sterilize soil by Soil solarisation · Maintenance / repair of faulty greenhouse structures which help in the entry of insect-pests · Always use insect-proof net screens · Shed Net / Poly House Structure can have double entry gates so as to minimize the risk of pest entry and staying back (if economically feasible) · Preparation of bed by building up rich flora of biological control agents for the management of soil borne pathogens especially nematodes. · Pest Monitoring measures using sticky traps · Introducing cultural control methods like resistant seed varieties, · Integrated Pest Management (IPM) strategies · Applying pesticides only when pest populations are large enough to cause economic losses (Above ETL)

Project Activities	Anticipated Impacts	Potential Mitigation Measures
		<ul style="list-style-type: none"> Developing understanding of farmers on the impact of their activities on environment
Component B. Climate Smart Post-Harvest Management and Value Chain Promotion		
Support to FIG/FPO/FPCs for product aggregation, handling, transformation & marketing	General construction related safeguards	Standard EMP checklist developed as part of the project will meet the compliance requirement
B3. Improving the Performance of the Seed Supply Chain B3.2 Development of seed hub- infrastructure support	General construction related safeguards	Standard EMP checklist developed as part of the project will meet the compliance requirement

6.4.2 Social Management Framework

The stakeholder consultation has shown that the socio-economic diversity prevalent in the area and indicates the preponderance of people from different castes, gender, ethnicity and diverse livelihood practices with varying economic status. Such diversity necessitates specific interventions to improve the socio-economic status of the users especially for the landless, marginal land holders and the Scheduled Tribe. This also calls for taking into consideration specific legal and constitutional provisions while the project is being implemented and complying with the World Bank's (WB) relevant social safeguard policies related to indigenous people. Based on the activities identified the land acquisition is not foreseen and relevant safeguard policy may not require to be triggered.

The Social Management Framework (SMF) is also prepared taking into account the key concerns of different stakeholders and their suggestions on different project components.

6.4.2.1 Social Management Plan

While designing the framework, the project has taken a holistic view to deal with the concerns and ensure the outcomes of the project is realized in order to benefit the small holders and marginalized sections of the project locations.

Table 28 Social Management Plan

Activity	Sub-Activity	Key Challenges	Proposed Project Measures	Project Stage		Responsibility		
				Planning	Implementation	Primary	Secondary	Tertiary
COM A-A1 Participatory Development of Mini Watershed Plans	Preparation of Cluster Level Plans	Identification of needs of MF, SF, and farmers belonging to ST and marginalized community and its inclusion in the plan	Assessment of needs by holding categories, social categories with special focus on women farmers. Planning by social and holding categories, taking the assessment findings into account, for each component of the project. Adoption of inclusion strategy in each activity during planning, based on the scope and feasibility.	√		External Agency Engaged for Facilitating Plan Preparation SDAO	DSAO	PMU
COM A-A2 Demonstration of climate resilient agronomic practices(CRAP) dry land farming	Farm Field School (FFS) for Technology Dissemination	Demonstration in inaccessible tribal areas / scheduled areas; Coverage of less holding farmers, including women farmers and farmers from ST/SC communities. Adoption / Learning Replication	Coverage of inaccessible pockets / scheduled areas under demonstration / FFS; Coverage of tribal farmers, women farmers and other farmers having less land holding (based on their interest); Hand holding support and on-farm guidance to farmers.		√	SDAO VCRMC Cluster Committee Technical Agency (Association Based)	DSAO	PMU
Enhancement in Carbon Sequestration	Agroforestry- farm periphery/ small block	Coverage of available culturable waste and other lands of small holders, farmers from ST / SC community, women farmers and farmers having land under FRA	Assessment of area available for plantation of fruit trees, taking in to account farmers having less holding; Rejuvenation of degraded land through plantation in areas falling under scheduled area;		√	SDAO VCRMC Cluster Committee	DSAO	PMU

					and tribal farmers, adhering to the prescribed norms; Facilitate credit accessibility of marginal and small farmers, women farmers and farmers from ST/SC community through appropriate institutional arrangement and mechanism for greater access of benefit.				
Integrated Farming Systems	Promotion of Small Ruminants; Backyard Poultry; Sericulture; Apiculture; Inland fishery; Other agro-based Livelihood	Appropriate targeting and coverage; Economic feasibility of livelihood support activities and its sustenance	Identification of beneficiary households through participatory planning process (village / cluster level planning); Selection of target households and its finalization in the Gram Sabha, including in scheduled areas; Convergence with other departments, for services and wider coverage; Capacity building of the beneficiaries on management of specific livelihood intervention.	√	SDAO VCRMC Farmer Friend Line Dept. / Other Institutions / Societies of Govt.	DSAO	PMU		
Soil Health Improvement	Vermi-compost and NADEP Units; Organic input production unit	Continuity of practice by farmers and its sustained adoption	Coverage of use of vermi-compost / NADEP unit in demonstrations (FFS) for farmer's learning and adoption; Capacity building of farmers on organic farming systems;	√	SDAO VCRMC Farmer Friend	DSAO	PMU		
COM A-A3									
Catchment Treatment; Drainage Line Treatment	Continuous Contour trenches Model1 & Model 2; Construction of Loose Boulder Structures;	Coverage of land given to tribal farmers under FRA (if such land required for treatment);	Identification of treatment area during planning; Coverage of forest lands, allotted under FRA to tribal farmers / other forest dwellers under treatment;	√	SDAO VCRMC Cluster Committee	DSAO	PMU		

Construction of new water harvesting structures	Earthen Nala Bunds; Cement Nala Bunds	Construction of Community Farm ponds; Individual Farm Ponds (with/without lining); Open Dug Well	Less involvement of SF / MF / WF and farmers from ST/SC Communities due to poor investment capacity / non-availability of land for farm pond.	In suitable cases, coverage of forest land given under FRA under community forest right under soil and water conservation and land treatment measures, Inclusion of SF/MF/WF, based on their interest, including farmers from ST/SC communities, as identified in the village / cluster planning; Facilitate credit accessibility through appropriate institutional arrangement and mechanism; Provision of matching grant for marginal and small farmers in general and Farmers from ST/SC and women farmers in particular. In cases of SF / MF, where farm pond is not feasible due to less availability of land, construction of dug well can be taken up, as identified in the village / cluster level plan.	√	SDAO ATMA VCRMC Cluster Committee	DSAO	PMU	
Micro irrigation systems		Drip and Sprinkler irrigation systems	Involvement of SF / MF / WF and farmers of low holding categories from ST / SC communities	Focusing on small patch of lands of farmers having less land holding (MF / SM), based on economic feasibility. Inclusion of SF/MF/WF, and farmers from ST/SC community as per the village / cluster level plan; Facilitate credit accessibility through appropriate institutional arrangement (like VCRMC) and mechanism; Matching grant support to marginal farmer, small farmers, women farmers and tribal farmers, adhering to the prescribed norms;	√	SDAO ATMA VCRMC Cluster Committee	DSAO	PMU	

Protective Irrigation	Water pumps & carrying pipes	Coverage of SF / MF / WF and farmers of low holding categories from ST / SC communities	Convergence with existing schemes for wider coverage; Facilitate convergence with schemes of Tribal Development Dept. for improved coverage of tribal farmers under micro irrigation. Inclusion of SF/MF/WF, and farmers from ST/SC community as per the local planning (village / cluster level plans); Facilitate credit accessibility through appropriate institutional arrangement (like VCRMC) and mechanism; Matching grant support (as per the norm) for marginal and small farmers in general and Farmers from ST/SC and women farmers in particular; Facilitate convergence with existing schemes for wider coverage; Facilitate convergence with schemes of Tribal Development Dept. for improved coverage of tribal farmers.	√	SDAO ATMA VCRMC Cluster Committee	DSAO	PMU														
COMP B																					
SUB. COM B.1																					
Support to existing FPCs	Preparation of development plan of FIG/FPO/FPC Strengthening of existing FIG/FPO/FPCs Developing market linkages	Inaccessible / poorly accessible pockets and Tribal Habitations may not have FPCs; Market linkage of agricultural commodities in interior pockets	Assessment of existing FPCs and identification of areas of improvement; Preparing detail plan and strategy for strengthening FPCs in inaccessible / poorly accessible pockets and scheduled areas; Capacity building of FPCs, based on identified areas of improvement through training / exposure / guidance / hand holding support;	√	Resource Agency SDAO FPC	DSAO	PMU														

Establishment of Custom Hiring Centres	Custom Hiring Centres	Availability of land for establishing CHC; Establishment of CHCs in less accessible / scheduled areas; Accessibility of MF, SF, tribal farming families and women farmers to the farm machinery;	Market assessment in general and in interior pockets in particular for different commodities (including value chain assessment) and developing market linkage strategy; Land available with FPCs will be utilized, after due scrutiny and verification; In scheduled areas, decision of Gram Sabha will be followed. Establishment of CHCs in such areas, based on the identified requirement during planning process and after due verification of the feasibility. Devising guiding principles / procedures of effective operation of CHCs for equal opportunity accessibility. Women farmer friendly farm equipment in the CHCs (developed by ICAR institution/s)	√	SDAO ATMA FPC	DSAO	PMU						
		Women friendly farm machinery / equipment		√	SDAO ATMA FPC	DSAO	PMU						
SUB. COM B.2													
Support to FIG/FPO/FPCs for product aggregation, handling, transformation & marketing	Support to business plans appraised by financial institutions/ commercial banks	Inaccessible / poorly accessible pockets and tribal habitations may not have FPCs; Poor operating capital base of FPCs restraining from taking up business ventures.	Market assessment in general and in interior pockets in particular for different commodities (including value chain assessment) and developing market linkage strategy; Land available with FPCs will be utilized, after due scrutiny and verification; In scheduled areas, decision of Gram Sabha will be followed. Establishment of CHCs in such areas, based on the identified requirement during planning process and after due verification of the feasibility. Devising guiding principles / procedures of effective operation of CHCs for equal opportunity accessibility. Women farmer friendly farm equipment in the CHCs (developed by ICAR institution/s)	√	SDAO FPC	DSAO	PMU						

COMC										
Capacity Building	TNA, Training Design and Module Preparation; Training of Project Officials / experts, Farmer's Friend, VCRM, Farmers Exposure Visits	Participation of women farmers and farmers from ST/SC community, especially heterogeneous community; Identification of training needs by farmer category and designing the module to meet their requirements; Uniform capacity building plan may not help to all the primary stakeholders at the community level	Capacity building need assessment of women farmers and farmers from ST/SC community along with other farmers in general; Designing training module keeping the needs of farmers of different holding categories, their educational level etc.; Ensuring their involvement in capacity building measures like training / exposure as per the identified needs; Organising trainings at local level to ensure participation of women farmers; In case of requirement, organising exclusive training of women farmers, based on their number, at cluster level; Preparing training session plan taking women engagement in to account and based on their identified needs;	√	SDAO ATMA External Agency Engaged for Capacity Building	DSAO	PMU			

6.4.2.2 Tribal Peoples Planning Framework (TPPF)

The project will have exclusive strategic focus for greater inclusion and proportionate representation of tribal in non-scheduled areas and their active association in project interventions in scheduled / tribal dominated areas. The strategy proposed for inclusion of tribal communities is discussed below.

Table 29 Project Approach and Strategy for Tribal Development

Project Stages	Project Approach and Strategy	Expected Outcome
Preparatory Phase	<p>Discussion with tribal families / farmers of the project area in general and exclusively in scheduled areas on project component and activities;</p> <p>Identifying key issues in the way of their greater involvement and benefitting from the project intervention;</p> <p>Preparing a priority list of actions, based on the identified issues and interest of tribal farmers / families of the project area.</p> <p>Preparing cluster specific plan of action for better inclusion of tribal in different activities that are feasible for their greater participation.</p>	<p>Key intervention areas are identified and guidelines prepared for improved participation of tribal in general and tribal farmers, in particular.</p> <p>List of actions finalized for implementation to ensure greater involvement and participation of tribal by activities</p>
Implementation Phase	<p>Implementing priority actions that are finalized during preparatory phase;</p> <p>Initiatives for convergence with tribal development schemes of Government at the village / cluster level;</p> <p>Priority action in inaccessible scheduled areas (project clusters) for establishment of infrastructures that are planned under the project, based on feasibility;</p> <p>Equal opportunity to dispersed tribal (living in a mixed community) for accessing project benefits, as per the plan for beneficiary coverage;</p> <p>Ensuring greater participation of tribal community in activities / sub-activities taken up under each component / sub-components of the project;</p> <p>Taking measures, adhering to the scope of the project, to build the capacity of tribal farmers in agricultural technologies, marketing, institution management etc., as per the project requirements;</p> <p>Taking measures that are legally binding under PESA;</p> <p>Monitoring of actions taken under the project for inclusion of tribal by project component / sub-components and initiating corrective measures accordingly;</p> <p>Documenting success and learning from different initiatives undertaken by the project that ensures greater participation of tribal.</p>	<p>Participation of tribal / tribal farmers in different activities implemented under the project;</p> <p>Project supported infrastructure and services in less accessible scheduled areas / tribal dominated areas;</p> <p>Inclusion of tribes and their active involvement ensured with better operational and management capabilities;</p> <p>Adoption of improved farming technologies by the tribal farmers and hence better yield from the available land.</p>

Table 30 Tribal People's Planning Framework

Activity	Sub-Activity	Key Challenges	Project Approach and Strategy
Improvement of Seed Supply Chain	Mapping Farmer's Preferences / Needs	Capturing needs of tribal farmers in a mixed population where ST concentration is less	Initiative to identify needs of tribal farmers by land holding pattern. Listing seed preference by tribal / non-tribal category
	Identification of seed farmer group/FPOs or FPCs	Involvement of tribal farmers in multiplication & Replacement of seeds	Giving priority to the interest of tribal, involving them in seed multiplication activity taking in to account the land holding pattern. Existing FPOs / FPCs in the scheduled area to be oriented accordingly. Scheduled areas where no FPO/FPC of tribal is there, project will take promotion measures
	Identification of Seed Hub/s	Interior tribal villages near forest may be covered inadequately due to inaccessibility	Project will give equal emphasis on interior tribal areas / villages near forest for development of seed hubs, involving tribal farmers.
	Engagement of FPCs for Seed Multiplication, Processing and Marketing	Tribal habitations may not have FPCs which may restrict their association in seed multiplication process	Interior forest areas and tribal areas where no farmer's association / FPCs are there, project will take special measures to promote FPCs in such areas involving tribal
	Seed Processing and Storage Infrastructure	Establishing seed processing and storage structures in less accessible forest areas, tribal areas.	Project will give due emphasis to clusters near to forest areas / interior clusters to have seed storage and processing structures.
Promotion of farm mechanization	Establishment of Custom Hiring Centre (CHC)	Less demand for mechanization may shift focus to other areas for establishing CHC. In case of unavailability of land for CHC in tribal area; focus may shift.	Equal focus on scheduled areas for the establishment of CHCs. No involuntary land acquisition in tribal areas for establishing CHC. Available Govt. Land or CPR will be utilized or taking land on lease basis.

Promotion of Protected Cultivation	Shed-net / Poly House	Accessibility of STs to shed net / poly house, and their inclusion in a community with less STs	Emphasis for coverage of tribal farmers through awareness and motivational inputs. Provision of subsidy to tribal farmers as per Govt. norms. Proportionate inclusion of STs during selection & enrolment
Saline land Reclamation	FLDs of Climate resilient technologies, gypsum, BBF, Green manurings, contour cultivation & trainings	Coverage of STs under FLDs for learning under demonstration (in case individual plot specific demonstration)	Operational guidelines for inclusion of tribal families under FLDs Measures for FLDs in tribal dominated areas. Proportionate coverage of tribal families under FLD, in case individual FLDs.
Creation of water source, groundwater recharge along with water lifting and emitting systems	Shallow tube wells in river course (specific for saline area) Farm ponds	Involvement of STs and their enrolment in availing shallow tube well Involvement of STs and their enrolment in availing farm ponds.	Operational guidelines for inclusion of tribal families on proportionate basis, based on their interest Proportionate coverage of tribal families under individual farm pond based on their interest.
Water use Efficiency improvement	Well and bore well, artificial recharging Promotion of Drip and Sprinkler irrigation system	Involvement of STs in availing artificial recharging facility Coverage of STs	Proportionate coverage of tribal families having recharge wells based on their interest. Proportionate coverage of tribal families under drip / sprinkler irrigation system. Demonstration and training on use of irrigation system

Post-harvest infrastructure creation	Establishment of aggregation centre with Grading and packing facility and processing units	Establishment of units in Interior / inaccessible tribal villages.	Required measures for establishment of centre in scheduled areas, tribal locations. Financial allocation for establishing processing units in inaccessible tribal pockets, based on business feasibility. Construction of required no. of warehouse in inaccessible tribal locations, taking in to account the quantum of production
	Establishment of Godowns /warehouse	Establishment of units in Interior / inaccessible tribal villages.	
Strengthening of Commodity specific FPOs / FPC	Promotion of FPC	Inaccessible / poorly accessible pockets may not have FPOs / FPCs	Project will take exclusive measure to promote FPCs in inaccessible tribal areas Capacity building of tribal members on FPC management
Promotion of Community / Cluster Institutions	Formation of Climate resilient committee (Cluster)	Participation / membership of tribal members in the committee	Proportionate representation of tribal members in the Climate Resilient Cluster Committees

6.4.2.3 Gender Action Plan (GAP)

The project will take feasible and implementable actions, taking the duration of the project in to account, that will support greater participation of women in different activities of the project. The project will focus on women specific issues across different project components that would help women for a better participation and decision making along with benefitting from the project interventions. The project approach, therefore, would be more inclusive in nature and having positive bias towards women. The project will use the operational definition of women farmers (Operational Definition refers to women farmer holding land and having substantial engagement in farming and related decision making) in its intervention plan by which they will not be left out. In all the project activities, across the components, such strategies will be taken that help the women to participate and access project benefits. Along with this, project will take measures to improve schematic access of women farmers to existing schemes of the Government that are relevant for them. The project level gender development strategy is presented below.

Table 31 Approach and Strategy for Greater Balance and Participation of Women in the Project

Project Stages	Project Approach and Strategy	Expected Outcome
Preparatory Phase	<p>Discussion with women of the project area in general with exclusive emphasis on women farmers by project component and activities.</p> <p>Focus group discussion (FGD) with women during the microplanning exercise.</p> <p>Preparing a priority list of actions, based on the identified issues and interest of women.</p> <p>Preparing cluster specific plan of action for better inclusion of women in different activities that are feasible for their greater participation.</p>	<p>Key intervention areas are identified and guiding note prepared for improved participation of women in general and women farmers, in particular.</p> <p>List of actions finalized for implementation to ensure greater participation of women</p> <p>Targets set for participation of women in various activities</p>
Implementation Phase	<p>Implementing priority actions that are finalized during preparatory phase;</p> <p>Ensuring greater participation of women / farming women in activities / sub-activities taken up under each component / sub-components of the project;</p> <p>Taking measures to build the capacity of women farmers in agricultural technologies, marketing,</p>	<p>Participation of women / women farmers in different activities implemented under the project;</p> <p>Reduced gender biasness and positive discrimination to bring gender equity.</p> <p>Inclusion of women and their active involvement ensured with better operational and management capabilities;</p>

	<p>institution management etc., as per the project requirements;</p> <p>Ensuring measures that are legally binding like equal and minimum wage norm, prevention of women harassment at work place, membership of women in different committees etc.;</p> <p>Monitoring of actions taken under the project for inclusion of women by project component / sub-components and initiating corrective measures accordingly;</p> <p>Documenting success and learning from different initiatives undertaken by the project that ensures greater participation of women.</p>	<p>Parity in wage (equal work equal pay) payouts ensured and legal provisions are abided by.</p>
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6.4.2.4 Gender Development and Inclusion Plan

Table 32 Gender Development and Inclusion Plan

Activity	Sub-Activity	Key Challenges	Project Approach and Strategy
Supply Chain Development of Client Resilient Seeds	Mapping women farmer's preferences / needs	Capturing needs of women farmers and their seed preferences	Emphasis on identifying needs of women farmers by land holding pattern.
	Identification of seed farmer group/FPOs or FPCs	Involvement of women farmers in multiplication & Replacement of seeds	Listing seed preference of women
	Engagement of FPCs for Seed Multiplication, Processing and Marketing	Involvement of women members of the FPC in seed processing and marketing	Giving priority to the interest of women, involving them in seed multiplication activity.
Promotion of farm mechanization	Establishment of Custom Hiring Centre (CHC)	Access of women farmers to farm machineries	Membership of women farmers in the FPOs / FPCs. Ensuring involvement of women members in feasible processing and marketing activities
			Operational guidelines for equal accessibility of women farmers, first come first serve basis.
			Women farmers may be given preference in feasible cases.
Promotion of Protected Cultivation	Shed-net / Poly House	Accessibility of women farmers to shed net / poly house	Emphasis for coverage of women farmers through awareness and motivational inputs.
			Provision of subsidy to women farmers as per Govt. norms.
			Proportionate inclusion of women farmers during selection & enrolment
Saline land Reclamation	FLDs of Climate resilient technologies, gypsum, BBF, Green manuring, contour cultivation & trainings	Coverage of women farmers under FLDs for learning under demonstration	Operational guidelines for inclusion of women farmers under FLDs
			Measures for FLDs in women fields in suitable cases.
			Proportionate coverage of women farmers under FLD, in case individual FLDs.

Creation of water source, ground water recharge along with water lifting and emitting systems	Farm ponds	Involvement of women farmers as beneficiary and their enrolment in availing farm ponds.	Proportionate coverage of women farmers under individual farm pond based on their interest. In community farm ponds, equal access to water for irrigation to women farmers.
Water use Efficiency improvement	Well and bore well, artificial recharging	Involvement of women farmers in availing artificial recharging facility	Proportionate coverage of women farmers having recharge wells based on their interest.
Water use Efficiency improvement	Promotion of Drip and Sprinkler irrigation system	Coverage of women farmers in availing the benefit.	Proportionate coverage of women farmers under drip / sprinkler irrigation system.
Post-harvest infrastructure creation	Establishment of aggregation centre with Grading and packing facility and processing units	Involvement of women in aggregation centre activities	Demonstration and training on use of irrigation system Required measures for ensuring involvement of women in aggregation centre activities, based on work suitability.
Strengthening of Commodity specific FPOs / FPC	Establishment of Godowns /warehouse	Access of women farmers to store their agricultural produces	Equal access to women farmers for storing, as per operational norms
	Promotion of FPC	Inclusion of women farmers / entrepreneurs / investors in the FPOs / FPCs	Exclusive inclusion criteria for ensuring women membership and participation Formation of FPCs from the women SHGs Capacity building of women members on management of FPO/FPC
Promotion of Community / Cluster Institutions	Formation of Climate resilient committee (Cluster)	Membership & participation of women in the committee	Special provision for ensuring women membership and participation in the committee Ensuring women member as member of the managing committee (Minimum of 1/3 rd of the total members)

6.4.2.5 Land Availability for Agricultural Infrastructure

Land is required for the purpose of creation of infrastructure such as (1) Custom Hiring Centre (CHC), (2) Agro-processing units, (3) sorting, grading and packing houses, (4) godowns / storage infrastructures, (5) cold storage etc. However, the project will not cause any involuntary displacement for creation of agribusiness infrastructure or any infrastructure that are supportive to agriculture promotion. As it is proposed that the FPCs will be the owner of such facilities and managing it, FPCs should have their own land for the creation / establishment of such infrastructures. The FPCs having suitable land can only apply for such infrastructure based support. The principles to be followed are;

1. No activities under the project components will be taken-up if it involves physical displacement of local people, either from their residences and/or commercial places.
2. Before taking up infrastructural activity, a screening process will be followed to understand involvement of any land acquisition or forceful eviction because of the activity. If execution of any of the project activities involves acquisition of land, which is involuntary in nature, project will take conscious decision to explore alternatives.
3. In cases, if encroachment is observed and the encroached land is proposed for infrastructure development by any of the FPCs, the project will not take up any such activity in the encroached land that is expected to upset the livelihood of the family depending upon that patch of land.

Following rules shall govern securing of lands for the project. The local appropriate authority should take required measures accordingly.

1. The land must be free of squatters, encroachers, share cropping or other claims or encumbrances;
2. The facilities requiring land should not be site specific (exploration of alternative);
3. This should not result in any physical relocation;
4. This should not result in restrictions on accesses and transit;
5. In case of voluntary donation of land, required legal process should be followed with verification by appropriate authority. Under no circumstances, the land user will be subjected to any pressure, directly or indirectly, to part with the land;
6. It is to be ensured that there shall be no significant adverse impacts on the livelihood of the household donating / selling the land.
7. Provision shall be made for redressal of grievances, if any.

6.4.3 Citizen Engagement Grievance Redressal

Broadly the following grievance redressal mechanism will be followed in the project:

1. All the project staff related matters and their grievance procedures will be in line with the procedure laid down either in their contract and as per government rules. At PMU level, project director will constitute a grievance committee with at least one women member.
2. For all conflicts at the village level, every attempt should be made to resolve all conflicts at that level itself through the VCRMC, failing which, through the Gram Sabha. The social mobiliser, Krushi Mitra and cluster executive will facilitate the villagers in this regard.
3. The SDAO will resolve the conflict among GPs, GPs and service providers. If Gram Sabha feels that a formal arbitration is required, a five-member committee will be set up for this purpose. It shall comprise the SDAO, a relevant technical member (preferably from the location and familiar with the dispute) a nominee each from the Gram Sabha concerned.
4. If either party is dissatisfied with decision of the SDAO they can appeal to DSAO. The decision of the DSAO shall be final and binding on all parties.

The grievances of service providers procured as per the World Bank Procurement Guidelines and resource agencies partnering with PMU through MoU will be governed as per their contract conditions and condition of the MoU.

Annexures

Annexure-I

List of villages selected for the Project

Sr. No.	District	Taluka	Village	Sr. No.	District	Taluka	Village
1	Akola	Akola	Tankhed	43	Akola	Akola	Lakhonda Kh
2	Akola	Akola	Khadka	44	Akola	Akola	Chachondi
3	Akola	Akola	Nawakheda	45	Akola	Akola	Sultan Ajampur
4	Akola	Akola	Bahirkhed	46	Akola	Akola	Apoti Bk
5	Akola	Akola	Gonapur	47	Akola	Akola	Pach Pimpal
6	Akola	Akola	Telkhed	48	Akola	Akola	Anakwadi
7	Akola	Akola	Bondarkhed	49	Akola	Akola	Kasali Bk
8	Akola	Akola	Dhotardi	50	Akola	Akola	Shamabad
9	Akola	Akola	Sanglud Kh	51	Akola	Akola	Marodi
10	Akola	Akola	Sanglud Bk	52	Akola	Akola	Apoti Kh
11	Akola	Akola	Warudi	53	Akola	Akola	Aliyabad
12	Akola	Akola	Mahadalpur	54	Akola	Akola	Khobarkhed
13	Akola	Akola	Ramgaon	55	Akola	Akola	Nirmalkhed
14	Akola	Akola	Palaso Bk	56	Akola	Akola	Apatapa
15	Akola	Akola	Majalapur	57	Akola	Akola	Yawalkhed
16	Akola	Akola	Mujare Mohamadpur	58	Akola	Akola	Ghusar
17	Akola	Akola	Kasampur	59	Akola	Akola	Akhatwada
18	Akola	Akola	Palaso Kh	60	Akola	Akola	Lakhonda Bk
19	Akola	Akola	Gondapur	61	Akola	Akola	Wadad Kh
20	Akola	Akola	Kaulkhed	62	Akola	Akola	Kapileshwar
21	Akola	Akola	Dapura	63	Akola	Akola	Mhaisang
22	Akola	Akola	Bahadarpur	64	Akola	Akola	Katyar
23	Akola	Akola	Jalalpur	65	Akola	Akola	Khadki Takali
24	Akola	Akola	Ganori	66	Akola	Akola	Takali Jalam
25	Akola	Akola	Hingni Bk (Dahihanda)	67	Akola	Akola	Sukoda
26	Akola	Akola	Dahihanda	68	Akola	Akola	Wakapur
27	Akola	Akola	Kharab Kh	69	Akola	Akola	Hingma Tamaswadi
28	Akola	Akola	Bhaurad	70	Akola	Akola	Nirat
29	Akola	Akola	Bhod	71	Akola	Akola	Gopalkhed
30	Akola	Akola	Amanatpur	72	Akola	Akola	Dhamana
31	Akola	Akola	Ambikapur	73	Akola	Akola	Gandhigram
32	Akola	Akola	Donwada	74	Akola	Akola	Wairat Rajapur
33	Akola	Akola	Ekalara	75	Akola	Akola	Lonagra
34	Akola	Akola	Jalalabad	76	Akola	Akola	Hatla
35	Akola	Akola	Bhamhapuri	77	Akola	Akola	Morgaon Bhakare
36	Akola	Akola	Wadad Bk	78	Akola	Akola	Bakharabad
37	Akola	Akola	Kati	79	Akola	Akola	Sangavi Bk
38	Akola	Akola	Rohana	80	Akola	Akola	Takoda
39	Akola	Akola	Pati	81	Akola	Akola	Palodhi
40	Akola	Akola	Sangavi Kh	82	Akola	Akola	Naothal
41	Akola	Akola	Dudhala	83	Akola	Akola	Kanchanpur
42	Akola	Akola	Faramardabad	84	Akola	Akola	Khakadi

Sr. No.	District	Taluka	Village
85	Akola	Akola	Sangavi Mohadi
86	Akola	Akola	Shahapur
87	Akola	Akola	Gotra
88	Akola	Akola	Khambora
89	Akola	Akola	Wallabh Nagar
90	Akola	Akola	Mandala
91	Akola	Akola	Ugwa
92	Akola	Akola	Kasali Kh
93	Akola	Akola	Ghusarwadi
94	Akola	Akola	Chandpur
95	Akola	Akola	Nimbhora
96	Akola	Akola	Kolambi
97	Akola	Akola	Santoshpur
98	Akola	Akola	Dalambi
99	Akola	Akola	Dudhalam
100	Akola	Akola	Shekapur
101	Akola	Akola	Mustafapur
102	Akola	Akola	Mirzapur
103	Akola	Akola	Pahadpur
104	Akola	Akola	Pailpada
105	Akola	Akola	Rajapur
106	Akola	Akola	Somthana
107	Akola	Akola	Mhaispur
108	Akola	Akola	Chandur
109	Akola	Akola	Anvi
110	Akola	Akola	Dahigaon
111	Akola	Akola	Mirzapur
112	Akola	Akola	Rambhapur
113	Akola	Akola	Wani
114	Akola	Akola	Khanapur
115	Akola	Akola	Kalambeshwar
116	Akola	Akola	Hingna Mhaispur
117	Akola	Akola	Loni
118	Akola	Akola	Dabki
119	Akola	Akola	aki
120	Akola	Akola	Kaulkhed Gumase
121	Akola	Akot	Rohankhed
122	Akola	Akot	Jaulkhed Kh.
123	Akola	Akot	Khanapur Bk.
124	Akola	Akot	Garoli
125	Akola	Akot	Kutasa
126	Akola	Akot	Punda
127	Akola	Akot	Patonda
128	Akola	Akot	Mahamadpur
129	Akola	Akot	Asegaon Bajar

Sr. No.	District	Taluka	Village
130	Akola	Akola	Paritwada
131	Akola	Akola	Badlapur
132	Akola	Akola	Agar
133	Akola	Akola	Kanadi
134	Akola	Akola	Khanapur
135	Akola	Akola	Shiloda
136	Akola	Akola	Tarapur
137	Akola	Akola	Mhatodi
138	Akola	Akola	Kharab Bk
139	Akola	Akot	Thokbardi
140	Akola	Akot	Mundgaon
141	Akola	Akot	Naynapur
142	Akola	Akot	Raundala
143	Akola	Akot	Alewadi
144	Akola	Akot	Shahapur Pr. Akot
145	Akola	Akot	Hilalabad
146	Akola	Akot	Parala
147	Akola	Akot	Fattepur
148	Akola	Akot	Hanwadi
149	Akola	Akot	Alyarpur
150	Akola	Akot	Sonbardi
151	Akola	Akot	Lamkani
152	Akola	Akot	Sultanpur
153	Akola	Akot	Kawasa Kh
154	Akola	Akot	Mirzapur
155	Akola	Akot	Dinoda
156	Akola	Akot	Penori
157	Akola	Akot	Warur
158	Akola	Akot	Vitali
159	Akola	Akot	Sawargaon
160	Akola	Akot	Kavtha Kh.
161	Akola	Akot	Kautha Bk.
162	Akola	Akot	Deulgaon
163	Akola	Akot	Lotkhed
164	Akola	Akot	Kawasa Bk.
165	Akola	Akot	Rel
166	Akola	Akot	Karatwadi
167	Akola	Akot	Karatwadi
168	Akola	Akot	Sawarkhed
169	Akola	Akot	Dhangarwadi
170	Akola	Akot	Dhaga
171	Akola	Akot	Jaulka
172	Akola	Akot	Taroda
173	Akola	Akot	Dhamna Bk
174	Akola	Akot	Maroda

Sr. No.	District	Taluka	Village
175	Akola	Akot	Sawara
176	Akola	Akot	Bambarda Bk
177	Akola	Akot	Andh
178	Akola	Akot	Isapur
179	Akola	Akot	Kinkhed
180	Akola	Akot	Pilakwadi
181	Akola	Akot	Jaulkhed Bk.
182	Akola	Akot	Keliweli
183	Akola	Akot	Dharel
184	Akola	Akot	Chohatta
185	Akola	Akot	Nakhegaon
186	Akola	Akot	Girjapur
187	Akola	Akot	Mahalaxmi
188	Akola	Akot	Bhod
189	Akola	Akot	Karodi
190	Akola	Akot	Salkhed
191	Akola	Akot	Agaskhed
192	Akola	Akot	Takli Kh.
193	Akola	Akot	Khaparwadi Bk.
194	Akola	Akot	Rajurwadi
195	Akola	Akot	Kund
196	Akola	Akot	Belura
197	Akola	Akot	Gyajuddin Nagar
198	Akola	Akot	Pimpri Kh.
199	Akola	Akot	Makrampur
200	Akola	Akot	Jitapur Pr. Rupagad
201	Akola	Akot	Jitapur Pr. Adgaon
202	Akola	Akot	Alampur
203	Akola	Akot	Shahapur Pr.Rupagad
204	Akola	Akot	Umara
205	Akola	Akot	Nehori Bk.
206	Akola	Akot	Jainpur Pimpri
207	Akola	Akot	Aurangabad Pr. Adgaon
208	Akola	Akot	Kherda
209	Akola	Akot	akot
210	Akola	Akot	Khanapur
211	Akola	Balapur	Andura
212	Akola	Balapur	Nagad
213	Akola	Balapur	Janorimail
214	Akola	Balapur	Kawatha
215	Akola	Balapur	Mokha

Sr. No.	District	Taluka	Village
216	Akola	Akot	Danori
217	Akola	Akot	Palsod
218	Akola	Akot	Wani
219	Akola	Akot	Deori
220	Akola	Akot	Nijampur
221	Akola	Akot	Takli Bk.
222	Akola	Akot	Dewarda
223	Akola	Akot	Patsul
224	Akola	Akot	Sangavi
225	Akola	Akot	Tandulwadi
226	Akola	Akot	Alegaon
227	Akola	Akot	Pimpri Dikkar
228	Akola	Akot	Khaparwadi Kh.
229	Akola	Akot	Kalwadi
230	Akola	Akot	Warula
231	Akola	Balapur	Morzadi
232	Akola	Balapur	Malwada
233	Akola	Balapur	Hatrun
234	Akola	Balapur	Sonala
235	Akola	Balapur	Borgaon Vairale
236	Akola	Balapur	Manjari
237	Akola	Balapur	Khandala
238	Akola	Balapur	Takali Nimkarda
239	Akola	Balapur	Kalanbi Mahagaon
240	Akola	Balapur	Karanja Ramjanpur
241	Akola	Balapur	Zural Kh.
242	Akola	Balapur	Ural Kh.
243	Akola	Balapur	Dongargaon
244	Akola	Balapur	Kalamba Kh
245	Akola	Balapur	Barlinga
246	Akola	Balapur	Nandkhed
247	Akola	Balapur	Khirpuri Kh.
248	Akola	Balapur	Takali Khureshi
249	Akola	Balapur	Khirpuri Bk.
250	Akola	Balapur	Ridhora
251	Akola	Balapur	Vyalla
252	Akola	Balapur	Gaigaon
253	Akola	Balapur	Dadham Bk.
254	Akola	Balapur	Satargaon
255	Akola	Balapur	Khamkhed
256	Akola	Balapur	Nakashi

Sr. No.	District	Taluka	Village
257	Akola	Balapur	Sagad
258	Akola	Balapur	Dagadkhed
259	Akola	Balapur	Hata
260	Akola	Balapur	Nimba
261	Akola	Balapur	Swarupkhed
262	Akola	Balapur	Ural Bk.
263	Akola	Balapur	Naya Andura
264	Akola	Balapur	Antri Malkapur
265	Akola	Balapur	Sawarpati
266	Akola	Balapur	Zural Bk.
267	Akola	Balapur	Hasnapur
268	Akola	Balapur	Takali Khojbad
269	Akola	Balapur	SHingoli
270	Akola	Balapur	Kharbi
271	Akola	Balapur	Morgaon Sadijan
272	Akola	Balapur	Malkhed
273	Akola	Balapur	Bahadura
274	Akola	Balapur	Hinganashikari
275	Akola	Balapur	Bhortek
276	Akola	Balapur	Wazegaon
277	Akola	Balapur	Hingana Adsul
278	Akola	Balapur	Kajikhed
279	Akola	Balapur	Nimbi
280	Akola	Balapur	Lohara
281	Akola	Balapur	Hingana Nimba
282	Akola	Barshitalki	Rajanda
283	Akola	Murtizapur	Goregaon
284	Akola	Murtizapur	Kadwi
285	Akola	Murtizapur	Chikhali
286	Akola	Murtizapur	Kinhi
287	Akola	Murtizapur	Kaswi
288	Akola	Murtizapur	Sangwa
289	Akola	Murtizapur	Takli Gajipur
290	Akola	Murtizapur	Parad
291	Akola	Murtizapur	Samsherpur
292	Akola	Murtizapur	Mungshi
293	Akola	Murtizapur	Bhatori
294	Akola	Murtizapur	Hasanapur
295	Akola	Murtizapur	Atkali.
296	Akola	Murtizapur	Jambha Bk.
297	Akola	Murtizapur	Amatwada
298	Akola	Murtizapur	Virwada
299	Akola	Murtizapur	Gajipur
300	Akola	Murtizapur	Rajura Ghate
301	Akola	Murtizapur	Rambhapur
302	Akola	Murtizapur	Pingala

Sr. No.	District	Taluka	Village
303	Akola	Balapur	Degaon
304	Akola	Barshitalki	Titawa
305	Akola	Barshitalki	Jogalkhed
306	Akola	Barshitalki	Punoti Kh.
307	Akola	Barshitalki	Mahagaon
308	Akola	Barshitalki	Haldoli
309	Akola	Barshitalki	Dagadparwa
310	Akola	Barshitalki	Tiwasa Bk.
311	Akola	Barshitalki	Rustamabad
312	Akola	Barshitalki	Mangrul
313	Akola	Barshitalki	Pimpal Shenda
314	Akola	Barshitalki	Atkali
315	Akola	Barshitalki	Ashkaripur
316	Akola	Barshitalki	Tiwasa Kh.
317	Akola	Barshitalki	Atkali
318	Akola	Barshitalki	Mirzapur
319	Akola	Barshitalki	Sayyadpur
320	Akola	Barshitalki	Kanheri
321	Akola	Barshitalki	Barshi Takali
322	Akola	Barshitalki	Rajankhedtanda (N.V.)
323	Akola	Barshitalki	Rajan Khed
324	Akola	Barshitalki	Warkhed
325	Akola	Barshitalki	Shindkhed
326	Akola	Barshitalki	Jalalabad
327	Akola	Barshitalki	Warkhed (Wagh)
328	Akola	Murtizapur	Allapur
329	Akola	Murtizapur	Hiwara Korde
330	Akola	Murtizapur	Bahadurpur
331	Akola	Murtizapur	Chinchkhed
332	Akola	Murtizapur	Girdharpur
333	Akola	Murtizapur	Rasulapur
334	Akola	Murtizapur	Rohana
335	Akola	Murtizapur	Pohi
336	Akola	Murtizapur	Sangwi
337	Akola	Murtizapur	Jamthi Bk.
338	Akola	Murtizapur	Tipatala
339	Akola	Murtizapur	Waghajali
340	Akola	Murtizapur	Matoda
341	Akola	Murtizapur	Bramhi Bk.
342	Akola	Murtizapur	Jitapur
343	Akola	Murtizapur	Bramhi (Bai)
344	Akola	Murtizapur	Mohabatpur
345	Akola	Murtizapur	Bramhi Kh.
346	Akola	Murtizapur	Kurum
347	Akola	Murtizapur	Langhapur
348	Akola	Murtizapur	Mana

Sr. No.	District	Taluka	Village
349	Akola	Murtizapur	Yendali
350	Akola	Murtizapur	Kaotha Kholapur
351	Akola	Murtizapur	Shelu Bajar
352	Akola	Murtizapur	Unkhed
353	Akola	Murtizapur	Hatgaon
354	Akola	Murtizapur	Kharbadi
355	Akola	Murtizapur	Nagthana
356	Akola	Murtizapur	Jamthi Kh.
357	Akola	Murtizapur	Lakhpuri
358	Akola	Murtizapur	Rasulpur
359	Akola	Murtizapur	Deoran
360	Akola	Murtizapur	Repatkhed
361	Akola	Murtizapur	Hirpur
362	Akola	Murtizapur	Durgwada
363	Akola	Murtizapur	Sakhari
364	Akola	Murtizapur	Lait
365	Akola	Murtizapur	Datwi
366	Akola	Murtizapur	Khudavantpur
367	Akola	Murtizapur	Sirso
368	Akola	Murtizapur	Kharab Dhore
369	Akola	Murtizapur	Sanjapur
370	Akola	Murtizapur	Shelu Najik
371	Akola	Murtizapur	Salatwada
372	Akola	Murtizapur	Jambha Kh.
373	Akola	Murtizapur	Yashwantpur
374	Akola	Murtizapur	Umai
375	Akola	Murtizapur	Mangrul Kambe
376	Akola	Murtizapur	Sultanpur
377	Akola	Murtizapur	Jethapur
378	Akola	Murtizapur	Khodad
379	Akola	Murtizapur	Sanjapur
380	Akola	Murtizapur	Sherwadi
381	Akola	Murtizapur	Fani
382	Akola	Murtizapur	Nimbha
383	Akola	Murtizapur	Lasnapur
384	Akola	Murtizapur	Dahatonda
385	Akola	Murtizapur	Dhanora Patekar
386	Akola	Murtizapur	Kasarkhed
387	Akola	Murtizapur	Gaulkhedi
388	Akola	Murtizapur	Turkhed
389	Akola	Murtizapur	Kamatha
390	Akola	Patur	Khanapur
391	Akola	Patur	Jogatalav

Sr. No.	District	Taluka	Village
392	Akola	Murtizapur	Borta
393	Akola	Murtizapur	Gunjwada
394	Akola	Murtizapur	Takwada.
395	Akola	Murtizapur	Khaparwada
396	Akola	Murtizapur	Malakapur
397	Akola	Murtizapur	Sirtala
398	Akola	Murtizapur	Sahadatpur
399	Akola	Murtizapur	Kautha Sopinath
400	Akola	Murtizapur	Ramtek
401	Akola	Murtizapur	Pota
402	Akola	Murtizapur	Sultanpur
403	Akola	Murtizapur	Nawasal
404	Akola	Murtizapur	Rajnapur Khinkhini
405	Akola	Murtizapur	Datala
406	Akola	Murtizapur	Wanitpur
407	Akola	Murtizapur	Chungshi
408	Akola	Murtizapur	Kolsara
409	Akola	Murtizapur	Balla Khed
410	Akola	Murtizapur	Lonsana
411	Akola	Murtizapur	Sonori (Bopari)
412	Akola	Murtizapur	Dapura
413	Akola	Murtizapur	Aurangpur
414	Akola	Murtizapur	Bapori
415	Akola	Murtizapur	Khandala
416	Akola	Murtizapur	Shelu Wetal
417	Akola	Murtizapur	Sheni
418	Akola	Murtizapur	Dhanora Waidhya
419	Akola	Murtizapur	Anbhora
420	Akola	Murtizapur	Bhagora
421	Akola	Murtizapur	Sonori
422	Akola	Telhara	Malpura
423	Akola	Telhara	Bhokar
424	Akola	Telhara	Kalegaon
425	Akola	Telhara	Sirsoli
426	Akola	Telhara	Talegaon Pr.wadner
427	Akola	Telhara	Dahigaon
428	Akola	Telhara	Manatri Bk
429	Akola	Telhara	Manatri Kh.
430	Akola	Telhara	Bambarda Kh.
431	Akola	Telhara	Khelkrushnaji
432	Akola	Telhara	Khelsatwaji
433	Akola	Telhara	Atkali
434	Akola	Telhara	Khel Mukadam

Sr. No.	District	Taluka	Village
435	Akola	Patur	Khamkhed
436	Akola	Patur	Nandkhed
437	Akola	Patur	Pardi
438	Akola	Patur	Kothari Kh.
439	Akola	Patur	Shiv
440	Akola	Patur	Agikhed
441	Akola	Patur	Sotalwan
442	Akola	Patur	Astul
443	Akola	Patur	Bhandaraj Bk.
444	Akola	Patur	Chinchkhed Sasti
445	Akola	Patur	Belura Kh.
446	Akola	Patur	Tandali Kh.
447	Akola	Patur	Belura Bk.
448	Akola	Patur	Kakadadari
449	Akola	Patur	Gondhalwadi
450	Akola	Patur	Kosgaon
451	Akola	Patur	Malrajura
452	Akola	Telhara	Dapura
453	Akola	Telhara	Takali
454	Akola	Telhara	Khakata
455	Akola	Telhara	Nimboli
456	Akola	Telhara	Pathardi
457	Akola	Telhara	Narsipur
458	Akola	Telhara	Adsul
459	Akola	Telhara	Ner
460	Akola	Telhara	Talegaon Pr.Paturdi
461	Akola	Telhara	Daula
462	Akola	Telhara	Piwandal Kh.
463	Akola	Telhara	Umri
464	Akola	Telhara	Khaparkhed
465	Akola	Telhara	Ubarkhed
466	Akola	Telhara	Kheldeshpande
467	Amravati	Achalapur	Mengnathpur
468	Amravati	Achalapur	Ramapur N.Jambhala
469	Amravati	Achalapur	Hiwara
470	Amravati	Achalapur	Yelki
471	Amravati	Achalapur	Yesurna
472	Amravati	Achalapur	Wadura
473	Amravati	Achalapur	Nimkheda
474	Amravati	Achalapur	Belkheda
475	Amravati	Achalapur	Rajura
476	Amravati	Achalapur	Bag Ambada
477	Amravati	Achalapur	Chikhali
478	Amravati	Achalapur	Jahanpur

Sr. No.	District	Taluka	Village
479	Akola	Telhara	Warud Bk.
480	Akola	Telhara	Manabda
481	Akola	Telhara	Bhamberi
482	Akola	Telhara	Chapaner
483	Akola	Telhara	Ghodegaon
484	Akola	Telhara	Ranegaon
485	Akola	Telhara	Akoli Ruprao
486	Akola	Telhara	Jastagaon
487	Akola	Telhara	Babhulgaon
488	Akola	Telhara	Nimbora Bk.
489	Akola	Telhara	Piwandal Bk.
490	Akola	Telhara	Nimbora Kh.
491	Akola	Telhara	Tudgaon
492	Akola	Telhara	Wadgaon Rothe
493	Akola	Telhara	Wangargaon
494	Akola	Telhara	Ukali Bajar
495	Akola	Telhara	Warud wadner
496	Akola	Telhara	Karhi Pr. Adgaon
497	Akola	Telhara	Hiwarkhed
498	Akola	Telhara	Hingani Bk.
499	Akola	Telhara	Moypani
500	Akola	Telhara	Gordha
501	Akola	Telhara	Saundala
502	Akola	Telhara	Zari Bazar
503	Akola	Telhara	Belkhed
504	Akola	Telhara	Pimparkhed
505	Akola	Telhara	Karla Bk.
506	Akola	Telhara	Gadegaon
507	Akola	Telhara	Badkhed
508	Akola	Telhara	Umarshewadi
509	Akola	Telhara	Sonwadi
510	Akola	Telhara	Dewarda
511	Amravati	Anjangaon	Borgaon Ambada
512	Amravati	Anjangaon	Kapustalni
513	Amravati	Anjangaon	Fajalpur
514	Amravati	Anjangaon	Ratanpur Jogarda
515	Amravati	Anjangaon	Narayanpur
516	Amravati	Anjangaon	Saray
517	Amravati	Anjangaon	Jawala Bk.
518	Amravati	Anjangaon	Malkapur Kh.
519	Amravati	Anjangaon	Aurangpur
520	Amravati	Anjangaon	Pimpalgavhan
521	Amravati	Anjangaon	Ratnapur
522	Amravati	Anjangaon	Kokarda

Sr. No.	District	Taluka	Village
523	Amravati	achalpur	Kinholi
524	Amravati	Amravati	Bramhanwada bhagat
525	Amravati	Amravati	Pusada
526	Amravati	Amravati	Shirala
527	Amravati	Amravati	Antora
528	Amravati	Amravati	Phajalapur
529	Amravati	Amravati	Rasulpur
530	Amravati	Amravati	Savanga
531	Amravati	Amravati	Angoda
532	Amravati	Amravati	Lontek
533	Amravati	Amravati	Morangana
534	Amravati	Amravati	Kamunja
535	Amravati	Amravati	Kund sarjapur
536	Amravati	Amravati	Naya Akola
537	Amravati	Amravati	Sukali
538	Amravati	Amravati	Changapur
539	Amravati	Amravati	Amla
540	Amravati	Amravati	Walgaon
541	Amravati	Amravati	Wanarshi
542	Amravati	Amravati	Ilahabad
543	Amravati	Amravati	Kapustalani
544	Amravati	Amravati	Nandura pingalai
545	Amravati	Amravati	Malegaon
546	Amravati	Amravati	Wardhi
547	Amravati	Amravati	Dhanora kokate
548	Amravati	Amravati	Brahman wada govindpur
549	Amravati	Amravati	Kekatpur
550	Amravati	Amravati	Dastapur
551	Amravati	Amravati	Arhad
552	Amravati	Amravati	Amdapur
553	Amravati	Amravati	Pardi
554	Amravati	Amravati	Udkhed
555	Amravati	Amravati	Gangapur
556	Amravati	Amravati	Kurhad
557	Amravati	Amravati	Wadgaon jire
558	Amravati	Amravati	Bahilolpur
559	Amravati	Amravati	Mhasala
560	Amravati	Amravati	Kat amala
561	Amravati	Anjangaon	Sarfabad
562	Amravati	Anjangaon	Kalwada
563	Amravati	Anjangaon	Warud Kh.
564	Amravati	Anjangaon	Khudawanpur
565	Amravati	Anjangaon	Mohabatpur

Sr. No.	District	Taluka	Village
566	Amravati	Anjangaon	Khaspur
567	Amravati	Anjangaon	Songaon
568	Amravati	Anjangaon	Saidapur
569	Amravati	Anjangaon	Kalgavhan
570	Amravati	Anjangaon	Hingani
571	Amravati	Anjangaon	Saidapur
572	Amravati	Anjangaon	Kotegaon
573	Amravati	Anjangaon	Lakhanwadi
574	Amravati	Anjangaon	Rampura
575	Amravati	Anjangaon	Jawala Kh
576	Amravati	Anjangaon	Dombala
577	Amravati	Anjangaon	Sakhari
578	Amravati	Anjangaon	Ekalara
579	Amravati	Anjangaon	Wanoja
580	Amravati	Anjangaon	Aiwajpur
581	Amravati	Anjangaon	Kamalpur
582	Amravati	Anjangaon	Khirgavhan
583	Amravati	Anjangaon	Kotha
584	Amravati	Anjangaon	Husenpur Khodgaon
585	Amravati	Anjangaon	Ghodasgaon
586	Amravati	Anjangaon	Samsherpur
587	Amravati	Anjangaon	Ganeshpur
588	Amravati	Anjangaon	Deulgaon
589	Amravati	Anjangaon	Hayapur
590	Amravati	Anjangaon	Taroda
591	Amravati	Anjangaon	Kumbhargaon Bk.
592	Amravati	Anjangaon	Kumbhargaon Kh.
593	Amravati	Anjangaon	Chincholi Bk.
594	Amravati	Anjangaon	Kasbegavhan
595	Amravati	Anjangaon	Pardi
596	Amravati	Anjangaon	Gavandgaon Bk
597	Amravati	Anjangaon	Nimbhari
598	Amravati	Anjangaon	Adgaon
599	Amravati	Anjangaon	Khel Kokat
600	Amravati	Anjangaon	Malkapur
601	Amravati	Anjangaon	Khel Krishnaji
602	Amravati	Anjangaon	Vihigaon
603	Amravati	Anjangaon	Hantoda
604	Amravati	Anjangaon	Khanampur
605	Amravati	Bhatkuli	Koltek
606	Amravati	Bhatkuli	Chunki
607	Amravati	Bhatkuli	Janewadi
608	Amravati	Bhatkuli	Govindpur

Sr. No.	District	Taluka	Village
609	Amravati	Bhatkuli	Krishnapur
610	Amravati	Bhatkuli	Gourkheda
611	Amravati	Bhatkuli	Kawtha
612	Amravati	Bhatkuli	Narayanpur
613	Amravati	Bhatkuli	Jaitapur
614	Amravati	Bhatkuli	Abitpur
615	Amravati	Bhatkuli	Rama
616	Amravati	Bhatkuli	Ashti
617	Amravati	Bhatkuli	Malpur
618	Amravati	Bhatkuli	Ismailpur
619	Amravati	Bhatkuli	Kalamgavhan
620	Amravati	Bhatkuli	Daryabad
621	Amravati	Bhatkuli	Alangaon
622	Amravati	Bhatkuli	Chakur
623	Amravati	Bhatkuli	Hatkhedda
624	Amravati	Bhatkuli	Chandpur
625	Amravati	Bhatkuli	Sambhegaon
626	Amravati	Bhatkuli	Deori
627	Amravati	Bhatkuli	Anchalwadi
628	Amravati	Bhatkuli	Rasulpur
629	Amravati	Bhatkuli	Marki
630	Amravati	Bhatkuli	Makrandabad
631	Amravati	Bhatkuli	Afjalpur
632	Amravati	Bhatkuli	Himmatpur
633	Amravati	Bhatkuli	Dararkhedda
634	Amravati	Bhatkuli	Borkhadi Kh
635	Amravati	Bhatkuli	Advi
636	Amravati	Bhatkuli	Zanji
637	Amravati	Bhatkuli	Mankhedda
638	Amravati	Bhatkuli	Wandli
639	Amravati	Bhatkuli	Nindodi
640	Amravati	Bhatkuli	Gaiwadi
641	Amravati	Bhatkuli	Udapur
642	Amravati	Bhatkuli	Ghatkheda
643	Amravati	Bhatkuli	Indapur
644	Amravati	Bhatkuli	Sarmaspur
645	Amravati	Bhatkuli	Bokurkheda
646	Amravati	Bhatkuli	Antapur
647	Amravati	Bhatkuli	Nawthal Bk
648	Amravati	Bhatkuli	Hartoti
649	Amravati	Bhatkuli	Gopgavhan
650	Amravati	Bhatkuli	Kamnapur
651	Amravati	Bhatkuli	Khatijapur
652	Amravati	Bhatkuli	Nanded Kh
653	Amravati	Bhatkuli	Saur
654	Amravati	Bhatkuli	Mhaispur
655	Amravati	Bhatkuli	Hirapur

Sr. No.	District	Taluka	Village
656	Amravati	Bhatkuli	Raipur
657	Amravati	Bhatkuli	Dhangarkhedda
658	Amravati	Bhatkuli	Umarapur
659	Amravati	Bhatkuli	Waki
660	Amravati	Bhatkuli	Rajegaon
661	Amravati	Bhatkuli	Pohara
662	Amravati	Bhatkuli	Rustampur
663	Amravati	Bhatkuli	Nirul Gangamai
664	Amravati	Bhatkuli	Bhalsi
665	Amravati	Bhatkuli	Jawara
666	Amravati	Bhatkuli	Umartek
667	Amravati	Bhatkuli	Sonarkhedda
668	Amravati	Bhatkuli	Watonda
669	Amravati	Bhatkuli	Wathoda shukleshwar
670	Amravati	Bhatkuli	Jalka
671	Amravati	Bhatkuli	Wasewadi
672	Amravati	Bhatkuli	Jaitapur
673	Amravati	Bhatkuli	Nawed
674	Amravati	Bhatkuli	Kholapur
675	Amravati	Bhatkuli	Wadala
676	Amravati	Bhatkuli	Malkapur
677	Amravati	Bhatkuli	Rinmochan
678	Amravati	Bhatkuli	Khanapur
679	Amravati	Bhatkuli	Asara
680	Amravati	Bhatkuli	Nimbha
681	Amravati	Bhatkuli	Dahatonda
682	Amravati	Bhatkuli	Kakar kheda
683	Amravati	Bhatkuli	Borkhadi Bk
684	Amravati	Bhatkuli	Sayat
685	Amravati	Bhatkuli	Jasapur
686	Amravati	Bhatkuli	Hartala
687	Amravati	Bhatkuli	Dholewadi
688	Amravati	Bhatkuli	Bailmarkhedda
689	Amravati	Bhatkuli	Dhamori
690	Amravati	Bhatkuli	Kumagad
691	Amravati	Bhatkuli	Kasampur
692	Amravati	Bhatkuli	Hasanapur
693	Amravati	Bhatkuli	Khalkhoni
694	Amravati	Bhatkuli	Waghoda
695	Amravati	Bhatkuli	Makrapur
696	Amravati	Bhatkuli	Kund Khurd
697	Amravati	Bhatkuli	Virshi
698	Amravati	Bhatkuli	Malapur
699	Amravati	Bhatkuli	Khartalegaon
700	Amravati	Bhatkuli	Tuljapur
701	Amravati	Bhatkuli	Tatarpur
702	Amravati	Bhatkuli	Dagdagad

Sr. No.	District	Taluka	Village
703	Amravati	Bhatkuli	Sawarkheda
704	Amravati	Bhatkuli	Badegaon
705	Amravati	Bhatkuli	Sarbalanpur
706	Amravati	Bhatkuli	Bondewadi
707	Amravati	Bhatkuli	Waigaon
708	Amravati	Bhatkuli	Narayanpur
709	Amravati	Bhatkuli	Takarkheda (Sambhu)
710	Amravati	Bhatkuli	Checharwadi
711	Amravati	Bhatkuli	Haturna
712	Amravati	Bhatkuli	Shiwapur
713	Amravati	Bhatkuli	Nimkheda
714	Amravati	Bhatkuli	Degurkheda
715	Amravati	Bhatkuli	Ibrahimpur
716	Amravati	Bhatkuli	Sherpur
717	Amravati	Bhatkuli	Uttamsara
718	Amravati	Bhatkuli	Ganori
719	Amravati	Bhatkuli	Parlam
720	Amravati	Bhatkuli	Khallar
721	Amravati	Chandur Bazar	Bahadarpur
722	Amravati	Chandur Bazar	Rajna
723	Amravati	Chandur Bazar	Tamaswadi
724	Amravati	Chandur Bazar	Takarkheda
725	Amravati	Chandur Bazar	Shivpur
726	Amravati	Chandur Bazar	Shahapur
727	Amravati	Chandur Bazar	Rajura (Lahan)
728	Amravati	Chandur Bazar	Hushangabad
729	Amravati	Chandur Bazar	Tuljapur Gadhi
730	Amravati	Chandur Bazar	Masod
731	Amravati	Chandur Bazar	Sarfabad
732	Amravati	Chandur Bazar	Dhanora
733	Amravati	Chandur Bazar	Muradpur
734	Amravati	Chandur Bazar	Jadhavpur
735	Amravati	Chandur Bazar	Wathonda
736	Amravati	Chandur Bazar	Trimalpur

Sr. No.	District	Taluka	Village
737	Amravati	Chandur Bazar	Sirajgaon Band
738	Amravati	Chandur Bazar	Vithalpur
739	Amravati	Chandur Bazar	Rahatgaon
740	Amravati	Chandur Bazar	Rasidpur
741	Amravati	Chandur Bazar	Jamapur
742	Amravati	Chandur Bazar	Wadura
743	Amravati	Chandur Bazar	Surali
744	Amravati	Chandur Bazar	Kodori
745	Amravati	Chandur Bazar	Akhatwada
746	Amravati	Chandur Bazar	Wani
747	Amravati	Chandur Bazar	Madhan
748	Amravati	Chandur Bazar	Dattapur
749	Amravati	Chandur Bazar	Jasapur
750	Amravati	Chandur Bazar	Mohangaon
751	Amravati	Chandur Bazar	Alipur
752	Amravati	Chandur Bazar	Haidatpur
753	Amravati	Chandur Bazar	Bramhanwada pathak
754	Amravati	Chandur Bazar	Kharala
755	Amravati	Chandur Bazar	Bramhanwada Thadi
756	Amravati	Chandur Bazar	Inapur
757	Amravati	Chandur Railway	Kawtha Kadu
758	Amravati	Chandur Railway	Dighi Kolhe
759	Amravati	Chandur Railway	Ajitpur
760	Amravati	Chandur Railway	Sawangi Sangam
761	Amravati	Chandur Railway	Malkhed
762	Amravati	Chandur Railway	Budhali
763	Amravati	Chandur Railway	Dahigaon
764	Amravati	Chandur Railway	Khudavantpur
765	Amravati	Chandur Railway	Takli
766	Amravati	Chandur Railway	Hadpa
767	Amravati	Chandur Railway	Lalkhed
768	Amravati	Chikhaldara	Menghat
769	Amravati	Chikhaldara	Zingapur
770	Amravati	Chikhaldara	Nagartas

Sr. No.	District	Taluka	Village
771	Amravati	Chandur Bazar	Rasullapur
772	Amravati	Chandur Bazar	Malkapur
773	Amravati	Chandur Bazar	Dahigaon
774	Amravati	Chandur Bazar	Sultanpur
775	Amravati	Chandur Bazar	Kotgawandi
776	Amravati	Chandur Bazar	Asegaon
777	Amravati	Chandur Bazar	Hipur
778	Amravati	Chandur Bazar	Govindpur
779	Amravati	Chandur Bazar	Sundarpur
780	Amravati	Chandur Bazar	Jagannathpur
781	Amravati	Chandur Bazar	Krishnapur
782	Amravati	Chandur Bazar	Kurankhed
783	Amravati	Chandur Bazar	Nimkheda
784	Amravati	Chandur Bazar	Kajali
785	Amravati	Chandur Bazar	Wadala
786	Amravati	Chandur Bazar	Nagarwadi
787	Amravati	Chandur Bazar	Belkheda
788	Amravati	Daryapur	Sangawa Kh.
789	Amravati	Daryapur	Malkapur Bk.
790	Amravati	Daryapur	Lehegaon
791	Amravati	Daryapur	Belora
792	Amravati	Daryapur	Bembala Bk
793	Amravati	Daryapur	Khalar
794	Amravati	Daryapur	Pralhadpur
795	Amravati	Daryapur	Elori Mirzapur
796	Amravati	Daryapur	Dighi
797	Amravati	Daryapur	Jahanpur
798	Amravati	Daryapur	Sangawa Bk.
799	Amravati	Daryapur	Wadal Gawhan
800	Amravati	Daryapur	Dongargaon
801	Amravati	Daryapur	Bhambora
802	Amravati	Daryapur	Sangkud
803	Amravati	Daryapur	Dhanora
804	Amravati	Daryapur	Ichora
805	Amravati	Daryapur	Lohitkhed
806	Amravati	Daryapur	Sujapur
807	Amravati	Daryapur	Chandola
808	Amravati	Daryapur	Samada
809	Amravati	Daryapur	Zingala
810	Amravati	Daryapur	Daryapur
811	Amravati	Daryapur	Matargaon
812	Amravati	Daryapur	Darkheda
813	Amravati	Daryapur	Mulpatabad
814	Amravati	Daryapur	Ghada
815	Amravati	Daryapur	Shiwar Bk.
816	Amravati	Daryapur	Ganeshpur
817	Amravati	Daryapur	Banosa

Sr. No.	District	Taluka	Village
818	Amravati	Chikhaldara	Dhakna
819	Amravati	Chikhaldara	Toranwadi
820	Amravati	Chikhaldara	Doma
821	Amravati	Chikhaldara	Katkumbh
822	Amravati	Chikhaldara	Bhamadehi
823	Amravati	Chikhaldara	Gangarkheda
824	Amravati	Chikhaldara	Bhagdari
825	Amravati	Chikhaldara	Koylari
826	Amravati	Chikhaldara	Kotmi
827	Amravati	Daryapur	Mustafapur
828	Amravati	Daryapur	Khurmabad
829	Amravati	Daryapur	Dhamane Kh.
830	Amravati	Daryapur	Tongala Bad
831	Amravati	Daryapur	Sonkhas
832	Amravati	Daryapur	Golegaon
833	Amravati	Daryapur	Lodhipur
834	Amravati	Daryapur	Shivarkheda
835	Amravati	Daryapur	Babhali
836	Amravati	Daryapur	Shiwar Kh.
837	Amravati	Daryapur	Mahuli
838	Amravati	Daryapur	Nachona
839	Amravati	Daryapur	Wadura
840	Amravati	Daryapur	Arala
841	Amravati	Daryapur	Borala
842	Amravati	Daryapur	Chandikapur
843	Amravati	Daryapur	Mahimapur
844	Amravati	Daryapur	Haibatpur
845	Amravati	Daryapur	Chandai
846	Amravati	Daryapur	Tamaswadi
847	Amravati	Daryapur	Khursanpur
848	Amravati	Daryapur	Nandrui
849	Amravati	Daryapur	Bembala Kh.
850	Amravati	Daryapur	Panora
851	Amravati	Daryapur	Khalilpur
852	Amravati	Daryapur	Indalwadi
853	Amravati	Daryapur	Shinganwadi
854	Amravati	Daryapur	Hingani Mirzapur
855	Amravati	Daryapur	Adula
856	Amravati	Daryapur	Antargaon
857	Amravati	Daryapur	Kolambi
858	Amravati	Daryapur	Peth Itbarpur
859	Amravati	Daryapur	Markanda
860	Amravati	Daryapur	Amla
861	Amravati	Daryapur	Shingnapur
862	Amravati	Daryapur	Ghuikhed
863	Amravati	Daryapur	Jagarwadi
864	Amravati	Daryapur	Kasampur

Sr. No.	District	Taluka	Village
865	Amravati	Daryapur	Umari Mamdabad
866	Amravati	Daryapur	Gaiwadi
867	Amravati	Daryapur	Khel Nagawe
868	Amravati	Daryapur	Kuberi
869	Amravati	Daryapur	Warud Bk.
870	Amravati	Daryapur	Umari Itbarpur
871	Amravati	Daryapur	Eklara Bhamod
872	Amravati	Daryapur	Sagarwadi
873	Amravati	Daryapur	Jaitapur
874	Amravati	Daryapur	Thilori
875	Amravati	Daryapur	Yerandgaon
876	Amravati	Daryapur	Jainpur
877	Amravati	Daryapur	Nalwada
878	Amravati	Daryapur	Pimplod
879	Amravati	Daryapur	Rajkhed
880	Amravati	Daryapur	Chandrapur
881	Amravati	Daryapur	Khanpur
882	Amravati	Daryapur	Ramgaon
883	Amravati	Daryapur	Sikandarpur
884	Amravati	Daryapur	Shahapur
885	Amravati	Daryapur	Gajipur
886	Amravati	Daryapur	Sasan Ramapur
887	Amravati	Daryapur	Ahmadpur
888	Amravati	Daryapur	Khairi
889	Amravati	Daryapur	Jasapur
890	Amravati	Daryapur	Patharvira
891	Amravati	Daryapur	Narsingpur
892	Amravati	Daryapur	Elichpur
893	Amravati	Daryapur	Mahamadpur
894	Amravati	Daryapur	Jitapur
895	Amravati	Daryapur	Kalamgavhan
896	Amravati	Daryapur	Kukasa
897	Amravati	Daryapur	Ramtirtha
898	Amravati	Daryapur	Lasur
899	Amravati	Daryapur	Sasan Bk.
900	Amravati	Daryapur	Nanded Bk.
901	Amravati	Daryapur	Katkheda
902	Amravati	Daryapur	Itki
903	Amravati	Daryapur	Hasanpur
904	Amravati	Daryapur	Sukali
905	Amravati	Daryapur	Chandur
906	Amravati	Daryapur	Ghodchandi
907	Amravati	Daryapur	Uparai
908	Amravati	Daryapur	Alampur
909	Amravati	Daryapur	Nardoda
910	Amravati	Daryapur	Jahanpur
911	Amravati	Daryapur	Khirgavhan

Sr. No.	District	Taluka	Village
912	Amravati	Daryapur	Gaurkheda
913	Amravati	Daryapur	Bhujwada
914	Amravati	Daryapur	Pimpal Khuta
915	Amravati	Daryapur	Bhuras Ramagad
916	Amravati	Daryapur	Mhaispur
917	Amravati	Daryapur	Kharsanglud
918	Amravati	Daryapur	Sonkhed
919	Amravati	Daryapur	Rustampur
920	Amravati	Daryapur	Bahadarpur
921	Amravati	Daryapur	Karatkhed
922	Amravati	Daryapur	Kapshi
923	Amravati	Daryapur	Ajitpur
924	Amravati	Daryapur	Kalashi
925	Amravati	Daryapur	Telkheda
926	Amravati	Daryapur	Shirajda
927	Amravati	Daryapur	Soundli Hirapur
928	Amravati	Daryapur	Takali
929	Amravati	Daryapur	Umari Kuran
930	Amravati	Daryapur	Bhuikheda
931	Amravati	Daryapur	Naigaon
932	Amravati	Daryapur	Chandkhed
933	Amravati	Dhamangaon	Vasad
934	Amravati	Dhamangaon	Dabhada
935	Amravati	Dharni	Rangubeli
936	Amravati	Dharni	Mangiya
937	Amravati	Dharni	Zilangpati
938	Amravati	Dharni	Tatra
939	Amravati	Dharni	Gadgamalur
940	Amravati	Dharni	Zilpi
941	Amravati	Dharni	Patharpur
942	Amravati	Dharni	Dudhani
943	Amravati	Dharni	Sadrabardi
944	Amravati	Dharni	Khaparkheda
945	Amravati	Dharni	Khari
946	Amravati	Dharni	Bibamal
947	Amravati	Dharni	Ranapisa
948	Amravati	Dharni	Dhomanadhana
949	Amravati	Dharni	Bhokarbardi
950	Amravati	Dharni	Rajapur
951	Amravati	Dharni	Laktu
952	Amravati	Dharni	Gaulandoh
953	Amravati	Morshi	Jaymalpur
954	Amravati	Morshi	Shahanawajpur
955	Amravati	Morshi	Songaon
956	Amravati	Morshi	Kolvihir
957	Amravati	Morshi	Lihida
958	Amravati	Morshi	Khanpur

Sr. No.	District	Taluka	Village
959	Amravati	Daryapur	Antargaon
960	Amravati	Daryapur	Wadner Gangai
961	Amravati	Daryapur	Kanholi
962	Amravati	Daryapur	Darapur
963	Amravati	Daryapur	Yeoda Bk.
964	Amravati	Daryapur	Mhaispur
965	Amravati	Daryapur	Nandura
966	Amravati	Daryapur	Bhamod
967	Amravati	Daryapur	Lotwada
968	Amravati	Daryapur	Dhamodi
969	Amravati	Daryapur	Takar Kheda Kawade
970	Amravati	Daryapur	jasapur
971	Amravati	Daryapur	Daryapur Bhanosa (MCI)
972	Amravati	Daryapur	Chandrapur
973	Amravati	Dhamangaon	Kawali
974	Amravati	Dhamangaon	Janhapur
975	Amravati	Dhamangaon	Jalgaon
976	Amravati	Dhamangaon	Gavha Nipani
977	Amravati	Dhamangaon	Wathoda Bk.
978	Amravati	Dhamangaon	Pimpalkhuta
979	Amravati	Dhamangaon	Mund Vyankatesh Bhashkar
980	Amravati	Dhamangaon	Chinchpur
981	Amravati	Dhamangaon	Tuljapur
982	Amravati	Dhamangaon	Anjansingi
983	Amravati	Dhamangaon	Mund Dattaji Tryambak
984	Amravati	Nandgaon	Shendani
985	Amravati	Nandgaon	Dabha
986	Amravati	Teosa	Vinchori
987	Amravati	Teosa	Warkhed
988	Amravati	Teosa	Teosa
989	Amravati	Teosa	Surwadi Bk.
990	Amravati	Teosa	Thanathuni
991	Amravati	Teosa	Talegaon Thakur
992	Amravati	Teosa	Surwadi Kh.
993	Amravati	Teosa	Sarsi
994	Amravati	Warud	Sawanga
995	Aurangabad	Aurangabad	Tongaon
996	Aurangabad	Aurangabad	Kubhephal
997	Aurangabad	Aurangabad	Garkheda
998	Aurangabad	Aurangabad	Tohla Naik Tanda
999	Aurangabad	Aurangabad	Pachod

Sr. No.	District	Taluka	Village
1000	Amravati	Morshi	Shirkhed
1001	Amravati	Morshi	Wagholi
1002	Amravati	Morshi	Ladki Bk
1003	Amravati	Morshi	Bhawsingpur
1004	Amravati	Morshi	Bahirampur
1005	Amravati	Morshi	Raipur
1006	Amravati	Morshi	Katpur
1007	Amravati	Morshi	Daryapur
1008	Amravati	Morshi	Taroda
1009	Amravati	Morshi	Ashtoli
1010	Amravati	Morshi	Lashkarpur
1011	Amravati	Morshi	Domak
1012	Amravati	Morshi	Mamdapur
1013	Amravati	Morshi	Porgavhan
1014	Amravati	Morshi	Khopada
1015	Amravati	Morshi	Sultanpur
1016	Amravati	Morshi	Vishnora
1017	Amravati	Morshi	Dhamangaon
1018	Amravati	Nandgaon	Erandgaon
1019	Amravati	Nandgaon	Dadapur
1020	Amravati	Nandgaon	Wakpur
1021	Amravati	Nandgaon	Pala
1022	Amravati	Nandgaon	Walki
1023	Amravati	Nandgaon	Durgapur
1024	Amravati	Nandgaon	Belora Hirapur
1025	Amravati	Warud	Mangona
1026	Amravati	Warud	Mankapur
1027	Amravati	Warud	Pimpalkhuta
1028	Amravati	Warud	Benoda
1029	Amravati	Warud	Dhamandhas
1030	Amravati	Warud	Goregaon
1031	Amravati	Warud	Shekdari
1032	Amravati	Warud	Karajgaon
1033	Amravati	Warud	Wadhona
1034	Amravati	Warud	Palsona
1035	Amravati	Warud	Nagziri
1036	Aurangabad	Aurangabad	Kesapuri Tanda
1037	Aurangabad	Aurangabad	Daulatabad
1038	Aurangabad	Aurangabad	Wanjarwadi
1039	Aurangabad	Gangapur	Warkhed
1040	Aurangabad	Gangapur	Butte Wadgaon

Sr. No.	District	Taluka	Village
1041	Aurangabad	Aurangabad	Pardari
1042	Aurangabad	Aurangabad	Chitegaon
1043	Aurangabad	Aurangabad	Vitthalpur
1044	Aurangabad	Aurangabad	Pardari Tanda
1045	Aurangabad	Aurangabad	Ekod
1046	Aurangabad	Aurangabad	Pimpri Kh
1047	Aurangabad	Aurangabad	Shivgad Tanda
1048	Aurangabad	Aurangabad	Jakmatha
1049	Aurangabad	Aurangabad	Apatgaon
1050	Aurangabad	Aurangabad	Sindon
1051	Aurangabad	Aurangabad	Chincholi
1052	Aurangabad	Aurangabad	Chite Pimpalgaon
1053	Aurangabad	Aurangabad	Bhindaon
1054	Aurangabad	Aurangabad	Khamkheda
1055	Aurangabad	Aurangabad	Anjandoh
1056	Aurangabad	Aurangabad	Borwadi
1057	Aurangabad	Aurangabad	Hatmali
1058	Aurangabad	Aurangabad	Dhondkheda
1059	Aurangabad	Aurangabad	Rustumpur
1060	Aurangabad	Aurangabad	Borwadi Tanda
1061	Aurangabad	Aurangabad	Donwada
1062	Aurangabad	Aurangabad	Chartha
1063	Aurangabad	Aurangabad	Lingdari
1064	Aurangabad	Aurangabad	Alampur
1065	Aurangabad	Aurangabad	Naigavhan
1066	Aurangabad	Aurangabad	Nipani
1067	Aurangabad	Aurangabad	Balapur
1068	Aurangabad	Aurangabad	Bagtalab
1069	Aurangabad	Aurangabad	Zalta
1070	Aurangabad	Aurangabad	Gandheli
1071	Aurangabad	Aurangabad	Adgaon Bk
1072	Aurangabad	Aurangabad	Jogwada
1073	Aurangabad	Aurangabad	Shekapur
1074	Aurangabad	Aurangabad	Dharmapur
1075	Aurangabad	Aurangabad	Tisgaon
1076	Aurangabad	Aurangabad	Shernapur
1077	Aurangabad	Aurangabad	Karajgaon
1078	Aurangabad	Aurangabad	Shekta
1079	Aurangabad	Aurangabad	Jalgaon Feran
1080	Aurangabad	Aurangabad	Dudhad
1081	Aurangabad	Aurangabad	Demani
1082	Aurangabad	Aurangabad	Konewadi
1083	Aurangabad	Aurangabad	Shevga
1084	Aurangabad	Aurangabad	Abdimandi
1085	Aurangabad	Aurangabad	Kesapuri

Sr. No.	District	Taluka	Village
1086	Aurangabad	Gangapur	Sultanabad
1087	Aurangabad	Gangapur	Siregaon
1088	Aurangabad	Gangapur	Wajnapur
1089	Aurangabad	Gangapur	Daigaon
1090	Aurangabad	Gangapur	Sillegaon
1091	Aurangabad	Gangapur	Shekta
1092	Aurangabad	Gangapur	Mahmadpur
1093	Aurangabad	Gangapur	Kolghar
1094	Aurangabad	Gangapur	Manjarpur
1095	Aurangabad	Gangapur	Tandulwadi
1096	Aurangabad	Gangapur	Devli
1097	Aurangabad	Gangapur	Bolthan
1098	Aurangabad	Gangapur	Dongaon
1099	Aurangabad	Gangapur	Pachapirwadi
1100	Aurangabad	Gangapur	Siddhanath Wadgaon
1101	Aurangabad	Gangapur	Sawangi
1102	Aurangabad	Gangapur	Dhamori Kh.
1103	Aurangabad	Gangapur	Maholi
1104	Aurangabad	Gangapur	Malunja Kh.
1105	Aurangabad	Gangapur	Sanjrabad
1106	Aurangabad	Gangapur	Hadiyabad
1107	Aurangabad	Gangapur	Manjari
1108	Aurangabad	Gangapur	Sanjarpur
1109	Aurangabad	Gangapur	Mustafabad
1110	Aurangabad	Gangapur	Asegaon
1111	Aurangabad	Gangapur	Kasoda
1112	Aurangabad	Gangapur	Talesaman
1113	Aurangabad	Gangapur	Eklahera
1114	Aurangabad	Gangapur	Ambegaon
1115	Aurangabad	Gangapur	Nandeda
1116	Aurangabad	Gangapur	Bolegaon
1117	Aurangabad	Gangapur	Balapur
1118	Aurangabad	Gangapur	Khairgawhan
1119	Aurangabad	Gangapur	Babargaon
1120	Aurangabad	Gangapur	Sarifpur
1121	Aurangabad	Gangapur	Maujudabad
1122	Aurangabad	Gangapur	Surewadi
1123	Aurangabad	Gangapur	Sirasgaon
1124	Aurangabad	Gangapur	Alamgirpur
1125	Aurangabad	Gangapur	Fajalpur
1126	Aurangabad	Gangapur	Nevargaon
1127	Aurangabad	Gangapur	Mudhesh Wadgaon
1128	Aurangabad	Gangapur	Hakikatpur
1129	Aurangabad	Gangapur	Mamdapur
1130	Aurangabad	Gangapur	Agar Kanadgaon

Sr. No.	District	Taluka	Village
1131	Aurangabad	Aurangabad	Maliwada
1132	Aurangabad	Gangapur	Wahegaon
1133	Aurangabad	Kannad	Dudhmal
1134	Aurangabad	Kannad	Talner
1135	Aurangabad	Kannad	Wadner
1136	Aurangabad	Kannad	Jamdi (Ghat)
1137	Aurangabad	Kannad	Jamdi (f)
1138	Aurangabad	Kannad	Kolwadi
1139	Aurangabad	Kannad	Sitanaik Tanda
1140	Aurangabad	Kannad	Wadner Tanda
1141	Aurangabad	Kannad	Mundwadi Tanda
1142	Aurangabad	Kannad	Kalanki
1143	Aurangabad	Kannad	Mundwadi
1144	Aurangabad	Kannad	Kunjkheda
1145	Aurangabad	Kannad	Rithi
1146	Aurangabad	Kannad	Malpur
1147	Aurangabad	Kannad	Moharda
1148	Aurangabad	Kannad	Dabhadi
1149	Aurangabad	Kannad	Karanjkheda Jahagir
1150	Aurangabad	Kannad	Umberkheda Tanda
1151	Aurangabad	Kannad	Umbarkheda
1152	Aurangabad	Kannad	Mehun Puranwadi
1153	Aurangabad	Kannad	Ambegaon Bk.
1154	Aurangabad	Kannad	Kholapur
1155	Aurangabad	Kannad	Ambegaon Kh.
1156	Aurangabad	Kannad	Chimnapur
1157	Aurangabad	Kannad	Nagapur
1158	Aurangabad	Kannad	Wadichimnapur
1159	Aurangabad	Kannad	Rampurwadi
1160	Aurangabad	Kannad	Karanjkheda Khalsa
1161	Aurangabad	Kannad	Dhamani Kh
1162	Aurangabad	Kannad	Sawargaon
1163	Aurangabad	Kannad	Khadki
1164	Aurangabad	Kannad	Sakharwel
1165	Aurangabad	Kannad	Palashi Kh
1166	Aurangabad	Kannad	Shafapur
1167	Aurangabad	Kannad	Malegaon (d)
1168	Aurangabad	Kannad	Pishor
1169	Aurangabad	Kannad	Digar
1170	Aurangabad	Kannad	Palshi Bk.
1171	Aurangabad	Kannad	Khatkheda

Sr. No.	District	Taluka	Village
1172	Aurangabad	Gangapur	Bagadi
1173	Aurangabad	Kannad	Alapur
1174	Aurangabad	Kannad	Lavhali
1175	Aurangabad	Kannad	Borsar Kh.
1176	Aurangabad	Kannad	Lamangaon
1177	Aurangabad	Kannad	Antapur
1178	Aurangabad	Kannad	Dharankheda
1179	Aurangabad	Kannad	Debhegaon
1180	Aurangabad	Kannad	Ruikheda
1181	Aurangabad	Kannad	Aurangapur
1182	Aurangabad	Kannad	Kesapur
1183	Aurangabad	Kannad	Malegaon (thokal)
1184	Aurangabad	Khuldabad	Mawsala
1185	Aurangabad	Khuldabad	Verul
1186	Aurangabad	Khuldabad	Dhamangaon
1187	Aurangabad	Khuldabad	Nirgudi Kh.
1188	Aurangabad	Khuldabad	Nirgudi Bk
1189	Aurangabad	Khuldabad	Palasgaon
1190	Aurangabad	Khuldabad	Pimpri
1191	Aurangabad	Khuldabad	Khaspur
1192	Aurangabad	Khuldabad	Galleborgaon
1193	Aurangabad	Khuldabad	Azampur
1194	Aurangabad	Khuldabad	Chincholi
1195	Aurangabad	Khuldabad	Tajnapur
1196	Aurangabad	Khuldabad	Bazar Sawangi
1197	Aurangabad	Khuldabad	Rail
1198	Aurangabad	Khuldabad	Sobalgaon
1199	Aurangabad	Khuldabad	Daregaon
1200	Aurangabad	Khuldabad	Indapur
1201	Aurangabad	Khuldabad	Kanakshil
1202	Aurangabad	Khuldabad	Sultanabad
1203	Aurangabad	Khuldabad	Shekhapur
1204	Aurangabad	Khuldabad	Padli
1205	Aurangabad	Paithan	Harshi Kh.
1206	Aurangabad	Paithan	Kutub Kheda
1207	Aurangabad	Paithan	Limbgaon
1208	Aurangabad	Paithan	Thergaon
1209	Aurangabad	Paithan	Dadegaon Bk.
1210	Aurangabad	Paithan	Dadegaon Kh.
1211	Aurangabad	Paithan	Harshi Bk.
1212	Aurangabad	Paithan	Ranjangaon Dandga

Sr. No.	District	Taluka	Village
1213	Aurangabad	Kannad	Kanadgaon (kannad)
1214	Aurangabad	Kannad	Rohila Kh.
1215	Aurangabad	Kannad	Aurali
1216	Aurangabad	Kannad	Sahangaon
1217	Aurangabad	Kannad	Khaparkheda
1218	Aurangabad	Kannad	Aurala
1219	Aurangabad	Kannad	Khamgaon
1220	Aurangabad	Kannad	Mategaon
1221	Aurangabad	Kannad	Chambharwadi
1222	Aurangabad	Kannad	Vaispur
1223	Aurangabad	Kannad	Tapargaon
1224	Aurangabad	Paithan	Mudhalwadi
1225	Aurangabad	Paithan	Warudi Bk.
1226	Aurangabad	Paithan	Narayangaon
1227	Aurangabad	Paithan	Waghadi
1228	Aurangabad	Paithan	Wadala
1229	Aurangabad	Paithan	Shahapur Wahegaon
1230	Aurangabad	Paithan	Kasarpadli
1231	Aurangabad	Paithan	Katpur
1232	Aurangabad	Paithan	Wahegaon
1233	Aurangabad	Paithan	Salwadgaon
1234	Aurangabad	Paithan	Bramhagaon
1235	Aurangabad	Paithan	Hingani
1236	Aurangabad	Paithan	Navgaon
1237	Aurangabad	Paithan	Wadji
1238	Aurangabad	Paithan	Balanagar
1239	Aurangabad	Paithan	Parundi
1240	Aurangabad	Paithan	Tanda Kh.
1241	Aurangabad	Paithan	Tupewadi
1242	Aurangabad	Paithan	Nanegaon
1243	Aurangabad	Paithan	Kherda
1244	Aurangabad	Paithan	Tanda Bk.
1245	Aurangabad	Paithan	Parundi Tanda
1246	Aurangabad	Paithan	Daregaon
1247	Aurangabad	Paithan	Kadethan Bk.
1248	Aurangabad	Paithan	Sonwadi Bk.
1249	Aurangabad	Paithan	Inayatpur
1250	Aurangabad	Paithan	Sonwadi Kh
1251	Aurangabad	Paithan	Dawarwadi
1252	Aurangabad	Paithan	Sultanpur
1253	Aurangabad	Paithan	Khadgaon
1254	Aurangabad	Paithan	Yasinpur
1255	Aurangabad	Paithan	Kadethan Kh.
1256	Aurangabad	Paithan	Georai Marda
1257	Aurangabad	Paithan	Pusegaon

Sr. No.	District	Taluka	Village
1258	Aurangabad	Paithan	Kaundar
1259	Aurangabad	Paithan	Mayagaon
1260	Aurangabad	Paithan	Apegaon
1261	Aurangabad	Paithan	Naigaon
1262	Aurangabad	Paithan	Agapur
1263	Aurangabad	Paithan	Shringarwadi
1264	Aurangabad	Paithan	Solanapur
1265	Aurangabad	Paithan	Anandpur
1266	Aurangabad	Paithan	Wawa
1267	Aurangabad	Paithan	Diyanatpur
1268	Aurangabad	Paithan	Pachalgaon
1269	Aurangabad	Phulambri	Chincholi (Nakib)
1270	Aurangabad	Phulambri	Babhulgaon Kh.
1271	Aurangabad	Phulambri	Babra
1272	Aurangabad	Phulambri	Sonari Bk.
1273	Aurangabad	Phulambri	Bilda
1274	Aurangabad	Phulambri	Fulambri
1275	Aurangabad	Phulambri	Pimpalgaondeo
1276	Aurangabad	Phulambri	Mhasla
1277	Aurangabad	Phulambri	Panwadi
1278	Aurangabad	Phulambri	Relgaon
1279	Aurangabad	Phulambri	Marsawali
1280	Aurangabad	Phulambri	Mahal Kinhola
1281	Aurangabad	Phulambri	Wakod
1282	Aurangabad	Phulambri	Kawitkheda
1283	Aurangabad	Phulambri	Khamgaon
1284	Aurangabad	Phulambri	Janefal
1285	Aurangabad	Sillod	Chandapur
1286	Aurangabad	Sillod	Leha
1287	Aurangabad	Sillod	Palod
1288	Aurangabad	Sillod	Digras
1289	Aurangabad	Sillod	Dakala
1290	Aurangabad	Sillod	Pimpaldari
1291	Aurangabad	Sillod	Bodwad
1292	Aurangabad	Sillod	Ranjani
1293	Aurangabad	Sillod	Balapur
1294	Aurangabad	Sillod	Ajantha
1295	Aurangabad	Sillod	Sarati
1296	Aurangabad	Sillod	Wasai
1297	Aurangabad	Sillod	Halda
1298	Aurangabad	Sillod	Jalki[Vasai]
1299	Aurangabad	Sillod	Mukpath
1300	Aurangabad	Sillod	Khandala
1301	Aurangabad	Sillod	Andhari (Sillod)
1302	Aurangabad	Sillod	Panas

Sr. No.	District	Taluka	Village
1303	Aurangabad	Paithan	Nandar
1304	Aurangabad	Paithan	Indegaon
1305	Aurangabad	Paithan	Dera
1306	Aurangabad	Paithan	Agar-nandur
1307	Aurangabad	Phulambri	Wanegaon Kh
1308	Aurangabad	Phulambri	Waregaon
1309	Aurangabad	Phulambri	Wahegaon
1310	Aurangabad	Phulambri	Wawana
1311	Aurangabad	Phulambri	Pokhari
1312	Aurangabad	Phulambri	Padali Wawana
1313	Aurangabad	Phulambri	Shahapur
1314	Aurangabad	Phulambri	Leha Babra
1315	Aurangabad	Phulambri	Nidhona
1316	Aurangabad	Phulambri	Lalwan
1317	Aurangabad	Phulambri	Kanhegaon
1318	Aurangabad	Phulambri	Sonari Kh.
1319	Aurangabad	Phulambri	Naigaon
1320	Aurangabad	Sillod	Wangi Kh.
1321	Aurangabad	Sillod	Wangi Bk.
1322	Aurangabad	Sillod	Kutubpur
1323	Aurangabad	Sillod	Dhanora
1324	Aurangabad	Sillod	Kasod
1325	Aurangabad	Sillod	Jalki Ghat
1326	Aurangabad	Sillod	Wanjola
1327	Aurangabad	Sillod	Bharadi
1328	Aurangabad	Sillod	Dhamni
1329	Aurangabad	Sillod	Pirola
1330	Aurangabad	Soegoan	Wadi Sutonda
1331	Aurangabad	Soegoan	Ghorkund
1332	Aurangabad	Soegoan	Banoti
1333	Aurangabad	Soegoan	Nayagaon
1334	Aurangabad	Soegoan	Warthan
1335	Aurangabad	Soegoan	Jangli Kotha
1336	Aurangabad	Soegoan	Sawarkheda
1337	Aurangabad	Soegoan	Lenapur
1338	Aurangabad	Soegoan	Dabha
1339	Aurangabad	Soegoan	Sawaladbara
1340	Aurangabad	Soegoan	Anad
1341	Aurangabad	Soegoan	Titawi
1342	Aurangabad	Soegoan	Palaskheda (sawala)
1343	Aurangabad	Soegoan	Davhari
1344	Aurangabad	Soegoan	Murti
1345	Aurangabad	Soegoan	Nanda
1346	Aurangabad	Soegoan	Pimpalwadi

Sr. No.	District	Taluka	Village
1347	Aurangabad	Sillod	Anvi
1348	Aurangabad	Sillod	Rahimabad
1349	Aurangabad	Sillod	Asadi
1350	Aurangabad	Sillod	Warud Kh.
1351	Aurangabad	Sillod	Bhawan
1352	Aurangabad	Sillod	Pimpalgaon Peth
1353	Aurangabad	Sillod	Pimpri
1354	Aurangabad	Sillod	Golegaon Bk.
1355	Aurangabad	Sillod	Wadodpan Bk.
1356	Aurangabad	Sillod	Undangaon
1357	Aurangabad	Sillod	Golegaon Kh.
1358	Aurangabad	Sillod	Wadodpan Kh.
1359	Aurangabad	Sillod	Dhotra
1360	Aurangabad	Sillod	Kajipur
1361	Aurangabad	Sillod	Khullod
1362	Aurangabad	Sillod	Sarola
1363	Aurangabad	Sillod	Wadod Chatha
1364	Aurangabad	Vaijapur	Babhulgaon Bk.
1365	Aurangabad	Vaijapur	Shivgaon
1366	Aurangabad	Vaijapur	Pathri
1367	Aurangabad	Vaijapur	Bhaigaon Ganga
1368	Aurangabad	Vaijapur	Babhulgaon Kh.
1369	Aurangabad	Vaijapur	Hingane Kannad
1370	Aurangabad	Vaijapur	Panghavan
1371	Aurangabad	Vaijapur	Khandala
1372	Aurangabad	Vaijapur	Bhingi
1373	Aurangabad	Vaijapur	Borsar
1374	Aurangabad	Vaijapur	Raghunathpurwadi
1375	Aurangabad	Vaijapur	Sanjarpurwadi
1376	Aurangabad	Vaijapur	Rahegavhan
1377	Aurangabad	Vaijapur	Bhivgaon
1378	Aurangabad	Vaijapur	Aurangpur
1379	Aurangabad	Vaijapur	Panvi Bk.
1380	Aurangabad	Vaijapur	Wakti
1381	Aurangabad	Vaijapur	Mahalgaon
1382	Aurangabad	Vaijapur	Mali Ghogargaon
1383	Aurangabad	Vaijapur	Shoor
1384	Aurangabad	Vaijapur	Sawkhed Khandala
1385	Aurangabad	Vaijapur	Dhondalgaon
1386	Aurangabad	Vaijapur	Amanatpurwadi
1387	Aurangabad	Vaijapur	Tartyachiwadi (N.V.)
1388	Aurangabad	Vaijapur	Nalegaon
1389	Aurangabad	Vaijapur	Babhultel
1390	Aurangabad	Vaijapur	Anchalgaon

Sr. No.	District	Taluka	Village
1391	Aurangabad	Soegoan	Hanumantkheda
1392	Aurangabad	Soegoan	Titur
1393	Aurangabad	Soegoan	Nimbhora
1394	Aurangabad	Soegoan	Galwada (B)
1395	Aurangabad	Soegoan	Mukhed
1396	Aurangabad	Soegoan	Palashi
1397	Aurangabad	Soegoan	Banoti Tanda
1398	Aurangabad	Soegoan	Gondegaon
1399	Aurangabad	Vaijapur	Hamrapur
1400	Aurangabad	Vaijapur	Takli Sagaj
1401	Aurangabad	Vaijapur	Mali Sagaj
1402	Aurangabad	Vaijapur	Bhagur
1403	Aurangabad	Vaijapur	Ballali Sagaj
1404	Aurangabad	Vaijapur	Ekodi Sagaj
1405	Aurangabad	Vaijapur	Kanak Sagaj
1406	Aurangabad	Vaijapur	Rahegaon
1407	Aurangabad	Vaijapur	Waghla
1408	Aurangabad	Vaijapur	Undirwadi
1409	Aurangabad	Vaijapur	Sonwadi
1410	Aurangabad	Vaijapur	Pashapur
1411	Aurangabad	Vaijapur	Mandki
1412	Aurangabad	Vaijapur	Garaj
1413	Aurangabad	Vaijapur	Pokhari
1414	Aurangabad	Vaijapur	Hajipurwadi
1413	Buldhana	Buldhana	Kolwad
1414	Buldhana	Buldhana	Chikhala
1415	Buldhana	Buldhana	Ismailpur
1416	Buldhana	Buldhana	Dudha
1417	Buldhana	Buldhana	Hatedi Bk.
1418	Buldhana	Buldhana	Hatedi Kh.
1419	Buldhana	Buldhana	Nandrakoli
1420	Buldhana	Buldhana	Awalkhed
1421	Buldhana	Buldhana	Deepur
1422	Buldhana	Buldhana	Sagwan
1423	Buldhana	Buldhana	Birsingpur

Sr. No.	District	Taluka	Village
1426	Aurangabad	Vaijapur	Tunki
1427	Aurangabad	Vaijapur	Naigavhan
1428	Aurangabad	Vaijapur	Wakla
1429	Aurangabad	Vaijapur	Khirdi
1430	Aurangabad	Vaijapur	Palkhed
1431	Aurangabad	Vaijapur	Lakhmapurwadi
1432	Aurangabad	Vaijapur	Karanjgaon
1433	Aurangabad	Vaijapur	Golwadi
1434	Aurangabad	Vaijapur	Hargovindpur
1435	Aurangabad	Vaijapur	Dahegaon
1436	Aurangabad	Vaijapur	Deogaon Shani
1437	Aurangabad	Vaijapur	Hingoni
1438	Aurangabad	Vaijapur	Dawala
1439	Aurangabad	Vaijapur	Bhaur
1440	Aurangabad	Vaijapur	Lakhganga
1441	Aurangabad	Vaijapur	Surala
1442	Aurangabad	Vaijapur	Belgaon
1443	Aurangabad	Vaijapur	Chorwaghalgaon
1444	Aurangabad	Vaijapur	Chinchadgaon
1445	Aurangabad	Vaijapur	Hanumantgaon
1446	Aurangabad	Vaijapur	Dongaon
1447	Aurangabad	Vaijapur	Zolegaon
1448	Buldhana	Jalgaon Jamod	Gaulkhed
1449	Buldhana	Jalgaon Jamod	Manegaon
1450	Buldhana	Jalgaon Jamod	Tivadi Ajampur
1451	Buldhana	Jalgaon Jamod	Satli
1452	Buldhana	Jalgaon Jamod	Golegaon Kh.
1453	Buldhana	Jalgaon Jamod	Gadagaon Kh.
1454	Buldhana	Jalgaon Jamod	Zadegaon
1455	Buldhana	Jalgaon Jamod	Asalgaon
1456	Buldhana	Jalgaon Jamod	Sawargaon
1457	Buldhana	Jalgaon Jamod	Khandvi
1458	Buldhana	Jalgaon Jamod	Akola Kh.

Sr. No.	District	Taluka	Village
1459	Buldhana	Buldhana	Zari
1460	Buldhana	Buldhana	Tandulwadi
1461	Buldhana	Buldhana	Ambhoda
1462	Buldhana	Chikhli	Amona
1463	Buldhana	Chikhli	Bhokar
1464	Buldhana	Chikhli	Konad
1465	Buldhana	Chikhli	Malagi
1466	Buldhana	Chikhli	Yewata
1467	Buldhana	Chikhli	Ramnagar
1468	Buldhana	Chikhli	Vasantnagar
1469	Buldhana	Chikhli	Bhorsa
1470	Buldhana	Chikhli	Ancharwadi
1471	Buldhana	Chikhli	Mangrul Pr Kherda
1472	Buldhana	Chikhli	Deulgaon Dhangar
1473	Buldhana	Chikhli	Isrul
1474	Buldhana	Chikhli	Misalwadi
1475	Buldhana	Chikhli	Shelgaon Atol
1476	Buldhana	Chikhli	Malshemba
1477	Buldhana	Chikhli	Antri Koli
1478	Buldhana	Chikhli	Sakegaon
1479	Buldhana	Chikhli	Borala
1480	Buldhana	Chikhli	Sawargaon Dukare
1481	Buldhana	Chikhli	Waghapur
1482	Buldhana	Chikhli	Malgani

Sr. No.	District	Taluka	Village
1483	Buldhana	Jalgaon Jamod	Golegaon Bk.
1484	Buldhana	Jalgaon Jamod	Ilora
1485	Buldhana	Jalgaon Jamod	Taroda Bk.
1486	Buldhana	Jalgaon Jamod	Bhendwad Kh.
1487	Buldhana	Jalgaon Jamod	Mahuli
1488	Buldhana	Jalgaon Jamod	Kurangad Bk.
1489	Buldhana	Jalgaon Jamod	Gadegaon Bk.
1490	Buldhana	Jalgaon Jamod	Nimbhora Kh.
1491	Buldhana	Jalgaon Jamod	Madakhed Bk.
1492	Buldhana	Jalgaon Jamod	Chawara
1493	Buldhana	Jalgaon Jamod	Bhendwad Bk.
1494	Buldhana	Jalgaon Jamod	Madakhed Kh.
1495	Buldhana	Jalgaon Jamod	Taroda Kh.
1496	Buldhana	Jalgaon Jamod	Takli Khasa
1497	Buldhana	Jalgaon Jamod	Parasharampur
1498	Buldhana	Jalgaon Jamod	Kurangad Kh
1499	Buldhana	Jalgaon Jamod	Takli Paraskar
1500	Buldhana	Jalgaon Jamod	Sukli
1501	Buldhana	Jalgaon Jamod	Takli Khati
1502	Buldhana	Jalgaon Jamod	Kherda Kh.
1503	Buldhana	Jalgaon Jamod	Palaskhed
1504	Buldhana	Jalgaon Jamod	Sungaon
1505	Buldhana	Jalgaon Jamod	Borala Kh.
1506	Buldhana	Jalgaon Jamod	Kherda Bk.

Sr. No.	District	Taluka	Village
1507	Buldhana	Deolgaon	Dodra
1508	Buldhana	Deolgaon	Mandapgaon
1509	Buldhana	Deolgaon	Pimpri Andhale
1510	Buldhana	Deolgaon	Baigaon Pr. Kherda
1511	Buldhana	Deolgaon	Chinchkhed
1512	Buldhana	Deolgaon	Sultanpur
1513	Buldhana	Jalgaon Jamod	Palshi Vaidya
1514	Buldhana	Jalgaon Jamod	Mandava
1515	Buldhana	Jalgaon Jamod	Adol Kh.
1516	Buldhana	Jalgaon Jamod	Palshi Ghat
1517	Buldhana	Jalgaon Jamod	Sultanpur
1518	Buldhana	Jalgaon Jamod	Nimkarad
1519	Buldhana	Jalgaon Jamod	Adol Bk.
1520	Buldhana	Jalgaon Jamod	Sulaj
1521	Buldhana	Jalgaon Jamod	Hingna Pr.Balapur
1522	Buldhana	Jalgaon Jamod	Dadulgaon
1523	Buldhana	Khamgaon	Nilegaon
1524	Buldhana	Khamgaon	Patonda
1525	Buldhana	Khamgaon	Hingna Karegaon
1526	Buldhana	Khamgaon	Vihigaon
1527	Buldhana	Khamgaon	Akoli
1528	Buldhana	Khamgaon	Umra Atali
1529	Buldhana	Khamgaon	Pedka
1530	Buldhana	Khamgaon	Pimpri Mohadar
1531	Buldhana	Khamgaon	Kherdi
1532	Buldhana	Khamgaon	Pimprala
1533	Buldhana	Khamgaon	Awar
1534	Buldhana	Khamgaon	Kolori
1535	Buldhana	Khamgaon	Nagapur

Sr. No.	District	Taluka	Village
1536	Buldhana	Jalgaon Jamod	Rajura Kh.
1537	Buldhana	Jalgaon Jamod	Dautpur
1538	Buldhana	Jalgaon Jamod	Gultura
1539	Buldhana	Jalgaon Jamod	Rajura Bk.
1540	Buldhana	Jalgaon Jamod	Umapur
1541	Buldhana	Jalgaon Jamod	Islampur
1542	Buldhana	Jalgaon Jamod	Sawandan
1543	Buldhana	Jalgaon Jamod	Sonbardi
1544	Buldhana	Jalgaon Jamod	Khelshivapur (Jamod)
1545	Buldhana	Jalgaon Jamod	Khel Paraskar (Jamod)
1546	Buldhana	Jalgaon Jamod	Nimbhora Bk.
1547	Buldhana	Jalgaon Jamod	Hashampur (Wadgaon Hashampur)
1548	Buldhana	Jalgaon Jamod	Wadshingi
1549	Buldhana	Jalgaon Jamod	Dhanora
1550	Buldhana	Khamgaon	Ramnagar
1551	Buldhana	Khamgaon	Atali
1552	Buldhana	Malkapur	Malkapur (Rural)
1553	Buldhana	Malkapur	Pimpalkhunta (Mahadeo)
1554	Buldhana	Malkapur	Shivni
1555	Buldhana	Malkapur	Jambhulhaba
1556	Buldhana	Malkapur	Deodhaba
1557	Buldhana	Malkapur	Ghodi
1558	Buldhana	Malkapur	Kamrdipur
1559	Buldhana	Malkapur	Gorad
1560	Buldhana	Malkapur	Khadki
1561	Buldhana	Malkapur	Rangaon
1562	Buldhana	Malkapur	Bhalegaon
1563	Buldhana	Malkapur	Hingana Kazi
1564	Buldhana	Malkapur	Khamkhed Pr.Malkapur

Sr. No.	District	Taluka	Village
1565	Buldhana	Khamgaon	Jalka Teli
1566	Buldhana	Khamgaon	Pimpri Deshmukh
1567	Buldhana	Khamgaon	Kinhi Mahadeo
1568	Buldhana	Khamgaon	Bhendi
1569	Buldhana	Khamgaon	Belkhed (N.V.)
1570	Buldhana	Khamgaon	Bhalegaon
1571	Buldhana	Khamgaon	Chinchkhed Band
1572	Buldhana	Khamgaon	Kumbhephal
1573	Buldhana	Khamgaon	Wadji
1574	Buldhana	Khamgaon	Pimpalgaon Raja
1575	Buldhana	Khamgaon	Pimpalchoch
1576	Buldhana	Khamgaon	Kasarkhed
1577	Buldhana	Khamgaon	Kawadgaon
1578	Buldhana	Khamgaon	Dhorapgaon
1579	Buldhana	Khamgaon	Takli
1580	Buldhana	Lonar	Kaulkhed
1581	Buldhana	Lonar	Wadhav
1582	Buldhana	Lonar	Nandra
1583	Buldhana	Lonar	Bhiwapur
1584	Buldhana	Lonar	Raigaon
1585	Buldhana	Lonar	Pimpalner
1586	Buldhana	Lonar	Deulgaon Waisa
1587	Buldhana	Lonar	Jambul
1588	Buldhana	Lonar	Pathra
1589	Buldhana	Lonar	Shivni Jat
1590	Buldhana	Lonar	Titavi
1591	Buldhana	Lonar	Gotra
1592	Buldhana	Lonar	Pangradola
1593	Buldhana	Lonar	Sonuna
1594	Buldhana	Lonar	Kundlas
1595	Buldhana	Malkapur	Kalegaon Pr.Malkapur
1596	Buldhana	Malkapur	Telkhed
1597	Buldhana	Malkapur	Hingana Nagapur
1598	Buldhana	Malkapur	Harsoda
1599	Buldhana	Malkapur	Chinchol
1600	Buldhana	Malkapur	Dudhalgaon Kh.
1601	Buldhana	Malkapur	Waghola
1602	Buldhana	Malkapur	Korwad
1603	Buldhana	Malkapur	Narwel
1604	Buldhana	Mehkar	Chinchala

Sr. No.	District	Taluka	Village
1605	Buldhana	Malkapur	Tighra Pr.Malkapur
1606	Buldhana	Malkapur	Wiwara
1607	Buldhana	Malkapur	Dasarkhed
1608	Buldhana	Malkapur	Rantham
1609	Buldhana	Malkapur	Bhangura
1610	Buldhana	Malkapur	Gahukhed
1611	Buldhana	Malkapur	Bhadgani
1612	Buldhana	Malkapur	Ghirni
1613	Buldhana	Malkapur	Khaparkhed
1614	Buldhana	Malkapur	Balad Pr. Malkapur
1615	Buldhana	Malkapur	Gadegaon
1616	Buldhana	Malkapur	Umali
1617	Buldhana	Malkapur	Makner
1618	Buldhana	Malkapur	Siradhon
1619	Buldhana	Malkapur	Lonwadi Pr.Malkapur
1620	Buldhana	Malkapur	Khokodi
1621	Buldhana	Malkapur	Dudhalgaon BK.
1622	Buldhana	Malkapur	Rastapur
1623	Buldhana	Malkapur	Nimbari
1624	Buldhana	Malkapur	Kund Bk.
1625	Buldhana	Malkapur	Datala
1626	Buldhana	Malkapur	Lahe Kh.
1627	Buldhana	Malkapur	Wakodi
1628	Buldhana	Malkapur	Tandulwadi Pr.Malkapur
1629	Buldhana	Malkapur	Warkhed
1630	Buldhana	Mehkar	Drugbori
1631	Buldhana	Mehkar	Botha
1632	Buldhana	Mehkar	Warud
1633	Buldhana	Mehkar	Jambharun
1634	Buldhana	Mehkar	Bhosa
1635	Buldhana	Mehkar	Ghatbori
1636	Buldhana	Mehkar	Tembharkhed
1637	Buldhana	Mehkar	Wagdeo
1638	Buldhana	Mehkar	Pathardi
1639	Buldhana	Mehkar	Hiwara Bk.
1640	Buldhana	Mehkar	Shivaji Nagar
1641	Buldhana	Mehkar	Shelgaon Kakde
1642	Buldhana	Mehkar	Gajarkhed
1643	Buldhana	Mehkar	Uddhava (New)
1644	Buldhana	Nandura	Narakhed

Sr. No.	District	Taluka	Village
1645	Buldhana	Mehkar	Degaon
1646	Buldhana	Mehkar	Januna
1647	Buldhana	Motala	Wadi
1648	Buldhana	Motala	Chawarda
1649	Buldhana	Motala	Pophali
1650	Buldhana	Motala	Pokhari
1651	Buldhana	Motala	Kabarkhed
1652	Buldhana	Motala	Dhonkhed
1653	Buldhana	Motala	Pimpri Gawali
1654	Buldhana	Motala	Hanwatkhed
1655	Buldhana	Motala	Sanglad Pr.Rajur
1656	Buldhana	Motala	Aजारad
1657	Buldhana	Motala	Kalegaon Pr.Rohinkhed
1658	Buldhana	Motala	Dudhamal
1659	Buldhana	Motala	Sarola (Maroti)
1660	Buldhana	Motala	Thad
1661	Buldhana	Motala	Punhai
1662	Buldhana	Motala	Sarola Pir
1663	Buldhana	Motala	Fardapur
1664	Buldhana	Motala	Rohinkhed
1665	Buldhana	Motala	Tapowan
1666	Buldhana	Motala	Wadgaon Pr.Rohinkhed
1667	Buldhana	Motala	Antri
1668	Buldhana	Motala	Moykhed
1669	Buldhana	Nandura	Hingana Gavhad
1670	Buldhana	Nandura	Takli (Watpal)
1671	Buldhana	Nandura	Jigaon
1672	Buldhana	Nandura	Khedgaon
1673	Buldhana	Nandura	Isarkheda
1674	Buldhana	Nandura	Sawargaon Nehu
1675	Buldhana	Nandura	Pimprikoli
1676	Buldhana	Nandura	Mominabad
1677	Buldhana	Nandura	Shemba Bk.
1678	Buldhana	Nandura	Isapur
1679	Buldhana	Nandura	Sawargaon Chahu
1680	Buldhana	Nandura	Mamulwadi
1681	Buldhana	Nandura	Khumgaon
1682	Buldhana	Nandura	Dahivadi
1683	Buldhana	Nandura	Fuli
1684	Buldhana	Nandura	Khaira

Sr. No.	District	Taluka	Village
1685	Buldhana	Nandura	Nimgaon
1686	Buldhana	Nandura	Dadgaon
1687	Buldhana	Nandura	Yerali
1688	Buldhana	Nandura	Roti
1689	Buldhana	Nandura	Hingna Dadgaon
1690	Buldhana	Nandura	Hingna Isapur
1691	Buldhana	Nandura	Hingna Bhota
1692	Buldhana	Nandura	Bhota
1693	Buldhana	Nandura	Pimpri Adhav
1694	Buldhana	Nandura	Dighi
1695	Buldhana	Nandura	Kherda
1696	Buldhana	Nandura	Belura
1697	Buldhana	Nandura	Jawala Bazar
1698	Buldhana	Nandura	Sanpudi
1699	Buldhana	Nandura	Aurangapur
1700	Buldhana	Nandura	Chinchkhed Pr.Malkapur
1701	Buldhana	Nandura	Mendhali
1702	Buldhana	Nandura	Kokalwadi
1703	Buldhana	Nandura	Chandur Biswa
1704	Buldhana	Nandura	Taka
1705	Buldhana	Nandura	Khudavantpur
1706	Buldhana	Nandura	Malegaon Pr.P.Raja
1707	Buldhana	Nandura	Rasulpur Pr.Raja
1708	Buldhana	Nandura	Gondhankhed
1709	Buldhana	Nandura	Wadi Pr.Wadner
1710	Buldhana	Nandura	Khandala
1711	Buldhana	Nandura	Dhadi
1712	Buldhana	Nandura	Khadatgaon
1713	Buldhana	Nandura	Pimpalkhuta Dhande
1714	Buldhana	Nandura	Barafgaon
1715	Buldhana	Nandura	Matoda
1716	Buldhana	Nandura	Sangawa
1717	Buldhana	Nandura	Shelgaon Mukund
1718	Buldhana	Nandura	Lonwadi Pr.Nandura
1719	Buldhana	Nandura	Ghodzari
1720	Buldhana	Nandura	Avdha Kh.
1721	Buldhana	Nandura	Wasadi Bk.
1722	Buldhana	Nandura	Wadali
1723	Buldhana	Nandura	Dhanora Bk.
1724	Buldhana	Nandura	Walti Bk.

Sr. No.	District	Taluka	Village
1725	Buldhana	Nandura	Bhuising
1726	Buldhana	Nandura	Nandura Kh.
1727	Buldhana	Nandura	Wadner
1728	Buldhana	Nandura	Kharkundi
1729	Buldhana	Nandura	Belad Pr.Jalgaon
1730	Buldhana	Nandura	Alampur
1731	Buldhana	Nandura	Kodarkhed
1732	Buldhana	Nandura	Palsoda
1733	Buldhana	Nandura	Patonda
1734	Buldhana	Nandura	Takarkhed
1735	Buldhana	Sangrampur	Kumbarkhed
1736	Buldhana	Sangrampur	Bhilkhed
1737	Buldhana	Sangrampur	Nirod
1738	Buldhana	Sangrampur	Kakoda
1739	Buldhana	Sangrampur	Warwat Khanderao
1740	Buldhana	Sangrampur	Jastgaon
1741	Buldhana	Sangrampur	Sawali
1742	Buldhana	Sangrampur	Itkhed
1743	Buldhana	Sangrampur	Chinchkhed
1744	Buldhana	Sangrampur	Pesoda
1745	Buldhana	Sangrampur	Kavthal
1746	Buldhana	Sangrampur	Takleshwar
1747	Buldhana	Sangrampur	Neknapur
1748	Buldhana	Sangrampur	Ringanwadi
1749	Buldhana	Sangrampur	Wankhed
1750	Buldhana	Sangrampur	Durgadiatya
1751	Buldhana	Sangrampur	Deulgaon
1752	Buldhana	Sangrampur	Kalamkhed
1753	Buldhana	Sangrampur	Warwat Bakal
1754	Buldhana	Sangrampur	Manardi
1755	Buldhana	Sangrampur	Hingana Kavthal
1756	Buldhana	Sangrampur	Ukadgaon
1757	Buldhana	Sangrampur	Khiroda
1758	Buldhana	Sangrampur	Kundhegaon
1759	Buldhana	Sangrampur	Kodri
1760	Buldhana	Sangrampur	Ukali Bk.
1761	Buldhana	Sangrampur	Pimpari Adgaon
1762	Buldhana	Sangrampur	Awar
1763	Buldhana	Sangrampur	Rohin Khindki
1764	Buldhana	Sangrampur	Dharmal
1765	Buldhana	Sangrampur	Anyar
1766	Buldhana	Sangrampur	Mangeri
1767	Buldhana	Sangrampur	Salwan
1768	Buldhana	Sangrampur	Dongarkhed

Sr. No.	District	Taluka	Village
1769	Buldhana	Nandura	Ahmadpur
1770	Buldhana	Nandura	Muramba
1771	Buldhana	Sangrampur	Chondhi
1772	Buldhana	Sangrampur	Wakana
1773	Buldhana	Sangrampur	Rudhana
1774	Buldhana	Sangrampur	Aswand
1775	Buldhana	Sangrampur	Paturda Kh.
1776	Buldhana	Sangrampur	Takali Panchgavhan
1777	Buldhana	Sangrampur	Bhon
1778	Buldhana	Sangrampur	Atkal
1779	Buldhana	Sangrampur	Niwana
1780	Buldhana	Sangrampur	Pimpri Wanerkhed
1781	Buldhana	Sangrampur	Paturda Budruk
1782	Buldhana	Shegaon	Warud
1783	Buldhana	Shegaon	Jawala Palaskhed
1784	Buldhana	Shegaon	Ghui
1785	Buldhana	Shegaon	Hingna Vaijanath
1786	Buldhana	Shegaon	Pahurjira
1787	Buldhana	Shegaon	Gavhan
1788	Buldhana	Shegaon	Jawala Bk.
1789	Buldhana	Shegaon	Khatkhed
1790	Buldhana	Shegaon	Bhastan
1791	Buldhana	Shegaon	Dongarkhed
1792	Buldhana	Shegaon	Pahurpurna
1793	Buldhana	Shegaon	Kathora
1794	Buldhana	Shegaon	Sagoda
1795	Buldhana	Shegaon	Bondgaon
1796	Buldhana	Shegaon	Tivhan Bk.
1797	Buldhana	Shegaon	Tivhan Kh.
1798	Buldhana	Shegaon	Janori
1799	Buldhana	Shegaon	Machhindrakhed
1800	Buldhana	Shegaon	Kurkhed
1801	Buldhana	Shegaon	Taroda Tarodi
1802	Buldhana	Shegaon	Chinchkhed
1803	Buldhana	Shegaon	Kalwad
1804	Buldhana	Shegaon	Bhongaon
1805	Buldhana	Shegaon	Dolarkhed
1806	Buldhana	Shegaon	Waradh
1807	Buldhana	Shegaon	Golegaon Kh.
1808	Buldhana	Shegaon	Manasgaon
1809	Buldhana	Shegaon	Mehen
1810	Buldhana	Shegaon	Adsul
1811	Buldhana	Shegaon	Palodi
1812	Buldhana	Shegaon	Shegaon (R)

Sr. No.	District	Taluka	Village
1813	Buldhana	Sangrampur	Kille Pimpaldol
1814	Buldhana	Sangrampur	Ambabarwa
1815	Buldhana	Sangrampur	Mohokot
1816	Buldhana	Sangrampur	Chunkhedi
1817	Buldhana	Sangrampur	Banoda Eklara (Eklara)
1818	Buldhana	Sangrampur	Bawanbir
1819	Buldhana	Sangrampur	Tunki
1820	Buldhana	Sangrampur	Ladnapur
1821	Buldhana	Sangrampur	Tamgaon
1822	Buldhana	Sangrampur	Palshi Zasi
1823	Buldhana	Sangrampur	Bodkha
1824	Buldhana	Sangrampur	Sonala
1825	Buldhana	Sangrampur	Palsoda
1826	Buldhana	Sangrampur	Wadgaon Pr.Adgaon
1827	Buldhana	Sangrampur	Kolad
1828	Buldhana	Sangrampur	Kated
1829	Buldhana	Sangrampur	Changefal
1830	Buldhana	Shegaon	Ekphal
1831	Buldhana	Shegaon	Kherda
1832	Buldhana	Shegaon	Takali Dharav
1833	Buldhana	Shegaon	Takali Hat
1834	Buldhana	Shegaon	Brahmanwada
1835	Buldhana	Shegaon	Jalamb
1836	Buldhana	Shegaon	Warkhed Bk.
1837	Buldhana	Shegaon	Mahagaon
1838	Buldhana	Shegaon	Unharkhed
1839	Buldhana	Shegaon	Takli Nagzari (Nagzari)
1840	Buldhana	Shegaon	Isapur
1841	Buldhana	Sindkhed	Warudi
1842	Buldhana	Sindkhed	Gunj
1843	Buldhana	Sindkhed	Shevaga Jahagir
1844	Buldhana	Sindkhed	Sawargaon Mal
1845	Buldhana	Sindkhed	Jambhora
1846	Hingoli	Aundha Nagnath	Laxmannaik tanda
1847	Hingoli	Aundha Nagnath	Sanghanaik Tanda
1848	Hingoli	Aundha Nagnath	Lohara Bk
1849	Hingoli	Aundha Nagnath	Sendur sana
1850	Hingoli	Aundha Nagnath	Sukapur

Sr. No.	District	Taluka	Village
1851	Buldhana	Shegaon	Golegaon Bk.
1852	Buldhana	Shegaon	Zadegaon
1853	Buldhana	Shegaon	Kalkhed
1854	Buldhana	Shegaon	Yeulkhed
1855	Buldhana	Shegaon	Manegaon
1856	Buldhana	Shegaon	Padsul
1857	Buldhana	Shegaon	Majalapur
1858	Buldhana	Shegaon	Lontek
1859	Buldhana	Shegaon	Gaigaon
1860	Buldhana	Shegaon	Lasura Bk.
1861	Buldhana	Shegaon	Kanarkhed
1862	Buldhana	Shegaon	Gaigaon Kh.
1863	Buldhana	Shegaon	Chincholi Karfarma
1864	Buldhana	Shegaon	Gaulkhed
1865	Buldhana	Shegaon	Sawarna
1866	Buldhana	Shegaon	Alasana.
1867	Buldhana	Shegaon	Sangwa
1868	Buldhana	Sindkhed	Saokhed Tejan
1869	Buldhana	Sindkhed	Jaypur
1870	Buldhana	Sindkhed	Khamgaon
1871	Buldhana	Sindkhed	Tadshivni
1872	Buldhana	Sindkhed	Umrad
1873	Buldhana	Sindkhed	Sarkhed
1874	Buldhana	Sindkhed	Raheri Bk.
1875	Buldhana	Sindkhed	Tandulwadi
1876	Buldhana	Sindkhed	Borkhedi Jalal
1877	Buldhana	Sindkhed	Waghora
1878	Buldhana	Sindkhed	Maharkhed
1879	Buldhana	Sindkhed	Pangri Ugale
1880	Buldhana	Sindkhed	Pangarkhed
1881	Buldhana	Sindkhed	Hanwatkhed
1882	Hingoli	Basnath	Pangra shinde
1883	Hingoli	Basnath	Kupti
1884	Hingoli	Basnath	Marsul
1885	Hingoli	Basnath	Rajawadi
1886	Hingoli	Basnath	Jununa
1887	Hingoli	Basnath	Amba

Sr. No.	District	Taluka	Village
1888	Hingoli	Aundha Nagnath	Matha
1889	Hingoli	Aundha Nagnath	Golegaon
1890	Hingoli	Aundha Nagnath	Bramhanwada Pr.Aundha
1891	Hingoli	Aundha Nagnath	Pimpaldari tarf nandapur
1892	Hingoli	Aundha Nagnath	Rajdari
1893	Hingoli	Aundha Nagnath	Poor
1894	Hingoli	Aundha Nagnath	Amdari
1895	Hingoli	Aundha Nagnath	Kanjara
1896	Hingoli	Aundha Nagnath	Tembhurdara
1897	Hingoli	Aundha Nagnath	Sonwadi
1898	Hingoli	Aundha Nagnath	Jamgavhan
1899	Hingoli	Aundha Nagnath	Lohara Kh
1900	Hingoli	Aundha Nagnath	Siddheshwar
1901	Hingoli	Aundha Nagnath	Anjanwada
1902	Hingoli	Aundha Nagnath	Anjanwada Tanda
1903	Hingoli	Aundha Nagnath	Dughala
1904	Hingoli	Aundha Nagnath	Murtijapur sawangi
1905	Hingoli	Aundha Nagnath	Gangalwadi
1906	Hingoli	Aundha Nagnath	Bhosi
1907	Hingoli	Aundha Nagnath	Nandgaon
1908	Hingoli	Aundha Nagnath	Sawali
1909	Hingoli	Aundha Nagnath	Sawali tanda
1910	Hingoli	Aundha Nagnath	Pazar tanda
1911	Hingoli	Aundha Nagnath	Nagzari

Sr. No.	District	Taluka	Village
1912	Hingoli	Basnath	Ambala
1913	Hingoli	Basnath	Chondhi tarf Sendursena
1914	Hingoli	Basnath	Selu
1915	Hingoli	Basnath	Marsulwadi tanda
1916	Hingoli	Basnath	Pimpri
1917	Hingoli	Basnath	Ambanath
1918	Hingoli	Basnath	Wadi tuljapur
1919	Hingoli	Basnath	Chikhali
1920	Hingoli	Basnath	Aral
1921	Hingoli	Basnath	Bhategaon
1922	Hingoli	Basnath	Adgaon
1923	Hingoli	Basnath	Girgaon
1924	Hingoli	Basnath	Babhulgaon
1925	Hingoli	Basnath	Sarola
1926	Hingoli	Basnath	Jawala traf babulgaon
1927	Hingoli	Basnath	Dagadpimpri
1928	Hingoli	Basnath	Bagdad
1929	Hingoli	Basnath	Sunegaon
1930	Hingoli	Basnath	Marlapur
1931	Hingoli	Basnath	Kagban
1932	Hingoli	Basnath	Bhoripgaon
1933	Hingoli	Basnath	Asegaon
1934	Hingoli	Basnath	Mudi
1935	Hingoli	Basnath	Rajapur
1936	Hingoli	Basnath	Govindpur T.

Sr. No.	District	Taluka	Village
1937	Hingoli	Aundha Nagnath	Yedud
1938	Hingoli	Aundha Nagnath	Mahalajgaon
1939	Hingoli	Aundha Nagnath	Kundkar pimpri
1940	Hingoli	Aundha Nagnath	Lakh
1941	Hingoli	Aundha Nagnath	Dewala
1942	Hingoli	Aundha Nagnath	Dharkheda
1943	Hingoli	Aundha Nagnath	Jamraja
1944	Hingoli	Aundha Nagnath	Galandi
1945	Hingoli	Aundha Nagnath	Walki
1946	Hingoli	Aundha Nagnath	Surwadi
1947	Hingoli	Aundha Nagnath	Asola traf lakh
1948	Hingoli	Aundha Nagnath	Turk pimpari
1949	Hingoli	Aundha Nagnath	Aundha Nagnath
1950	Hingoli	Aundha Nagnath	Talni Pr. Aundha
1951	Hingoli	Aundha Nagnath	Rajapur
1952	Hingoli	Aundha Nagnath	Yehalegaon (Solanke)
1953	Hingoli	Aundha Nagnath	Suregaon
1954	Hingoli	Aundha Nagnath	Devala
1955	Hingoli	Basnath	Khambala
1956	Hingoli	Basnath	Wapti
1957	Hingoli	Basnath	Khapar kheda
1958	Hingoli	Basnath	Sirli
1959	Hingoli	Hingoli	Paheni
1960	Hingoli	Hingoli	Bramhapuri
1961	Hingoli	Hingoli	Palsona
1962	Hingoli	Hingoli	Dhotra
1963	Hingoli	Hingoli	Umarkhoja
1964	Hingoli	Hingoli	Durgasawangi
1965	Hingoli	Hingoli	Bhatsawangi

Sr. No.	District	Taluka	Village
1966	Hingoli	Basnath	Takalgaon
1967	Hingoli	Basnath	Pimpala chorya
1968	Hingoli	Basnath	Khandarban
1969	Hingoli	Basnath	Ganeshpur
1970	Hingoli	Basnath	Hiwara kh
1971	Hingoli	Basnath	Thorava
1972	Hingoli	Basnath	Agdad
1973	Hingoli	Basnath	Lon Bk.
1974	Hingoli	Basnath	Lahan
1975	Hingoli	Basnath	Renkapur
1976	Hingoli	Basnath	Wakhari
1977	Hingoli	Hingoli	Kanhergaon naka
1978	Hingoli	Hingoli	Kanadkheda Kh.
1979	Hingoli	Hingoli	Kalburga
1980	Hingoli	Hingoli	Ambala
1981	Hingoli	Hingoli	Mop
1982	Hingoli	Hingoli	Kanadkheda Bk.
1983	Hingoli	Hingoli	Bodkhi
1984	Hingoli	Hingoli	Atharwadi
1985	Hingoli	Hingoli	Sarkali
1986	Hingoli	Kalamnuri	Wai
1987	Hingoli	Kalamnuri	Wakodi
1988	Hingoli	Kalamnuri	Sindgi
1989	Hingoli	Kalamnuri	Boldawadi
1990	Hingoli	Kalamnuri	Jam
1991	Hingoli	Kalamnuri	Telangwadi (N.V.)
1992	Hingoli	Kalamnuri	Potra
1993	Hingoli	Kalamnuri	Bibthar
1994	Hingoli	Kalamnuri	Asola

Sr. No.	District	Taluka	Village
1995	Hingoli	Hingoli	Bhatsawangi Tanda
1996	Hingoli	Hingoli	Khanapur
1997	Hingoli	Hingoli	Digraswani
1998	Hingoli	Hingoli	Patonda
1999	Hingoli	Hingoli	Ambheri
2000	Hingoli	Hingoli	Sawar kheda
2001	Hingoli	Hingoli	Patan
2002	Hingoli	Hingoli	Malwadi
2003	Hingoli	Hingoli	Karwadi
2004	Hingoli	Hingoli	Bhogaon
2005	Hingoli	Hingoli	Sayala
2006	Hingoli	Hingoli	Bhirda
2007	Hingoli	Hingoli	Yeli
2008	Hingoli	Hingoli	Pimplekhuta
2009	Hingoli	Hingoli	Parda
2010	Hingoli	Hingoli	Basamba
2011	Hingoli	Hingoli	Isapur
2012	Hingoli	Hingoli	Chikhalwadi
2013	Hingoli	Hingoli	Pimparkhed
2014	Hingoli	Hingoli	Bori Shikari
2015	Hingoli	Hingoli	Khanapur Chi.
2016	Hingoli	Hingoli	Koyali
2017	Hingoli	Hingoli	Jamrun andh
2018	Hingoli	Hingoli	Jambharun Andhwadi
2019	Hingoli	Hingoli	Karanjala
2020	Hingoli	Hingoli	Jamwadi
2021	Hingoli	Hingoli	Samga
2022	Hingoli	Hingoli	Raholi Bk.
2023	Hingoli	Hingoli	Limbala makta
2024	Hingoli	Hingoli	Sasewadi
2025	Hingoli	Hingoli	Kothalaj
2026	Hingoli	Hingoli	Durgdhamni
2027	Hingoli	Hingoli	Singarwadi
2028	Hingoli	Hingoli	Nawkha
2029	Hingoli	Hingoli	Raholi Kh.
2030	Hingoli	Kalamnuri	Zara
2031	Hingoli	Kalamnuri	Devdari
2032	Hingoli	Kalamnuri	Bibgavhan
2033	Hingoli	Kalamnuri	Dongargaon Naka
2034	Hingoli	Kalamnuri	Dhanora J.
2035	Hingoli	Kalamnuri	Dholkyachi Wadi
2036	Hingoli	Kalamnuri	Malegaon

Sr. No.	District	Taluka	Village
2037	Hingoli	Kalamnuri	Bolda
2038	Hingoli	Kalamnuri	Yelegaon (G)
2039	Hingoli	Kalamnuri	Phutana
2040	Hingoli	Kalamnuri	Nimtok
2041	Hingoli	Kalamnuri	Pethvadgaon (N.V.)
2042	Hingoli	Kalamnuri	Kawada
2043	Hingoli	Kalamnuri	Dhardhawanda
2044	Hingoli	Kalamnuri	Kille wadgaon
2045	Hingoli	Kalamnuri	Gorlegaon
2046	Hingoli	Kalamnuri	Tovha
2047	Hingoli	Kalamnuri	Rahimapur
2048	Hingoli	Kalamnuri	Gaul Ba.
2049	Hingoli	Kalamnuri	Tuppa
2050	Hingoli	Kalamnuri	Dhumka
2051	Hingoli	Kalamnuri	Babhali
2052	Hingoli	Kalamnuri	Belmanda
2053	Hingoli	Kalamnuri	Naukha tarf kalamnuri
2054	Hingoli	Kalamnuri	Shiwani Bk.
2055	Hingoli	Kalamnuri	Gangapur
2056	Hingoli	Kalamnuri	Chinchoti
2057	Hingoli	Kalamnuri	Rupur
2058	Hingoli	Kalamnuri	Mhaisgavhan
2059	Hingoli	Kalamnuri	Kharvi
2060	Hingoli	Kalamnuri	Harwadi
2061	Hingoli	Kalamnuri	Nandapur
2062	Hingoli	Kalamnuri	Guldalwadi
2063	Hingoli	Kalamnuri	Jawala panchal
2064	Hingoli	Kalamnuri	Wasphal
2065	Hingoli	Sengoan	Tandulwadi
2066	Hingoli	Sengoan	Ganeshpur
2067	Hingoli	Sengoan	Chikhalagar
2068	Hingoli	Sengoan	Bramhawadi
2069	Hingoli	Sengoan	Wad hiwara
2070	Hingoli	Sengoan	Hudi
2071	Hingoli	Sengoan	Limbala hudi
2072	Hingoli	Sengoan	Makodi
2073	Hingoli	Sengoan	Mangwadi
2074	Hingoli	Sengoan	Jamb Andh
2075	Hingoli	Sengoan	Mahalsapur
2076	Hingoli	Sengoan	Bodkha
2077	Hingoli	Sengoan	Bhankheda
2078	Hingoli	Sengoan	Sakhara

Sr. No.	District	Taluka	Village
2079	Hingoli	Kalamnuri	Khaparkheda
2080	Hingoli	Kalamnuri	Taroda
2081	Hingoli	Sengoan	Kelsula
2082	Hingoli	Sengoan	Borkhadi
2083	Hingoli	Sengoan	Holgira
2084	Hingoli	Sengoan	Dhotara
2085	Hingoli	Sengoan	Hiwarkheda
2086	Hingoli	Sengoan	Lingdari
2087	Hingoli	Sengoan	Umardari
2088	Hingoli	Sengoan	Jamdaya
2089	Hingoli	Sengoan	Gondala
2090	Hingoli	Sengoan	Waychal pimpari
2091	Hingoli	Sengoan	Bramhanwada Pra Washim
2092	Hingoli	Sengoan	Chondi Kh
2093	Hingoli	Sengoan	Chondi Bk
2094	Hingoli	Sengoan	Sawana
2095	Hingoli	Sengoan	Kadoli
2096	Hingoli	Sengoan	Garkheda
2097	Hingoli	Sengoan	Surajkheda
2098	Hingoli	Sengoan	Jamthi bk
2099	Jalgaon	Amalner	Ardi
2100	Jalgaon	Amalner	Dangar Bk.
2101	Jalgaon	Amalner	Zadi
2102	Jalgaon	Amalner	Vaghode
2103	Jalgaon	Amalner	Khadke
2104	Jalgaon	Amalner	Shirsale Kh.
2105	Jalgaon	Amalner	Pimpale Bk.
2106	Jalgaon	Amalner	Nisardi
2107	Jalgaon	Amalner	Dheku Charam
2108	Jalgaon	Amalner	Shirsale Bk.
2109	Jalgaon	Amalner	Talwade
2110	Jalgaon	Amalner	Janave
2111	Jalgaon	Amalner	Galwade Kh.
2112	Jalgaon	Amalner	Ambasan
2113	Jalgaon	Amalner	Ranaiche
2114	Jalgaon	Amalner	Atale
2115	Jalgaon	Amalner	Anora
2116	Jalgaon	Amalner	Pimpale Kh.
2117	Jalgaon	Amalner	Londhave
2118	Jalgaon	Amalner	Dheku Seem.
2119	Jalgaon	Amalner	Chimanpuri
2120	Jalgaon	Amalner	Kanhere
2121	Jalgaon	Amalner	Radhavan
2122	Jalgaon	Amalner	Khokar Pat
2123	Jalgaon	Amalner	Fapore Kh.

Sr. No.	District	Taluka	Village
2124	Hingoli	Sengoan	Goregaon
2125	Hingoli	Sengoan	Mazod
2126	Hingoli	Sengoan	Hatala
2127	Hingoli	Sengoan	Kahakar Bk
2128	Hingoli	Sengoan	Batwadi
2129	Hingoli	Sengoan	Walana
2130	Hingoli	Sengoan	Mannas pimpari
2131	Hingoli	Sengoan	Warkheda
2132	Hingoli	Sengoan	Waghjali
2133	Hingoli	Sengoan	Barada
2134	Hingoli	Sengoan	Warud saman
2135	Hingoli	Sengoan	Khudaj
2136	Hingoli	Sengoan	Sengaon
2137	Hingoli	Sengoan	Jamrun Bk
2138	Hingoli	Sengoan	Talni Pra Narsi
2139	Hingoli	Sengoan	Pusegaon
2140	Hingoli	Sengoan	Ridhora
2141	Hingoli	Sengoan	Warud Kaji
2142	Jalgaon	Bhusawal	Fulgaon
2143	Jalgaon	Bhusawal	Daryapur
2144	Jalgaon	Bhusawal	Belkhede Digar
2145	Jalgaon	Bhusawal	Bohardi Bk
2146	Jalgaon	Bhusawal	Pimpalgaon Kh.
2147	Jalgaon	Bhusawal	Bohardi Kh
2148	Jalgaon	Bhusawal	Anjansonde
2149	Jalgaon	Bhusawal	Vazarkhede
2150	Jalgaon	Bhusawal	Khadake
2151	Jalgaon	Bhusawal	Fekari
2152	Jalgaon	Bhusawal	Bhusawal (Rural)
2153	Jalgaon	Bhusawal	Sakari
2154	Jalgaon	Bodvad	Palaskhede Bk.
2155	Jalgaon	Bodvad	Shelwad
2156	Jalgaon	Bodvad	Lonwadi Pr.bodwad
2157	Jalgaon	Bodvad	Jamathi
2158	Jalgaon	Bodvad	Yevati
2159	Jalgaon	Bodvad	Jalchakra Kh.
2160	Jalgaon	Bodvad	Revati
2161	Jalgaon	Bodvad	Jalchakra Bk.
2162	Jalgaon	Bodvad	Vaki
2163	Jalgaon	Bodvad	Varad Bk.
2164	Jalgaon	Bodvad	Varad Kh.
2165	Jalgaon	Bodvad	Muktal
2166	Jalgaon	Bodvad	Borgaon
2167	Jalgaon	Bodvad	Dhanori
2168	Jalgaon	Chalisingaon	Ozar

Sr. No.	District	Taluka	Village
2169	Jalgaon	Amalner	Sadawan Kh.
2170	Jalgaon	Amalner	Bilkhede
2171	Jalgaon	Amalner	Chakave
2172	Jalgaon	Amalner	Sadawan Bk.
2173	Jalgaon	Amalner	Bahadar Wadi
2174	Jalgaon	Amalner	Sundarpatti
2175	Jalgaon	Amalner	Dapori Bk.
2176	Jalgaon	Amalner	Sonkhedi
2177	Jalgaon	Amalner	Lone
2178	Jalgaon	Bhadgaon	Bachchhar
2179	Jalgaon	Bhadgaon	Pimprihat
2180	Jalgaon	Bhadgaon	Pendgaon
2181	Jalgaon	Bhadgaon	Khedgaon Kh.
2182	Jalgaon	Bhadgaon	Sawade
2183	Jalgaon	Bhadgaon	Picharde
2184	Jalgaon	Bhadgaon	Pathrad
2185	Jalgaon	Bhadgaon	Shindi
2186	Jalgaon	Bhadgaon	Kolgaon
2187	Jalgaon	Bhadgaon	Achalgaon
2188	Jalgaon	Bhadgaon	Talband Tanda
2189	Jalgaon	Bhadgaon	Dhotre
2190	Jalgaon	Bhadgaon	Vasantwadi
2191	Jalgaon	Bhadgaon	Adalase
2192	Jalgaon	Bhadgaon	Pimparkhede
2193	Jalgaon	Bhadgaon	Anturli Bk.
2194	Jalgaon	Bhadgaon	Bhatkhande Bk.
2195	Jalgaon	Bhusawal	Talwel
2196	Jalgaon	Bhusawal	Susari
2197	Jalgaon	Chalisgaon	Abhone
2198	Jalgaon	Chalisgaon	Bahal
2199	Jalgaon	Chalisgaon	Khedgaon
2200	Jalgaon	Chalisgaon	Kalamadu
2201	Jalgaon	Chalisgaon	Hirapur
2202	Jalgaon	Chalisgaon	Krushnanagar
2203	Jalgaon	Chalisgaon	Khadaki Bk.
2204	Jalgaon	Chalisgaon	Talegaon
2205	Jalgaon	Chalisgaon	Karajgaon
2206	Jalgaon	Chalisgaon	Jamadi Pr. Bahal
2207	Jalgaon	Chalisgaon	Bangaon
2208	Jalgaon	Chalisgaon	Mundkhede Bk.
2209	Jalgaon	Chalisgaon	Rokade
2210	Jalgaon	Chalisgaon	Ranjangaon
2211	Jalgaon	Chalisgaon	Bodhare
2212	Jalgaon	Chalisgaon	Talode Pr. Chalisgaon

Sr. No.	District	Taluka	Village
2213	Jalgaon	Chalisgaon	Kharjai
2214	Jalgaon	Chalisgaon	Don Digar
2215	Jalgaon	Chalisgaon	Pimpri Kh.
2216	Jalgaon	Chalisgaon	Chinchkhede
2217	Jalgaon	Chalisgaon	Deoli
2218	Jalgaon	Chalisgaon	Dasegaon Bk
2219	Jalgaon	Chalisgaon	Umbarkhede
2220	Jalgaon	Chalisgaon	Adgaon
2221	Jalgaon	Chalisgaon	Parasharam Nagar
2222	Jalgaon	Chalisgaon	Sundarnagar
2223	Jalgaon	Chalisgaon	Krishnapuri
2224	Jalgaon	Chalisgaon	Londhe
2225	Jalgaon	Chalisgaon	Upkhede
2226	Jalgaon	Chalisgaon	Dahiwad
2227	Jalgaon	Chalisgaon	Daregaon
2228	Jalgaon	Chalisgaon	Ramnagar
2229	Jalgaon	Chalisgaon	Kadhere
2230	Jalgaon	Chalisgaon	Visapur
2231	Jalgaon	Chalisgaon	Khadaki Seem
2232	Jalgaon	Chalisgaon	Palasare
2233	Jalgaon	Chalisgaon	Varkhede Bk.
2234	Jalgaon	Chalisgaon	Chinchgavhan
2235	Jalgaon	Chalisgaon	Tirpole
2236	Jalgaon	Chalisgaon	Pohare
2237	Jalgaon	Chalisgaon	Khedi Kh
2238	Jalgaon	Chalisgaon	Rajmane
2239	Jalgaon	Chopda	Khachane
2240	Jalgaon	Dharangaon	Tarde Kh.
2241	Jalgaon	Dharangaon	Dharangaon (Rural)
2242	Jalgaon	Dharangaon	Pashtane Bk.
2243	Jalgaon	Dharangaon	Ukhalwadi
2244	Jalgaon	Dharangaon	Pashtane Kh.
2245	Jalgaon	Dharangaon	Babhale Bk.
2246	Jalgaon	Dharangaon	Gangapuri Bk.
2247	Jalgaon	Dharangaon	Bhamardi
2248	Jalgaon	Dharangaon	Anore
2249	Jalgaon	Dharangaon	Dhanore
2250	Jalgaon	Dharangaon	Garkhede
2251	Jalgaon	Dharangaon	Waghlud Kh.
2252	Jalgaon	Dharangaon	Hanmant khede Kh.
2253	Jalgaon	Dharangaon	Kandari Bk.
2254	Jalgaon	Dharangaon	Sarve Kh.
2255	Jalgaon	Dharangaon	Shamkhede
2256	Jalgaon	Dharangaon	Mahankale

Sr. No.	District	Taluka	Village
2257	Jalgaon	Chalisingaon	Sangavi
2258	Jalgaon	Chalisingaon	Waghari
2259	Jalgaon	Chalisingaon	Ambehoi
2260	Jalgaon	Chalisingaon	Kherde
2261	Jalgaon	Chalisingaon	Songaon
2262	Jalgaon	Chalisingaon	Wakadi
2263	Jalgaon	Chalisingaon	Lonje
2264	Jalgaon	Chopda	Bor Ajanti
2265	Jalgaon	Chopda	Bormali
2266	Jalgaon	Chopda	Deozari
2267	Jalgaon	Chopda	Vaijapur (Shenpani)
2268	Jalgaon	Chopda	Devhari
2269	Jalgaon	Chopda	Melane
2270	Jalgaon	Chopda	Vaijapur
2271	Jalgaon	Chopda	Kharya Padawa
2272	Jalgaon	Chopda	Karjane
2273	Jalgaon	Chopda	Mulyautar
2274	Jalgaon	Chopda	Ambade
2275	Jalgaon	Chopda	Kharag
2276	Jalgaon	Chopda	Vishnapur
2277	Jalgaon	Chopda	Virwade
2278	Jalgaon	Chopda	Vadgaon Kh.
2279	Jalgaon	Chopda	Vadati
2280	Jalgaon	Chopda	Kolambe
2281	Jalgaon	Chopda	Malapur
2282	Jalgaon	Chopda	Tawase Kh.
2283	Jalgaon	Chopda	Borkhede
2284	Jalgaon	Chopda	Machale
2285	Jalgaon	Chopda	Gorgawale Bk.
2286	Jalgaon	Chopda	Narod
2287	Jalgaon	Chopda	Kathore
2288	Jalgaon	Chopda	Ghumawal Kh.
2289	Jalgaon	Chopda	Vadgaon Seem
2290	Jalgaon	Chopda	Narwade
2291	Jalgaon	Chopda	Rukhankhede Pr.chopda
2292	Jalgaon	Chopda	Tandalwadi
2293	Jalgaon	Chopda	Nimgavhan
2294	Jalgaon	Jalgaon	Bilwadi
2295	Jalgaon	Jalgaon	Varad Kh.
2296	Jalgaon	Jalgaon	Varad Bk.
2297	Jalgaon	Jalgaon	Jalke
2298	Jalgaon	Jalgaon	Vitner
2299	Jalgaon	Jalgaon	Kanaswade

Sr. No.	District	Taluka	Village
2300	Jalgaon	Dharangaon	Gondegaon
2301	Jalgaon	Dharangaon	Sakre
2302	Jalgaon	Dharangaon	Bilkhede
2303	Jalgaon	Dharangaon	Jambhore
2304	Jalgaon	Dharangaon	Bhone Bk.
2305	Jalgaon	Erandol	Umare
2306	Jalgaon	Erandol	Malkhede Bk.
2307	Jalgaon	Erandol	Janfal
2308	Jalgaon	Erandol	Ambe
2309	Jalgaon	Erandol	Bamhne
2310	Jalgaon	Erandol	Adgaon
2311	Jalgaon	Erandol	Talai
2312	Jalgaon	Erandol	Kharchi Kh.
2313	Jalgaon	Erandol	Nagduli
2314	Jalgaon	Erandol	Anturli Kh.
2315	Jalgaon	Erandol	Tade
2316	Jalgaon	Erandol	Waghlud Sim
2317	Jalgaon	Erandol	Pimpri Sim
2318	Jalgaon	Erandol	Bhatkhede
2319	Jalgaon	Erandol	Nipane
2320	Jalgaon	Erandol	Anandnagar
2321	Jalgaon	Erandol	Javkhede Sim
2322	Jalgaon	Erandol	Hanmantkhede Sim
2323	Jalgaon	Erandol	Utran Ahir Hadd
2324	Jalgaon	Erandol	Utran Gujar Hadd
2325	Jalgaon	Jalgaon	Nimgaon Bk
2326	Jalgaon	Jalgaon	Beli
2327	Jalgaon	Jalgaon	Bhagpur
2328	Jalgaon	Jalgaon	Raipur
2329	Jalgaon	Jalgaon	Kandari
2330	Jalgaon	Jalgaon	Vasantwadi
2331	Jalgaon	Jalgaon	Wavdade
2332	Jalgaon	Jalgaon	Bilkhede
2333	Jalgaon	Jalgaon	Ramdeowadi
2334	Jalgaon	Jalgaon	Subhashwadi
2335	Jalgaon	Jamner	Rampur
2336	Jalgaon	Jamner	Hivar Khede Bk.
2337	Jalgaon	Jamner	Ambilhol Deviche
2338	Jalgaon	Jamner	Khadgaon
2339	Jalgaon	Jamner	Dohari
2340	Jalgaon	Jamner	Rampur
2341	Jalgaon	Jamner	Morgaon
2342	Jalgaon	Jamner	Chinch Khede Digar

Sr. No.	District	Taluka	Village
2343	Jalgaon	Jalgaon	Bholane
2344	Jalgaon	Jalgaon	Shelgaon
2345	Jalgaon	Jalgaon	Mamurabad
2346	Jalgaon	Jalgaon	Dhamangaon
2347	Jalgaon	Jalgaon	Kusumbe Kh
2348	Jalgaon	Jalgaon	Vadnagari
2349	Jalgaon	Jalgaon	Bhadli Bk
2350	Jalgaon	Jalgaon	Asoda
2351	Jalgaon	Jalgaon	Tarsod
2352	Jalgaon	Jalgaon	Manyar Khede
2353	Jalgaon	Jamner	Palas Khede Kakar
2354	Jalgaon	Jamner	Deulgaon
2355	Jalgaon	Jamner	Betawad Bk
2356	Jalgaon	Jamner	Betawad Kh
2357	Jalgaon	Jamner	Tighre Wadgaon
2358	Jalgaon	Jamner	Kalkhede
2359	Jalgaon	Jamner	Wadi
2360	Jalgaon	Jamner	Sargaon
2361	Jalgaon	Jamner	Maldabhadi
2362	Jalgaon	Jamner	Pat Khede
2363	Jalgaon	Jamner	Wadgaon Tighre
2364	Jalgaon	Jamner	Waghari
2365	Jalgaon	Jamner	Godri
2366	Jalgaon	Jamner	Devlasgaon
2367	Jalgaon	Jamner	Nandre Haveli
2368	Jalgaon	Jamner	Moyakhede Digar
2369	Jalgaon	Jamner	Gornale
2370	Jalgaon	Jamner	Ranjani
2371	Jalgaon	Jamner	Kapuswadi
2372	Jalgaon	Jamner	Wadali
2373	Jalgaon	Jamner	Kumbhari Bk.
2374	Jalgaon	Jamner	Mandave Bk.
2375	Jalgaon	Jamner	Khandave
2376	Jalgaon	Jamner	Mandave Kh.
2377	Jalgaon	Jamner	Harinagar
2378	Jalgaon	Jamner	Kumbhari Kh
2379	Jalgaon	Jamner	Tondapur
2380	Jalgaon	Jamner	Bharud Khede
2381	Jalgaon	Jamner	Hivar Khede Tarf Wakadi
2382	Jalgaon	Jamner	Palas Khede Mirache
2383	Jalgaon	Jamner	Mohadi
2384	Jalgaon	Jamner	Neri Digar
2427	Jalgaon	Jamner	Hingane Bk

Sr. No.	District	Taluka	Village
2385	Jalgaon	Jamner	Shendurni
2386	Jalgaon	Jamner	Nandre Pr.Lohare
2387	Jalgaon	Jamner	Ambadi
2388	Jalgaon	Jamner	Savat Khede
2389	Jalgaon	Jamner	Malkhede
2390	Jalgaon	Jamner	Sarve Pr.Lohare
2391	Jalgaon	Jamner	Jangipura
2392	Jalgaon	Jamner	Rotwad
2393	Jalgaon	Muktainagar	Ghodasgaon
2394	Jalgaon	Muktainagar	Chikhali
2395	Jalgaon	Muktainagar	Kothali
2396	Jalgaon	Muktainagar	Manegaon
2397	Jalgaon	Muktainagar	Salbardi
2398	Jalgaon	Muktainagar	Rigaon
2399	Jalgaon	Muktainagar	Korhale
2400	Jalgaon	Muktainagar	Pimprale
2401	Jalgaon	Muktainagar	Mahalkhede
2402	Jalgaon	Muktainagar	Kund
2403	Jalgaon	Muktainagar	Muktainagar
2404	Jalgaon	Muktainagar	Therole
2405	Jalgaon	Muktainagar	Khamkhede
2406	Jalgaon	Muktainagar	Mel Sangave
2407	Jalgaon	Muktainagar	Dui
2408	Jalgaon	Muktainagar	Uchande
2409	Jalgaon	Muktainagar	Shemalde
2410	Jalgaon	Muktainagar	Mendhode
2411	Jalgaon	Muktainagar	Purnad
2412	Jalgaon	Muktainagar	Patondi
2413	Jalgaon	Muktainagar	Anturli
2414	Jalgaon	Muktainagar	Dhamande
2415	Jalgaon	Muktainagar	Bhokari
2416	Jalgaon	Muktainagar	Pimpri Pancham
2417	Jalgaon	Muktainagar	Belaswadi
2418	Jalgaon	Muktainagar	Narvel
2419	Jalgaon	Muktainagar	Pimpri Nandu
2420	Jalgaon	Muktainagar	Belkhede
2421	Jalgaon	Muktainagar	Mondhalde
2422	Jalgaon	Muktainagar	Panchane
2423	Jalgaon	Muktainagar	Naigaon
2424	Jalgaon	Muktainagar	Changdeo
2425	Jalgaon	Muktainagar	Chinchol
2426	Jalgaon	Muktainagar	Mehun
2465	Jalgaon	Muktainagar	Dolarkhede

Sr. No.	District	Taluka	Village
2428	Jalgaon	Jamner	Karmad
2429	Jalgaon	Jamner	Kumbhari Sim
2430	Jalgaon	Jamner	Gadegaon Pr. Nashirabad
2431	Jalgaon	Jamner	Ambilhol
2432	Jalgaon	Muktainagar	Chinchkhede Bk.
2433	Jalgaon	Muktainagar	Bhandgure
2434	Jalgaon	Muktainagar	Dhormal
2435	Jalgaon	Muktainagar	Ruikhede
2436	Jalgaon	Muktainagar	Manyarkhede
2437	Jalgaon	Muktainagar	Sarole
2438	Jalgaon	Muktainagar	Tarode
2439	Jalgaon	Muktainagar	Hartale
2440	Jalgaon	Muktainagar	Chinchkhede Kh
2441	Jalgaon	Muktainagar	Bahadarpur
2442	Jalgaon	Muktainagar	Parambi
2443	Jalgaon	Muktainagar	Halkhede
2444	Jalgaon	Muktainagar	Bhote
2445	Jalgaon	Muktainagar	Kurhe
2446	Jalgaon	Muktainagar	Dhule
2447	Jalgaon	Muktainagar	Sule
2448	Jalgaon	Muktainagar	Talkhede
2449	Jalgaon	Muktainagar	Wadhode
2450	Jalgaon	Muktainagar	Umare
2451	Jalgaon	Muktainagar	Jondhan Khede
2452	Jalgaon	Muktainagar	Hivare
2453	Jalgaon	Muktainagar	Nimkhedi Bk.
2454	Jalgaon	Muktainagar	Ichhapur
2455	Jalgaon	Muktainagar	Vayale
2456	Jalgaon	Muktainagar	Takali
2457	Jalgaon	Pachora	Anturli Kh.Pr.Pachora
2458	Jalgaon	Pachora	Bhatkhande Kh.
2459	Jalgaon	Pachora	Anturli Bk.Pr.Pachora
2460	Jalgaon	Pachora	Pungaon
2461	Jalgaon	Pachora	Chinchakhede Bk.
2462	Jalgaon	Pachora	Mandaki
2463	Jalgaon	Pachora	Ozar
2464	Jalgaon	Pachora	Tarkhede Bk.

Sr. No.	District	Taluka	Village
2466	Jalgaon	Muktainagar	Sukali
2467	Jalgaon	Muktainagar	Nandwel
2468	Jalgaon	Pachora	Mhasas
2469	Jalgaon	Pachora	Lohara
2470	Jalgaon	Pachora	Kalamsare
2471	Jalgaon	Parola	Mondhale Pr. Amalner
2472	Jalgaon	Parola	Pimpal Bhairao
2473	Jalgaon	Parola	Karanji Bk
2474	Jalgaon	Parola	Hiwarkhede Seem
2475	Jalgaon	Parola	Mundane Pr.amalner
2476	Jalgaon	Parola	Soke
2477	Jalgaon	Parola	Dalwel
2478	Jalgaon	Parola	Sub Gavhan Kh
2479	Jalgaon	Parola	Vasant Wadi
2480	Jalgaon	Parola	Shevage Pr.bahal
2481	Jalgaon	Parola	Pimpri Pr.utran
2482	Jalgaon	Parola	Hiwarkhede Kh.
2483	Jalgaon	Parola	Vanjari Kh.
2484	Jalgaon	Parola	Bodarde
2485	Jalgaon	Parola	Kolpimpri
2486	Jalgaon	Parola	Parola (Rural)
2487	Jalgaon	Parola	Holpimpri
2488	Jalgaon	Parola	Bhilali
2489	Jalgaon	Parola	Nerpat
2490	Jalgaon	Parola	Ratnapimpri
2491	Jalgaon	Parola	Dabapimpri
2492	Jalgaon	Parola	Kankraj
2493	Jalgaon	Parola	Hiwarkhede Bk.
2494	Jalgaon	Parola	Shevage Bk.
2495	Jalgaon	Parola	Bhokarbari
2496	Jalgaon	Parola	Bhondandigar
2497	Jalgaon	Parola	Chahutre
2498	Jalgaon	Parola	Mangrul
2499	Jalgaon	Parola	Titavi Seem
2500	Jalgaon	Parola	Vadgaon Pr.erandol
2501	Jalgaon	Parola	Chorwad
2502	Jalgaon	Parola	Loni Kh

Sr. No.	District	Taluka	Village
2503	Jalgaon	Pachora	Bambarud Kh. Pr.Pachora
2504	Jalgaon	Pachora	Hanumanwadi
2505	Jalgaon	Pachora	Tarkhede Kh.
2506	Jalgaon	Pachora	Anturli Kh.Pr.Lohare
2507	Jalgaon	Pachora	Galan Bk.
2508	Jalgaon	Pachora	Sarve Kh. Pr.Bhadgaon
2509	Jalgaon	Pachora	Dighi
2510	Jalgaon	Pachora	Bhadali
2511	Jalgaon	Pachora	Veruli Bk.
2512	Jalgaon	Pachora	Lakh .
2513	Jalgaon	Pachora	Pahan
2514	Jalgaon	Pachora	Hadsan
2515	Jalgaon	Pachora	Duskhede
2516	Jalgaon	Pachora	Naiknagar
2517	Jalgaon	Pachora	Khedgaon
2518	Jalgaon	Pachora	Vadgaon Kh.Pr.Pachora
2519	Jalgaon	Pachora	Mohadi
2520	Jalgaon	Pachora	Kasampure
2521	Jalgaon	Pachora	Shahapure
2522	Jalgaon	Pachora	Rameshwar
2523	Jalgaon	Raver	Junone
2524	Jalgaon	Raver	Rangaon
2525	Jalgaon	Raver	Gahukhede
2526	Jalgaon	Raver	Udhali Kh
2527	Jalgaon	Raver	Sudgaon
2528	Jalgaon	Raver	Raipur
2529	Jalgaon	Raver	Taskhede
2530	Jalgaon	Raver	Padale Kh
2531	Jalgaon	Raver	Chorwad
2532	Jalgaon	Yawal	Pilode Kh
2533	Jalgaon	Yawal	Shirsad
2534	Jalgaon	Yawal	Vaghazira
2535	Jalgaon	Yawal	Ambapani
2536	Jalgaon	Yawal	Viravali Bk
2537	Jalgaon	Yawal	Amode
2538	Jalgaon	Yawal	Marul
2539	Jalgaon	Yawal	Anjale
2540	Jalgaon	Yawal	Padalse
2541	Jalna	Ambad	Shiradhon

Sr. No.	District	Taluka	Village
2543	Jalgaon	Parola	Dhulpimpri
2544	Jalgaon	Parola	Titavi
2545	Jalgaon	Parola	Rajawad
2546	Jalgaon	Parola	Dagadi Pr. Amalner
2547	Jalgaon	Parola	Sab Gavhan Pr. Amalner
2548	Jalgaon	Raver	Nimdya
2549	Jalgaon	Raver	Garkhede
2550	Jalgaon	Raver	Andharmali
2551	Jalgaon	Raver	Pimparkund
2552	Jalgaon	Raver	Tidya
2553	Jalgaon	Raver	Mohamandali (new)
2554	Jalgaon	Raver	Pal
2555	Jalgaon	Raver	Kerhale Kh.
2556	Jalgaon	Raver	Morwhal
2557	Jalgaon	Raver	Ambhode Kh.
2558	Jalgaon	Raver	Gulabwadi
2559	Jalgaon	Raver	Jinsi
2560	Jalgaon	Raver	Bhor
2561	Jalgaon	Yawal	Borkhede Bk
2562	Jalgaon	Yawal	Pathrale
2563	Jalgaon	Yawal	Manwel
2564	Jalgaon	Yawal	Navare
2565	Jalgaon	Yawal	Dahigaon
2566	Jalgaon	Yawal	Haripura
2567	Jalgaon	Yawal	Mohrale
2568	Jalgaon	Yawal	Mahelkhedi
2569	Jalgaon	Yawal	Dagadi
2570	Jalgaon	Yawal	Thorgavhan
2571	Jalgaon	Yawal	Borale
2572	Jalgaon	Yawal	Vadhode Pr Yawal
2573	Jalgaon	Yawal	Shiragad
2574	Jalgaon	Yawal	Sakali
2575	Jalgaon	Yawal	Korpawli
2576	Jalgaon	Yawal	Duskhede
2577	Jalgaon	Yawal	Aklud
2578	Jalgaon	Yawal	Kathore Pr. Savada
2579	Jalna	Ambad	Ishwarnagar
2580	Jalna	Ambad	Zirpi
2581	Jalna	Ambad	Madh Tanda

Sr. No.	District	Taluka	Village
2542	Jalna	Ambad	Hast Pokhari
2583	Jalna	Ambad	Dhangar Pimpri
2584	Jalna	Ambad	Lalwadi
2585	Jalna	Ambad	Musai
2586	Jalna	Ambad	Shevga
2587	Jalna	Ambad	Gola
2588	Jalna	Ambad	Govindpur
2589	Jalna	Ambad	Bhiwandi Bodkha
2590	Jalna	Ambad	Math Jalgaon
2591	Jalna	Ambad	Wadi Siradhon
2592	Jalna	Ambad	Mardi
2593	Jalna	Ambad	Parner
2594	Jalna	Ambad	Pangarkheda
2595	Jalna	Ambad	Bhatkheda
2596	Jalna	Ambad	Bhalgaon
2597	Jalna	Ambad	Khadkeshwar
2598	Jalna	Ambad	Bori
2599	Jalna	Ambad	Walkheda
2600	Jalna	Ambad	Tadhadgaon
2601	Jalna	Ambad	Sarangpur
2602	Jalna	Ambad	Mudhegaon
2603	Jalna	Ambad	Katkheda
2604	Jalna	Ambad	Harat Kheda
2605	Jalna	Ambad	Daithana Bk.
2606	Jalna	Ambad	Bhathan Kh.
2607	Jalna	Ambad	Waghalkheda
2608	Jalna	Ambad	Dudhpuri
2609	Jalna	Ambad	Bantakli
2610	Jalna	Ambad	Gangaramwadi
2611	Jalna	Ambad	Wadi Lasura
2612	Jalna	Ambad	Rewalgaon
2613	Jalna	Ambad	Rahuwadi (Sant Sevalalnagar)
2614	Jalna	Ambad	Sonak Pimpalgaon
2615	Jalna	Ambad	Kaudgaon
2616	Jalna	Ambad	Narayangaon
2617	Jalna	Ambad	Lakhmapuri
2618	Jalna	Ambad	Sukhapuri
2619	Jalna	Ambad	Sirner
2620	Jalna	Ambad	Chinchkhed
2621	Jalna	Ambad	Belgaon
2622	Jalna	Ambad	Dawargaon
2623	Jalna	Ambad	Kukkadgaon
2624	Jalna	Ambad	Pangri

Sr. No.	District	Taluka	Village
2582	Jalna	Badnapur	Dudhana Kalegaon
2625	Jalna	Badnapur	Golawadi
2626	Jalna	Badnapur	Butegaon
2627	Jalna	Badnapur	Ghotan
2628	Jalna	Badnapur	Ranjangaon
2629	Jalna	Badnapur	Pankheda
2630	Jalna	Badnapur	Golapangri
2631	Jalna	Badnapur	Dongargaon
2632	Jalna	Badnapur	Bathan Bk.
2633	Jalna	Badnapur	Kajla
2634	Jalna	Badnapur	Mhasla
2635	Jalna	Badnapur	Dawargaon
2636	Jalna	Badnapur	Jawkheda Bk.
2637	Jalna	Badnapur	Ekephal
2638	Jalna	Badnapur	Mevhana
2639	Jalna	Badnapur	Vilhadi
2640	Jalna	Badnapur	Khamgaon
2641	Jalna	Badnapur	Hivra Dabhadi
2642	Jalna	Badnapur	Bhatkheda
2643	Jalna	Badnapur	Palaskheda dabhadi
2644	Jalna	Badnapur	Kinhola
2645	Jalna	Badnapur	Dabhadi
2646	Jalna	Badnapur	Bajar Wahegaon
2647	Jalna	Badnapur	Malegaon Kh.
2648	Jalna	Bhokardan	Mehgaon
2649	Jalna	Bhokardan	Varkheda Viro
2650	Jalna	Bhokardan	Rajapur
2651	Jalna	Bhokardan	Fattepur
2652	Jalna	Bhokardan	Kodoli
2653	Jalna	Bhokardan	Perjapur
2654	Jalna	Bhokardan	Lingewadi
2655	Jalna	Bhokardan	Ibrahimpur
2656	Jalna	Bhokardan	Garkheda
2657	Jalna	Bhokardan	Pimpalgaon Kad
2658	Jalna	Bhokardan	Avhana
2659	Jalna	Bhokardan	Takli bhokardan
2660	Jalna	Bhokardan	Subhanpur
2661	Jalna	Bhokardan	Jawakheda
2662	Jalna	Bhokardan	Jomala
2663	Jalna	Bhokardan	Nasirabad
2664	Jalna	Bhokardan	Chanegaon
2665	Jalna	Bhokardan	Palaskheda
2666	Jalna	Bhokardan	Chandai eko

Sr. No.	District	Taluka	Village
2667	Jalna	Ambad	Wadikalya
2668	Jalna	Ambad	Dadhegaon
2669	Jalna	Ambad	Vasantnagar
2670	Jalna	Ambad	Pithori Sirasgaon
2671	Jalna	Ambad	Ramnagar
2672	Jalna	Ambad	Zirpi Tanda
2673	Jalna	Ambad	Shahapur
2674	Jalna	Bhokardan	Banegaon
2675	Jalna	Bhokardan	Bamkheda
2676	Jalna	Bhokardan	Chandai tepli
2677	Jalna	Bhokardan	Tondoli
2678	Jalna	Bhokardan	Walsawangi
2679	Jalna	Bhokardan	Vizora
2680	Jalna	Bhokardan	Sunderwadi
2681	Jalna	Bhokardan	Wadhona
2682	Jalna	Bhokardan	Jaidevwadi
2683	Jalna	Bhokardan	Padmavati
2684	Jalna	Bhokardan	Kosgaon
2685	Jalna	Bhokardan	Belora
2686	Jalna	Bhokardan	Chapnera
2687	Jalna	Bhokardan	Mohalai
2688	Jalna	Bhokardan	Savangi Aughadrao
2689	Jalna	Bhokardan	Warud bk
2690	Jalna	Bhokardan	Relgaon
2691	Jalna	Bhokardan	Pimpalgaon (Ambad)
2692	Jalna	Bhokardan	Dhondkheda

Sr. No.	District	Taluka	Village
2693	Jalna	Bhokardan	Kedarkheda
2694	Jalna	Bhokardan	Khamkheda
2695	Jalna	Bhokardan	Gavhan Sangameshwar
2696	Jalna	Bhokardan	Chandai thombri
2697	Jalna	Bhokardan	Rajur
2698	Jalna	Gahansawangi	Khalapuri
2699	Jalna	Gahansawangi	Amba
2700	Jalna	Gahansawangi	Masla
2701	Jalna	Gahansawangi	Paradgaon
2702	Jalna	Gahansawangi	Kawjawala
2703	Jalna	Gahansawangi	Mohpuri
2704	Jalna	Gahansawangi	Bondhalapuri
2705	Jalna	Gahansawangi	Parada
2706	Jalna	Gahansawangi	Raona
2707	Jalna	Gahansawangi	Dhalaskheda
2708	Jalna	Gahansawangi	Mandala
2709	Jalna	Gahansawangi	Ghansawangi
2710	Jalna	Gahansawangi	Rajegaon
2711	Jalna	Gahansawangi	Bodkha
2712	Jalna	Gahansawangi	Wadi Ramasgaon
2713	Jalna	Gahansawangi	Khapardevhiwra
2714	Jalna	Gahansawangi	Bachegaon
2715	Jalna	Gahansawangi	Bhaigavhan
2716	Jalna	Gahansawangi	Rani Uncheagaon
2717	Jalna	Gahansawangi	Antarwali Rathi
2718	Jalna	Gahansawangi	Talegaon

Sr. No.	District	Taluka	Village
2719	Jalna	Bhokardan	Walsakhalsa
2720	Jalna	Bhokardan	Kathora (jainpur)
2721	Jalna	Bhokardan	Pandharpur
2722	Jalna	Bhokardan	Rajala
2723	Jalna	Bhokardan	Sirasgaon (mandap)
2724	Jalna	Bhokardan	Khandala
2725	Jalna	Bhokardan	Nimkheda Kh.
2726	Jalna	Bhokardan	Gadegavhan
2727	Jalna	Bhokardan	Pimpalgaon Thot
2728	Jalna	Bhokardan	Dawargaon
2729	Jalna	Bhokardan	Tapovan Gondhan
2730	Jalna	Bhokardan	Pimpalgaon barao
2731	Jalna	Bhokardan	Ambewadi
2732	Jalna	Bhokardan	Palaskheda Pimpale
2733	Jalna	Bhokardan	Dahigaon
2734	Jalna	Gahansawangi	Pangra
2735	Jalna	Gahansawangi	Yewala
2736	Jalna	Gahansawangi	Yaval Pimpri
2737	Jalna	Gahansawangi	Yaval Pimpri Tanda
2738	Jalna	Gahansawangi	Bor Ranjani
2739	Jalna	Gahansawangi	Ranjani
2740	Jalna	Gahansawangi	Deoli Partur
2741	Jalna	Gahansawangi	Pangra Tandhi
2742	Jalna	Gahansawangi	Deoli Ambad
2743	Jalna	Gahansawangi	Dolhara
2744	Jalna	Gahansawangi	Devhiwra
2745	Jalna	Gahansawangi	Bolegaon
2746	Jalna	Gahansawangi	Dahigavhan Bk.
2747	Jalna	Gahansawangi	Ramgavhan Kh.
2748	Jalna	Gahansawangi	Bahiregaon

Sr. No.	District	Taluka	Village
2749	Jalna	Gahansawangi	Chapadgaon
2750	Jalna	Gahansawangi	Krishnanagar
2751	Jalna	Gahansawangi	Devnagar
2752	Jalna	Gahansawangi	Khadkawadi
2753	Jalna	Gahansawangi	Pirgaibwadi
2754	Jalna	Gahansawangi	Machindranath Chincholi
2755	Jalna	Gahansawangi	Khadka
2756	Jalna	Gahansawangi	Dhakephal
2757	Jalna	Gahansawangi	Mangrul
2758	Jalna	Gahansawangi	Paduli Bk.
2759	Jalna	Gahansawangi	Mudregaon
2760	Jalna	Gahansawangi	Antarwali Tembhi
2761	Jalna	Gahansawangi	Bhoggaon
2762	Jalna	Gahansawangi	Kothi
2763	Jalna	Gahansawangi	Kandari Ambad
2764	Jalna	Jaffrabad	Ganeshpur
2765	Jalna	Jaffrabad	Devale Gavhan
2766	Jalna	Jaffrabad	Longaon
2767	Jalna	Jaffrabad	Dongaon
2768	Jalna	Jaffrabad	Asarkheda
2769	Jalna	Jaffrabad	Tembhurni
2770	Jalna	Jaffrabad	Pokhari
2771	Jalna	Jaffrabad	Akola
2772	Jalna	Jaffrabad	Butkheda
2773	Jalna	Jaffrabad	Sawangi
2774	Jalna	Jaffrabad	Umarkheda
2775	Jalna	Jaffrabad	Bharadkhead
2776	Jalna	Jaffrabad	Bramhapuri
2777	Jalna	Jaffrabad	Kolegaon
2778	Jalna	Jaffrabad	Hanumanth Kheda

Sr. No.	District	Taluka	Village
2779	Jalna	Gahansawangi	Rahera
2780	Jalna	Gahansawangi	Ekrukha
2781	Jalna	Gahansawangi	Bhadregaon
2782	Jalna	Jaffrabad	Sawarkheda Gondhan
2783	Jalna	Jaffrabad	Sonkheda
2784	Jalna	Jaffrabad	Sipora
2785	Jalna	Jaffrabad	Konad
2786	Jalna	Jaffrabad	Sanjol
2787	Jalna	Jaffrabad	Satephal
2788	Jalna	Jaffrabad	Niwdunga
2789	Jalna	Jalana	Ghanewadi
2790	Jalna	Jalana	Malshendra
2791	Jalna	Jalana	Tupewadi
2792	Jalna	Jalana	Pirpimpalgaon
2793	Jalna	Jalana	Malegaon Kh.
2794	Jalna	Jalana	Tatewadi
2795	Jalna	Jalana	Dagadwadi
2796	Jalna	Jalana	Bhatkheda
2797	Jalna	Jalana	Bawane Pangri
2798	Jalna	Jalana	Wanjar Umrud
2799	Jalna	Jalana	Gondegaon
2800	Jalna	Jalana	Tapovan
2801	Jalna	Jalana	Jalgaon
2802	Jalna	Jalana	Ahankar Devlgaon
2803	Jalna	Jalana	Pirkalyan
2804	Jalna	Jalana	Navha
2805	Jalna	Jalana	Thar
2806	Jalna	Jalana	Borkhedi
2807	Jalna	Jalana	Nandapur
2808	Jalna	Jalana	Dharkalyan
2809	Jalna	Jalana	Gawali Pokhri
2810	Jalna	Jalana	Kadwanchi
2811	Jalna	Jalana	Warud
2812	Jalna	Jalana	Somnath
2813	Jalna	Jalana	Bramhankheda
2814	Jalna	Jalana	Rohanwadi
2815	Jalna	Jalana	Pachanwadgaon
2816	Jalna	Jalana	Sarwadi (Jalna)
2817	Jalna	Jalana	Nidhona
2818	Jalna	Jalana	Wadiwadi

Sr. No.	District	Taluka	Village
2819	Jalna	Jaffrabad	Warud Bk.
2820	Jalna	Jalana	Patra Tanda
2821	Jalna	Jalana	Wadgaon
2822	Jalna	Jalana	Kolwadi
2823	Jalna	Jalana	Bhuwan
2824	Jalna	Jalana	Bibi
2825	Jalna	Jalana	Sawargaon Bhagde
2826	Jalna	Jalana	Erandwadgaon
2827	Jalna	Jalana	Shivangiri
2828	Jalna	Jalana	Wazar Sarkate
2829	Jalna	Jalana	Kharati
2830	Jalna	Jalana	Raigavhan
2831	Jalna	Jalana	Pimpalwadi
2832	Jalna	Jalana	Warkheda
2833	Jalna	Jalana	Belora
2834	Jalna	Jalana	Sevali
2835	Jalna	Jalana	Warkheda
2836	Jalna	Jalana	Gokulnagar
2837	Jalna	Jalana	Waghrul (Jahagir)
2838	Jalna	Jalana	Pokhari Shindkhed
2839	Jalna	Jalana	Kumbhephal Shindkhed
2840	Jalna	Jalna	Sondeo
2841	Jalna	Jalna	Shivni
2842	Jalna	Jalna	Borgaon
2843	Jalna	Jalna	Palaskheda
2844	Jalna	Jalna	Dhara
2845	Jalna	Jalna	Umri
2846	Jalna	Mantha	Ambhora Jahagir
2847	Jalna	Mantha	Vaidhywadgaon
2848	Jalna	Mantha	Ganeshpur
2849	Jalna	Mantha	Pewa
2850	Jalna	Mantha	Naigaon P. Sevli
2851	Jalna	Mantha	Kirtapur
2852	Jalna	Mantha	Padlidudha
2853	Jalna	Mantha	Kinkheda
2854	Jalna	Mantha	Deogaon Khawate
2855	Jalna	Mantha	Khorad Sawangi
2856	Jalna	Mantha	Sonunkarwadi
2857	Jalna	Mantha	Kehalwadgaon
2858	Jalna	Mantha	Kirtapur Tanda

Sr. No.	District	Taluka	Village
2859	Jalna	Jalana	Pathar Deolgaon
2860	Jalna	Jalana	Sindhi Pimpalgaon
2861	Jalna	Jalana	Asola
2862	Jalna	Jalana	Dhamangaon
2863	Jalna	Jalana	Londhyachiwadi
2864	Jalna	Jalana	Mandeolgaon
2865	Jalna	Jalana	Mandwa
2866	Jalna	Jalana	Ambedkarwadi
2867	Jalna	Jalana	Chitoda
2868	Jalna	Jalana	Thergaon
2869	Jalna	Jalana	Baji Umrada Tanda
2870	Jalna	Jalana	Baji Umrada
2871	Jalna	Jalana	Wakhari
2872	Jalna	Jalana	Nirkheda
2873	Jalna	Mantha	Garteki Tanda
2874	Jalna	Mantha	Talegaon
2875	Jalna	Mantha	Hanwat Kheda
2876	Jalna	Mantha	Saskheda
2877	Jalna	Mantha	Ambhor Shelke
2878	Jalna	Mantha	Khorwad
2879	Jalna	Mantha	Andhwadi
2880	Jalna	Mantha	Gulkhand
2881	Jalna	Mantha	Pangri (Gosavi)
2882	Jalna	Mantha	Jaipur
2883	Jalna	Mantha	Kirla
2884	Jalna	Mantha	Pimparkheda Kharabe
2885	Jalna	Mantha	Wadhegaon (pandhurna)
2886	Jalna	Mantha	Mangrul
2887	Jalna	Mantha	Lawni
2888	Jalna	Mantha	Kendhali
2889	Jalna	Mantha	Ambhoda Kadam
2890	Jalna	Partur	Changtpuri
2891	Jalna	Partur	Satara Wahegaon
2892	Jalna	Partur	Banachiwadi
2893	Jalna	Partur	Wadarwadi
2894	Jalna	Partur	Sankanpuri

Sr. No.	District	Taluka	Village
2895	Jalna	Mantha	Pokhari Takle
2896	Jalna	Mantha	Pangra Gadadhe
2897	Jalna	Mantha	Mahora
2898	Jalna	Mantha	Naigaon P. Bamhani
2899	Jalna	Mantha	Warud
2900	Jalna	Mantha	Malsawangi
2901	Jalna	Mantha	Limbkheda
2902	Jalna	Mantha	Dudha
2903	Jalna	Mantha	Dahifal Khandare
2904	Jalna	Mantha	Chikhali
2905	Jalna	Mantha	Uswad (Devthana)
2906	Jalna	Mantha	Mohdari
2907	Jalna	Partur	Kokate Hadgaon
2908	Jalna	Partur	Pandepokhari
2909	Jalna	Partur	Satona Bk.
2910	Jalna	Partur	Satona Kh.
2911	Jalna	Partur	Davla
2912	Jalna	Partur	Shrishti Tanda
2913	Jalna	Partur	Hanwadi
2914	Jalna	Partur	Wahegaon Shrishti
2915	Jalna	Partur	Lingsa
2916	Jalna	Partur	Torna
2917	Jalna	Partur	Paratwadi
2918	Jalna	Partur	Karhala
2919	Jalna	Partur	Dhokmal Tanda
2920	Jalna	Partur	Ashti
2921	Jalna	Partur	Hastur Tanda
2922	Jalna	Partur	Surumgaon
2923	Jalna	Partur	Akoli
2924	Jalna	Partur	Soijana
2925	Jalna	Partur	Shewga
2926	Jalna	Partur	Ananadwadi
2927	Jalna	Partur	Sirasgaon
2928	Jalna	Partur	Hatdi
2929	Jalna	Partur	Khandviwadi
2930	Jalna	Partur	Shelgaon

Sr. No.	District	Taluka	Village
2931	Jalna	Partur	Wahegaon Satara
2932	Jalna	Partur	Pimpali Dhamangaon
2933	Jalna	Partur	Asangaon
2934	Jalna	Partur	Dhonwadi
2935	Jalna	Partur	Antarwala
0			
2936	Bid	Ambejogai	Rakshaswadi
2937	Bid	Ambejogai	Mamdapur (parli)
2938	Bid	Ambejogai	Yelda
2939	Bid	Ambejogai	Chichkhandi
2940	Bid	Ambejogai	Warapgaon
2941	Bid	Ambejogai	Shripatraiwadi
2942	Bid	Ambejogai	Mamdapur (Patoda)
2943	Bid	Ambejogai	Somnath Bargaon
2944	Bid	Ambejogai	Umrai
2945	Bid	Ambejogai	Kumbephal
2946	Bid	Ambejogai	Dhanora Bk.
2947	Bid	Ambejogai	Sangaon
2948	Bid	Ambejogai	Tadola
2949	Bid	Ambejogai	Akola
2950	Bid	Ambejogai	Satephal
2951	Bid	Ambejogai	Kolkanadi
2952	Bid	Ambejogai	Devla
2953	Bid	Ambejogai	Nandadi
2954	Bid	Ambejogai	Lokhandi Sawargaon
2955	Bid	Ambejogai	Makegaon
2956	Bid	Ambejogai	Patoda
2957	Bid	Ambejogai	Kodari
2958	Bid	Ambejogai	Dighol Amba
2959	Bid	Ambejogai	Hiwara Kh
2960	Bid	Ambejogai	Ghatnandur
2961	Bid	Ambejogai	Malewadi
2962	Bid	Ambejogai	Saygaon
2963	Bid	Ambejogai	Radi Tanda
2964	Bid	Ambejogai	Waghala (Radi)
2965	Bid	Ambejogai	Radi
2966	Bid	Ambejogai	Daithana Radi
2967	Bid	Ambejogai	Sugaon
2968	Bid	Ambejogai	Mudegaon
2969	Bid	Ambejogai	Selu Amba

Sr. No.	District	Taluka	Village
2970	Jalna	Partur	Yenora
2971	Jalna	Partur	Wadhona
2972	Jalna	Partur	Loni Kh.
2973	Jalna	Partur	Anandgaon
2974	Bid	Ashti	Mandva
2975	Bid	Ashti	Kerul
2976	Bid	Ashti	Morewadi
2977	Bid	Ashti	Sheri Bk.
2978	Bid	Ashti	Watanwadi
2979	Bid	Ashti	Shelarwadi (N.V.)
2980	Bid	Ashti	Khakalwadi
2981	Bid	Ashti	Andhale Wadi
2982	Bid	Ashti	Gandhanwadi
2983	Bid	Ashti	Pandhari
2984	Bid	Ashti	Ashta
2985	Bid	Ashti	Chinchpur
2986	Bid	Ashti	Bhatodi
2987	Bid	Ashti	Suleman Deola
2988	Bid	Ashti	Pimparkhed
2989	Bid	Ashti	Bhojewadi
2990	Bid	Ashti	Hivara
2991	Bid	Ashti	Kumbharwadi (N.V.)
2992	Bid	Ashti	Waki
2993	Bid	Ashti	Pimpalsutti
2994	Bid	Ashti	Kanadi Bk.
2995	Bid	Ashti	Hingni
2996	Bid	Ashti	Pimpri Ghumri
2997	Bid	Ashti	Solewadi
2998	Bid	Ashti	Pangulgavhan
2999	Bid	Ashti	Hajipur
3000	Bid	Ashti	Devigavhan
3001	Bid	Ashti	Karanji
3002	Bid	Ashti	Bhaloni
3003	Bid	Ashti	Pandhari
3004	Bid	Ashti	Mangrul
3005	Bid	Ashti	Takalsing
3006	Bid	Ashti	Sangvi Ashti
3007	Bid	Ashti	Murshadpur
3008	Bid	Ashti	Khanapur
3009	Bid	Ashti	Chikhali

Sr. No.	District	Taluka	Village
3010	Bid	Ambejogai	Nandgaon
3011	Bid	Ashti	Nimgaon Chaubha
3012	Bid	Ashti	Kada
3013	Bid	Ashti	Sheri Kh.
3014	Bid	Ashti	Dhirdi
3015	Bid	Ashti	Hanumantgaon
3016	Bid	Ashti	Sangvi Patan
3017	Bid	Ashti	Karkhel Bk.
3018	Bid	Ashti	Surudi
3019	Bid	Ashti	Matkuli
3020	Bid	Ashti	Karhewadi
3021	Bid	Ashti	Karhewadgaon
3022	Bid	Ashti	Wanvewadi
3023	Bid	Ashti	Matawali
3024	Bid	Ashti	Desur
3025	Bid	Ashti	Ganagewadi
3026	Bid	Ashti	Beed-sangvi
3027	Bid	Ashti	Belgaon
3028	Bid	Ashti	Jalgaon
3029	Bid	Bid	Adgaon
3030	Bid	Bid	Gundhewadi
3031	Bid	Bid	Mahalas Jawala
3032	Bid	Bid	Loni (Shahajanpur)
3033	Bid	Bid	Kalegaon Haveli
3034	Bid	Bid	Dhekan Moha
3035	Bid	Bid	Nathapur
3036	Bid	Bid	Kurla
3037	Bid	Bid	Kolharwadi
3038	Bid	Bid	Bahirwadi
3039	Bid	Bid	Shidode
3040	Bid	Bid	Samnapur
3041	Bid	Bid	Aher Nimgaon
3042	Bid	Bid	Loladgaon
3043	Bid	Bid	Aher wadgaon
3044	Bid	Bid	Aher Dhanora
3045	Bid	Bid	Belapuri
3046	Bid	Bid	Warwati
3047	Bid	Bid	Pali
3048	Bid	Bid	Aurangpur
3049	Bid	Bid	Bramhagaon
3050	Bid	Bid	Bhavanwadi
3051	Bid	Bid	Kutewadi (N.V.)

Sr. No.	District	Taluka	Village
3052	Bid	Ashti	Ruti
3053	Bid	Bid	Pimpalgaon (Majara)
3054	Bid	Bid	Babhalwadi
3055	Bid	Bid	Khundras
3056	Bid	Bid	Mhalasapur
3057	Bid	Bid	Shahajanpur (Loni)
3058	Bid	Bid	Kukadgaon
3059	Bid	Bid	Ranjegaon
3060	Bid	Bid	Rajkapur
3061	Bid	Bid	It
3062	Bid	Bid	Juj Gavhan
3063	Bid	Bid	Ganganathwadi
3064	Bid	Bid	Rakshas Bhuwan
3065	Bid	Bid	Gunjala
3066	Bid	Bid	Ramgaon
3067	Bid	Bid	Wadgaon Gundha
3068	Bid	Bid	Mankurwadi
3069	Bid	Bid	Gundha
3070	Bid	Dharur	Kannapur
3071	Bid	Dharur	Koyal
3072	Bid	Dharur	Mungi
3073	Bid	Dharur	Kundi
3074	Bid	Dharur	Devthana
3075	Bid	Dharur	Sukli
3076	Bid	Georai	Ranjani
3077	Bid	Georai	Kajalyachi Wadi
3078	Bid	Georai	Rameshwar
3079	Bid	Georai	Aurangpur Jawalka
3080	Bid	Georai	Amla
3081	Bid	Georai	Jalgaon (majra)
3082	Bid	Georai	Shindewadi
3083	Bid	Georai	Ardhmasla
3084	Bid	Georai	Nipani jawalka
3085	Bid	Georai	Vahegaon amala
3086	Bid	Georai	Rui
3087	Bid	Georai	Malegaon Majra
3088	Bid	Georai	Sultanpur
3089	Bid	Georai	Dhanora
3090	Bid	Georai	Nandalgaon
3091	Bid	Georai	Jategaon
3092	Bid	Georai	Padulyachiwadi
3093	Bid	Georai	Golegaon Tanda (N.V.)

Sr. No.	District	Taluka	Village
3094	Bid	Bid	Jarud
3095	Bid	Bid	Imampur
3096	Bid	Bid	Shivni
3097	Bid	Bid	Bhandarwadi
3098	Bid	Bid	Mauj
3099	Bid	Bid	Wangi
3100	Bid	Bid	Nalwandi
3101	Bid	Bid	Maujwadi
3102	Bid	Bid	Babhal Khunta
3103	Bid	Bid	Bahadarpur
3104	Bid	Bid	Sakshal Pimpri
3105	Bid	Bid	Karalwadi
3106	Bid	Bid	Hiwara Phadi
3107	Bid	Bid	Nirmalwadi
3108	Bid	Dharur	Morfali
3109	Bid	Dharur	Wagholi
3110	Bid	Dharur	Kolpimpri
3111	Bid	Dharur	Tandalwadi
3112	Bid	Dharur	Khodas
3113	Bid	Dharur	Hasanabad
3114	Bid	Dharur	Awargaon
3115	Bid	Dharur	Asardhav
3116	Bid	Dharur	Pangri
3117	Bid	Dharur	Anjandhav
3118	Bid	Dharur	Aswala
3119	Bid	Dharur	Umarewadi
3120	Bid	Dharur	Rui Dharur
3121	Bid	Dharur	Nimla
3122	Bid	Dharur	Amla
3123	Bid	Georai	Pandharwadi
3124	Bid	Georai	Sujanpur
3125	Bid	Georai	Deoki
3126	Bid	Georai	Khamgaon
3127	Bid	Georai	Manyarwadi
3128	Bid	Georai	Belgaon
3129	Bid	Georai	Nagzari
3130	Bid	Georai	Bagpimpalgaon
3131	Bid	Georai	Pandhari
3132	Bid	Georai	Mirgaon
3133	Bid	Georai	Antarvali Bk.
3134	Bid	Georai	Agar Nandur
3135	Bid	Georai	Umapur

Sr. No.	District	Taluka	Village
3136	Bid	Georai	Sirasdevi
3137	Bid	Georai	Kathoda
3138	Bid	Georai	Golegaon
3139	Bid	Georai	Manubai Jawala
3140	Bid	Georai	Kathoda Tanda (N.V.)
3141	Bid	Georai	Thakar Adgaon
3142	Bid	Georai	Belgudwadi
3143	Bid	Georai	KoltyeWadi
3144	Bid	Georai	Gaonkhor Tanda (N.V.)
3145	Bid	Georai	Gaikwad Jalgaon
3146	Bid	Georai	Malegaon Kh.
3147	Bid	Georai	Dhumegaon
3148	Bid	Georai	Chaklamba
3149	Bid	Georai	Ardhapimpri
3150	Bid	Georai	Mahar Takli
3151	Bid	Georai	Adpimpri
3152	Bid	Georai	Malegaon Bk.
3153	Bid	Georai	Gulaj
3154	Bid	Georai	Bhend Bk.
3155	Bid	Georai	Kherdawadi
3156	Bid	Georai	Kambi Majara
3157	Bid	Georai	Kherda Bk.
3158	Bid	Georai	Sindphanachincholi
3159	Bid	Georai	Bhend Kh.
3160	Bid	Georai	Nandpur
3161	Bid	Georai	Lonala
3162	Bid	Georai	Bhend Takli
3163	Bid	Georai	Lonala Tanda (N.V.)
3164	Bid	Kaij	Borisawargaon
3165	Bid	Kaij	Ladegaon
3166	Bid	Kaij	Mulegaon
3167	Bid	Kaij	Kandi Badan
3168	Bid	Kaij	Palaskheda
3169	Bid	Kaij	Kordewadi
3170	Bid	Kaij	Andhle-Wadi
3171	Bid	Manjlegaon	Talkhed
3172	Bid	Manjlegaon	Mangrul
3173	Bid	Manjlegaon	Ekdara
3174	Bid	Manjlegaon	Shrungarwadi
3175	Bid	Manjlegaon	Irla Majra
3176	Bid	Manjlegaon	Harki nimgaon
3177	Bid	Manjlegaon	Dawargaon Kh.

Sr. No.	District	Taluka	Village
3178	Bid	Georai	Rakshasabhuwan
3179	Bid	Georai	Panchaleshwar
3180	Bid	Georai	Surlegaon
3181	Bid	Kaij	Gotegaon
3182	Bid	Kaij	Kandi Mali
3183	Bid	Kaij	Kasari
3184	Bid	Kaij	Tambwa
3185	Bid	Kaij	Malegaon
3186	Bid	Kaij	Pisegaon
3187	Bid	Kaij	Sukli
3188	Bid	Kaij	Salegaon
3189	Bid	Kaij	Motegaon
3190	Bid	Kaij	Sonesangvi
3191	Bid	Kaij	Dharmala
3192	Bid	Kaij	Sabla
3193	Bid	Kaij	Shelgaon Ganji
3194	Bid	Kaij	Bobdewadi
3195	Bid	Kaij	Ekurka
3196	Bid	Kaij	Shindhi
3197	Bid	Kaij	Pimpalgawhan
3198	Bid	Kaij	Sasura
3199	Bid	Kaij	Kaprewadi
3200	Bid	Kaij	Belgaon
3201	Bid	Kaij	Arangaon
3202	Bid	Kaij	Wida
3203	Bid	Kaij	Sarul
3204	Bid	Kaij	Sangvi (s)
3205	Bid	Kaij	Bhopala
3206	Bid	Kaij	Sarni (Sangvi)
3207	Bid	Kaij	Deogaon
3208	Bid	Kaij	Kelgaon
3209	Bid	Kaij	Jola
3210	Bid	Kaij	Hanumant Pimpri
3211	Bid	Kaij	Massajog
3212	Bid	Kaij	Warapgaon
3213	Bid	Kaij	Kalegaon Ghat
3214	Bid	Kaij	Hol
3215	Bid	Kaij	Ladewadgaon
3216	Bid	Kaij	Depewadgaon
3217	Bid	Parli	Maralwadi
3218	Bid	Parli	Indiranagar (N.V.)
3219	Bid	Parli	Mirwat
3220	Bid	Parli	Lendwadi

Sr. No.	District	Taluka	Village
3221	Bid	Manjlegaon	Pungani
3222	Bid	Manjlegaon	Phul Pimpalgaon
3223	Bid	Manjlegaon	Rampimpalgaon
3224	Bid	Manjlegaon	Shahapur Majara
3225	Bid	Manjlegaon	Jadid Jawala
3226	Bid	Manjlegaon	Dubba Majra
3227	Bid	Manjlegaon	Telgaon Kh.
3228	Bid	Manjlegaon	Kherda kh.
3229	Bid	Manjlegaon	Sadola
3230	Bid	Manjlegaon	Manurwadi
3231	Bid	Manjlegaon	Bhatwadgaon
3232	Bid	Manjlegaon	Govindwadi
3233	Bid	Manjlegaon	Depegaon
3234	Bid	Manjlegaon	Kesapuri
3235	Bid	Manjlegaon	Kiti Adgaon
3236	Bid	Manjlegaon	Phule Pimpalgaon
3237	Bid	Manjlegaon	Dhanagarwadi (Paytalwadi)
3238	Bid	Manjlegaon	Manjrath
3239	Bid	Parli	Bodhegaon
3240	Bid	Parli	Gopalpur
3241	Bid	Parli	Malnathapur
3242	Bid	Parli	Kavalyachiwadi
3243	Bid	Parli	Mandekhel
3244	Bid	Parli	Waghala
3245	Bid	Parli	Bhilegaon
3246	Bid	Parli	Sonhivra
3247	Bid	Parli	Wadkhel
3248	Bid	Parli	Tadoli
3249	Bid	Parli	Parchundi
3250	Bid	Parli	Nagpimpri
3251	Bid	Parli	Malhivara
3252	Bid	Parli	Selu
3253	Bid	Parli	Selu-parali
3254	Bid	Parli	Gardewadi
3255	Bid	Parli	Karewadi
3256	Bid	Parli	Sarfarajpur
3257	Bid	Parli	Moha
3258	Bid	Parli	Malkapur (N.V.)
3259	Bid	Shirur (Kasar)	Malkachiwadi
3260	Bid	Shirur (Kasar)	Hiversinga
3261	Bid	Shirur (Kasar)	Khalapuri
3262	Bid	Shirur (Kasar)	Paundul
3263	Bid	Shirur (Kasar)	Kamleshwar Dhanora

Sr. No.	District	Taluka	Village
3264	Bid	Parli	Maindwadi
3265	Bid	Patoda	Misalwadi
3266	Bid	Patoda	Pimpalwandi
3267	Bid	Patoda	Chanderwadi
3268	Bid	Patoda	Dhoparwadi (N.V.)
3269	Bid	Patoda	Nivdunga
3270	Bid	Patoda	Ambewadi
3271	Bid	Patoda	Pawarwadi (Saradwadi)
3272	Bid	Patoda	Dagachiwadi
3273	Bid	Patoda	Jirewadi
3274	Bid	Patoda	Amalner
3275	Bid	Patoda	Gholewadi (N.V.)
3276	Bid	Patoda	Karegaon
3277	Bid	Patoda	Nalwandi
3278	Bid	Patoda	Bhatewadi
3279	Bid	Patoda	Dongerkinhi
3280	Bid	Patoda	Jadhavwadi (N.V.)
3281	Bid	Patoda	Rautwadi (N.V.)
3282	Bid	Patoda	Mandvewadi
3283	Bid	Patoda	Janyachiwadi (N.V.)
3284	Bid	Patoda	Gayakwadwadi
3285	Bid	Patoda	Malekarwadi
3286	Bid	Patoda	Kantalwadi
3287	Bid	Patoda	Tupewadi
3288	Bid	Patoda	Nageshwadi
3289	Bid	Patoda	Sablewadi
3290	Bid	Patoda	Daulatwadi
3291	Bid	Patoda	Pandharwadi
3292	Bid	Patoda	Kotan
3293	Bid	Patoda	Gandhanwadi
3294	Bid	Patoda	Chincholi
3295	Bid	Shirur (Kasar)	Kharmatwadi (N.V.)
3296	Bid	Shirur (Kasar)	Chahurwadi
3297	Bid	Shirur (Kasar)	Khopti
3298	Bid	Shirur (Kasar)	Khokermoha
3299	Latur	Ahmadpur	Nagzari
3300	Latur	Ahmadpur	Wadarwadi
3301	Latur	Ahmadpur	Sangvi (sunegaon)
3302	Latur	Ahmadpur	Rui
3303	Latur	Ahmadpur	Shendri

Sr. No.	District	Taluka	Village
3303	Bid	Shirur (Kasar)	Baragwadi
3304	Bid	Shirur (Kasar)	Rupewadi (N.V.)
3305	Bid	Shirur (Kasar)	Ghugewadi
3306	Bid	Shirur (Kasar)	Khamba
3307	Bid	Shirur (Kasar)	Limba
3308	Bid	Shirur (Kasar)	Sawaswadi
3309	Bid	Shirur (Kasar)	Pangri
3310	Bid	Shirur (Kasar)	Jatnandur
3311	Bid	Shirur (Kasar)	Morjalwadi
3312	Bid	Shirur (Kasar)	Jedhewadi
3313	Bid	Shirur (Kasar)	Ukhalwadi
3314	Bid	Shirur (Kasar)	Gomalwada
3315	Bid	Shirur (Kasar)	Hingewadi
3316	Bid	Shirur (Kasar)	Pimpalner
3317	Bid	Shirur (Kasar)	Bhadkel
3318	Bid	Shirur (Kasar)	Wadali
3319	Bid	Shirur (Kasar)	Madmapuri
3320	Bid	Wadwani	Dawargaon Bk.
3321	Bid	Wadwani	Chinchala
3322	Bid	Wadwani	Kuppa
3323	Bid	Wadwani	Dukdegaon
3324	Bid	Wadwani	Hiwargavhan
3325	Bid	Wadwani	Upli
3326	Bid	Wadwani	Tigaon
3327	Bid	Wadwani	Pusra
3328	Bid	Wadwani	Bavi
3329	Bid	Wadwani	Morwad
3330	Bid	Wadwani	Sonnakhota
3331	Bid	Wadwani	Devla Bk.
3332	Bid	Wadwani	Khadki
3333	Bid	Wadwani	Rui Pimpla
3334	Bid	Wadwani	Kanhobachiwadi
3335	Latur	Ausa	Gotewadi
3336	Latur	Ausa	Sirsal
3337	Latur	Ausa	Talani Laman Tanda
3338	Latur	Ausa	Killari
3339	Latur	Ausa	Kumtha
3340	Latur	Ausa	Apchunda
3341	Latur	Ausa	Mugalewadi
3342	Latur	Ausa	Jawli

Sr. No.	District	Taluka	Village
3343	Latur	Ahmadpur	Gangahipparga
3344	Latur	Ahmadpur	Ujana
3345	Latur	Ahmadpur	Ralga
3346	Latur	Ahmadpur	Sunegaon (shendri)
3347	Latur	Ahmadpur	Sumthana
3348	Latur	Ahmadpur	Gudalewadi
3349	Latur	Ahmadpur	Molwan
3350	Latur	Ahmadpur	Chilkha
3351	Latur	Ahmadpur	Andhori.
3352	Latur	Ahmadpur	Khandali
3353	Latur	Ahmadpur	Dhaswadi
3354	Latur	Ahmadpur	Takalgaon (senkud)
3355	Latur	Ahmadpur	Par
3356	Latur	Ahmadpur	Yertar
3357	Latur	Ahmadpur	Dhalegaon
3358	Latur	Ahmadpur	Wanjarwadi
3359	Latur	Ahmadpur	Gadewadi
3360	Latur	Ahmadpur	Waigaon
3361	Latur	Ahmadpur	Morewadi
3362	Latur	Ahmadpur	Kharabwadi
3363	Latur	Ahmadpur	Makani
3364	Latur	Ahmadpur	Umarga Yelladevi
3365	Latur	Ahmadpur	Bodkha
3366	Latur	Ahmadpur	Chopali
3367	Latur	Ahmadpur	Sayyadpur (kh)
3368	Latur	Ahmadpur	Kumtha (bk)
3369	Latur	Ahmadpur	Babalbara
3370	Latur	Ahmadpur	Kaudgaon
3371	Latur	Ausa	Sankral
3372	Latur	Ausa	Haregaon
3373	Latur	Ausa	Masalga Kh.
3374	Latur	Ausa	Borphal
3375	Latur	Ausa	Tungi Kh.
3376	Latur	Ausa	Sindala Lohara
3377	Latur	Ausa	Tungi Bk.
3378	Latur	Ausa	Fattepur
3379	Latur	Ausa	Malubra
3380	Latur	Ausa	Chincholi Son
3381	Latur	Ausa	Sindalwadi
3382	Latur	Ausa	Dapegaon
3383	Latur	Ausa	Wanwada
3384	Latur	Ausa	Malkondji
3385	Latur	Ausa	Nagarsoga

Sr. No.	District	Taluka	Village
3387	Latur	Ausa	Kinithot
3388	Latur	Ausa	Jainagar
3389	Latur	Ausa	Wagholi
3390	Latur	Ausa	Chalburga
3391	Latur	Ausa	Gubal
3392	Latur	Ausa	Hasalgan
3393	Latur	Ausa	sarni
3394	Latur	Ausa	Nandurga
3395	Latur	Ausa	Manjrul
3396	Latur	Ausa	Dewanga
3397	Latur	Ausa	Kawtha Latur
3398	Latur	Ausa	Lodga
3399	Latur	Ausa	Bhangewadi
3400	Latur	Ausa	Tondoli
3401	Latur	Ausa	Yeli
3402	Latur	Ausa	Holi
3403	Latur	Ausa	Ashiv
3404	Latur	Chakur	Sugaon
3405	Latur	Chakur	Devangrawadi
3406	Latur	Chakur	Ashta
3407	Latur	Chakur	Devangra
3408	Latur	Chakur	Mohadal
3409	Latur	Chakur	Borgaon Bk.
3410	Latur	Chakur	Mandurki
3411	Latur	Chakur	Brahamwadi
3412	Latur	Chakur	Bothi
3413	Latur	Chakur	Hanmantwadi
3414	Latur	Chakur	Kalkoti
3415	Latur	Chakur	Takalgaon (Shelgaon)
3416	Latur	Chakur	Algarwadi
3417	Latur	Chakur	Mashanerwadi
3418	Latur	Chakur	Shirnal
3419	Latur	Chakur	Tirthwadi
3420	Latur	Chakur	Nagadarwadi
3421	Latur	Chakur	Bhakarwadi
3422	Latur	Chakur	Anjansoda Bk.
3423	Latur	Chakur	Ambulga
3424	Latur	Chakur	Limbalwadi
3425	Latur	Chakur	Nalegaon
3426	Latur	Chakur	Gharni
3427	Latur	Chakur	Gharola
3428	Latur	Chakur	Wadwal Nagnath
3429	Latur	Deoni	Hanchanal

Sr. No.	District	Taluka	Village
3430	Latur	Ausa	Jawalga P D
3431	Latur	Ausa	Rajewadi
3432	Latur	Ausa	Lamjana
3433	Latur	Ausa	Yelavat
3434	Latur	Ausa	Chincholi Jo
3435	Latur	Deoni	Gurdhal (her)
3436	Latur	Deoni	Kamaroddinpur
3437	Latur	Deoni	Vilegaon
3438	Latur	Deoni	Neknal
3439	Latur	Deoni	Talegaon (bhogeshwar)
3440	Latur	Deoni	Nagral
3441	Latur	Deoni	Dongarewadi
3442	Latur	Deoni	Konali (N)
3443	Latur	Deoni	Kamalwadi
3444	Latur	Deoni	Dhanegaon
3445	Latur	Deoni	Helamb
3446	Latur	Deoni	Dawan Hipparga
3447	Latur	Jalkot	Kekat Sindgi
3448	Latur	Jalkot	Yeldara
3449	Latur	Jalkot	Jirga
3450	Latur	Jalkot	Dhamangaon
3451	Latur	Jalkot	Konali Dongar
3452	Latur	Jalkot	Sonwala
3453	Latur	Jalkot	Jagalpur Bk.
3454	Latur	Jalkot	Viral
3455	Latur	Jalkot	Dhorsangvi
3456	Latur	Jalkot	Domgaon
3457	Latur	Jalkot	Lali Bk.
3458	Latur	Jalkot	Kolnoor
3459	Latur	Jalkot	Karanji
3460	Latur	Jalkot	Kunki
3461	Latur	Jalkot	Hawarga
3462	Latur	Latur	Tadki
3463	Latur	Latur	Borgaon Bk.
3464	Latur	Latur	Rameshwar
3465	Latur	Latur	Pimpri Amba
3466	Latur	Latur	Karkatta
3467	Latur	Latur	Jawala Bk.
3468	Latur	Latur	Yeli
3469	Latur	Latur	Shirala
3470	Latur	Latur	Hisori
3471	Latur	Latur	Khandala
3472	Latur	Latur	Kavha

Sr. No.	District	Taluka	Village
3473	Latur	Deoni	Sangam
3474	Latur	Deoni	Deoni Bk.
3475	Latur	Latur	Murud Bk.
3476	Latur	Latur	Katpur
3477	Latur	Latur	Wasangaon
3478	Latur	Latur	Khopegaon
3479	Latur	Latur	Pakharsangvi
3480	Latur	Latur	Sikandarpur
3481	Latur	Latur	Shelu Bk.
3482	Latur	Latur	Khadgaon
3483	Latur	Latur	Sirsi
3484	Latur	Latur	Babhalgaon
3485	Latur	Nilanga	Tambalwadi
3486	Latur	Nilanga	Tambala
3487	Latur	Nilanga	Anandwadi Ambulga Bk.
3488	Latur	Nilanga	Nadiwadi
3489	Latur	Nilanga	Zari
3490	Latur	Nilanga	Ambewadi Ambulga Bk.
3491	Latur	Nilanga	Pirwadi
3492	Latur	Nilanga	Ambulga Bk.
3493	Latur	Nilanga	Shiur
3494	Latur	Nilanga	Kedarpur
3495	Latur	Nilanga	Jewari
3496	Latur	Nilanga	Dhanora
3497	Latur	Nilanga	Anandwadi (je.)
3498	Latur	Nilanga	Pimpalwadi [je]
3499	Latur	Nilanga	Bamni
3500	Latur	Nilanga	Dadgi
3501	Latur	Nilanga	Anandwadi
3502	Latur	Nilanga	Tupdi
3503	Latur	Nilanga	Chincholi (pan)
3504	Latur	Nilanga	Gaur
3505	Latur	Nilanga	Sonesangvi
3506	Latur	Nilanga	Anandwadi (gaur)
3507	Latur	Nilanga	Dagadwadi
3508	Latur	Nilanga	Jotwadi
3509	Latur	Nilanga	Hadga
3510	Latur	Nilanga	Masalga
3511	Latur	Nilanga	Ambulga Men Ambewadi
3512	Latur	Nilanga	Masalga
3513	Latur	Nilanga	Shivani (ko)
3514	Latur	Nilanga	Umarga [hadga]
3515	Latur	Nilanga	Hanmantwadi [mugaon]

Sr. No.	District	Taluka	Village
3516	Latur	Latur	Khandapur
3517	Latur	Latur	Peth
3518	Latur	Latur	Chandeshwar
3519	Latur	Latur	Gangapur
3520	Latur	Latur	Dagadwadi
3521	Latur	Latur	Mushirabad
3522	Latur	Latur	Bindgihal
3523	Latur	Latur	Bokangaon
3524	Latur	Latur	Salgara Kh.
3525	Latur	Latur	Salgara Bk.
3526	Latur	Latur	Nagzari
3527	Latur	Latur	Akharwai
3528	Latur	Latur	Bhuisamudraga
3529	Latur	Latur	Jewali
3530	Latur	Latur	Raiwadi
3531	Latur	Renapur	Sevalalnagar
3532	Latur	Renapur	Lakhamapur
3533	Latur	Renapur	Pohregaon
3534	Latur	Renapur	Itti
3535	Latur	Renapur	Nagapur
3536	Latur	Renapur	Dighol Deshmukh
3537	Latur	Renapur	Bhokaramba
3538	Latur	Renapur	Morwad
3539	Latur	Renapur	Khanapur
3540	Latur	Renapur	Shera
3541	Latur	Renapur	Indarthana
3542	Latur	Renapur	Poharegaon Tanda
3543	Latur	Renapur	Palsi
3544	Latur	Renapur	Andalgaon
3545	Latur	Renapur	Sindhgaon
3546	Latur	Renapur	Kumbhari
3547	Latur	Renapur	Sangvi
3548	Latur	Renapur	Wangdari
3549	Latur	Shirur	Sangvi (Ghugi)
3550	Latur	Shirur	Lakkadjawalga
3551	Latur	Shirur	Ghugi (Sangvi)
3552	Latur	Shirur	BHingoli
3553	Latur	Shirur	Turukwadi
3554	Latur	Shirur	Thergaon
3555	Latur	Shirur	Rapka
3556	Latur	Shirur	Ajani Bk.
3557	Latur	Shirur	Aari
3558	Latur	Shirur	Anandwadi
3559	Latur	Shirur	Kalamgaon

Sr. No.	District	Taluka	Village
3560	Latur	Nilanga	Chincholi (bha)
3561	Latur	Nilanga	Yelamwadi
3562	Latur	Nilanga	Limbala
3563	Latur	Nilanga	Bhutmugli
3564	Latur	Nilanga	Yelnur
3565	Latur	Nilanga	Barmachiwadi
3566	Latur	Nilanga	Nitur
3567	Latur	Nilanga	Halgara
3568	Latur	Nilanga	Shelgi
3569	Latur	Nilanga	Tadmugli
3570	Latur	Nilanga	Jajnur (Jagnur)
3571	Latur	Renapur	Dighol Deshpande
3572	Latur	Shirur	Yerol
3573	Latur	Shirur	Sakol
3574	Latur	Shirur	Halki
3575	Latur	Udgir	Karkheli
3576	Latur	Udgir	Dhotarwadi
3577	Latur	Udgir	Kumdhali (her)
3578	Latur	Udgir	Kumtha Kh.
3579	Latur	Udgir	Dawangaon
3580	Latur	Udgir	Dewarjan
3581	Latur	Udgir	Chighali
3582	Latur	Udgir	Arasnal
3583	Latur	Udgir	Lohara
3584	Latur	Udgir	Malkapur
3585	Latur	Udgir	Shekapur
3586	Latur	Udgir	Haibatpur
3587	Latur	Udgir	Madlapur
3588	Latur	Udgir	Tondar
3589	Latur	Udgir	Banshelki
3590	Latur	Udgir	Loni
3591	Latur	Udgir	Tiwatgyal
3592	Latur	Udgir	Chandegaon
3593	Latur	Udgir	Tadlapur
3594	Latur	Udgir	Gurdhal (udgir)
3595	Latur	Udgir	Janapur
3596	Latur	Udgir	Tondchir
3597	Latur	Udgir	Kaulkhed
3598	Latur	Udgir	Kumdal
3599	Latur	Udgir	Limbgaon
3600	Latur	Udgir	Shelhal
3601	Latur	Udgir	Wagdari
3602	Latur	Udgir	Shirol
3603	Latur	Udgir	Rudrawadi

Sr. No.	District	Taluka	Village
3604	Latur	Shirur	Wanjarkheda
3605	Latur	Shirur	Fakranpur
3606	Latur	Shirur	Ganeshwadi
3607	Latur	Shirur	Hippalgaon
3608	Latur	Shirur	Sawargaon
3609	Latur	Shirur	Shivpur
3610	Nanded	Ardhapur	Nijampur
3611	Nanded	Ardhapur	Ganpur
3612	Nanded	Ardhapur	Mendhla Bk.
3613	Nanded	Ardhapur	Khadki
3614	Nanded	Ardhapur	Shelgaon Kh.
3615	Nanded	Ardhapur	Kondha
3616	Nanded	Ardhapur	Sawargaon
3617	Nanded	Ardhapur	Kamtha Bk
3618	Nanded	Bhokar	Pimpaldhav
3619	Nanded	Bhokar	Jamdari Tanda
3620	Nanded	Bhokar	Nanda Patti Mhaisa
3621	Nanded	Bhokar	Rawangaon
3622	Nanded	Bhokar	Jamdari
3623	Nanded	Bhokar	Bendri
3624	Nanded	Bhokar	Matul
3625	Nanded	Bhokar	Khadki
3626	Nanded	Bhokar	Rahati Kh (Saja)
3627	Nanded	Bhokar	Lagrud
3628	Nanded	Bhokar	Ballal
3629	Nanded	Bhokar	Jambhali
3630	Nanded	Bhokar	Borwadi
3631	Nanded	Bhokar	Samandarwadi
3632	Nanded	Bhokar	Dorli
3633	Nanded	Bhokar	Gargotwadi
3634	Nanded	Bhokar	Pandurna
3635	Nanded	Biloli	Arli
3636	Nanded	Biloli	Kinala
3637	Nanded	Biloli	Belkoni Bk
3638	Nanded	Biloli	Ramtirth
3639	Nanded	Biloli	Jigla
3640	Nanded	Biloli	Lohgaon
3641	Nanded	Biloli	Hiparga (ma)
3642	Nanded	Biloli	Pachimpali
3643	Nanded	Biloli	Talni
3644	Nanded	Biloli	Belkoni Kh.
3645	Nanded	Biloli	Kolheborgaon
3646	Nanded	Biloli	Gaglegaon
3647	Nanded	Biloli	Hajjapur

Sr. No.	District	Taluka	Village
3648	Latur	Udgir	Halli
3649	Latur	Udgir	Mortalwadi
3650	Latur	Udgir	Wanjarwadi
3651	Nanded	Deglur	Kutub Shahapurwadi
3652	Nanded	Deglur	Mailapur (D)
3653	Nanded	Deglur	Sundgi Kh.
3654	Nanded	Deglur	Nagral
3655	Nanded	Deglur	Lakhkha
3656	Nanded	Deglur	Alapur
3657	Nanded	Deglur	Nipani Savargaon
3658	Nanded	Deglur	Apsavargaon
3659	Nanded	Deglur	Sugaon
3660	Nanded	Deglur	Ibrahimpur
3661	Nanded	Deglur	Takali Jahagir
3662	Nanded	Deglur	Yergi
3663	Nanded	Deglur	Shivani
3664	Nanded	Deglur	Malegaon (M)
3665	Nanded	Deglur	Zari
3666	Nanded	Deglur	Devapur
3667	Nanded	Deglur	Pendpalli
3668	Nanded	Dharmabad	Bachegaon
3669	Nanded	Dharmabad	Rajapur
3670	Nanded	Dharmabad	Pangri
3671	Nanded	Dharmabad	Manur
3672	Nanded	Dharmabad	Chenapur (D)
3673	Nanded	Dharmabad	Shelgaon Thadi
3674	Nanded	Dharmabad	Vilegaon Thadi (Bk)
3675	Nanded	Dharmabad	Mokali
3676	Nanded	Dharmabad	Bamni
3677	Nanded	Dharmabad	Sangam
3678	Nanded	Dharmabad	Patoda Thadi
3679	Nanded	Dharmabad	Mashti
3680	Nanded	Hadgaon	Warwat
3681	Nanded	Hadgaon	Jambhal Savali
3682	Nanded	Hadgaon	Wai Pana Bk
3683	Nanded	Hadgaon	Ghogri
3684	Nanded	Hadgaon	Pimpalgaon
3685	Nanded	Hadgaon	Rajwadi
3686	Nanded	Hadgaon	Wai Pana Kh
3687	Nanded	Hadgaon	Shivpuri
3688	Nanded	Hadgaon	Yewli
3689	Nanded	Hadgaon	Bramhwadi
3690	Nanded	Hadgaon	Walki Bk
3691	Nanded	Hadgaon	Tolyachiwadi

Sr. No.	District	Taluka	Village
3692	Nanded	Biloli	Karhal
3693	Nanded	Biloli	Azizabad (D)
3694	Nanded	Biloli	Takli Thadi
3695	Nanded	Biloli	Pimpalgaon (K)
3696	Nanded	Deglur	Manshakarga
3697	Nanded	Deglur	Kathewadi
3698	Nanded	Deglur	Hotal
3699	Nanded	Deglur	Lingankerur
3700	Nanded	Deglur	Bhaktapur
3701	Nanded	Deglur	Ballur
3702	Nanded	Deglur	Rampur Bk.
3703	Nanded	Deglur	Pimpalgaon
3704	Nanded	Deglur	Karegaon
3705	Nanded	Deglur	Degaon Kh
3706	Nanded	Deglur	Chakur
3707	Nanded	Hadgaon	Choramba Bk
3708	Nanded	Hadgaon	Pingli
3709	Nanded	Hadgaon	Taroda
3710	Nanded	Hadgaon	Kharbi
3711	Nanded	Hadgaon	Umri (daryabai)
3712	Nanded	Hadgaon	Kedarguda
3713	Nanded	Hadgaon	Sawargaon
3714	Nanded	Hadgaon	Nimtok
3715	Nanded	Hadgaon	Nevri
3716	Nanded	Hadgaon	Mardga
3717	Nanded	Hadgaon	Talang
3718	Nanded	Hadgaon	Unchada
3719	Nanded	Hadgaon	Borgaon (Hastara)
3720	Nanded	Hadgaon	Newarwadi
3721	Nanded	Hadgaon	Koli
3722	Nanded	Hadgaon	Marlegaon
3723	Nanded	Himayatnagar	Wadgaon (ja)
3724	Nanded	Himayatnagar	Karala (J)
3725	Nanded	Himayatnagar	Shibadara (J)
3726	Nanded	Himayatnagar	Pinchodi
3727	Nanded	Himayatnagar	Wadgaon (tanda)
3728	Nanded	Himayatnagar	Ekdhari
3729	Nanded	Himayatnagar	Khairgaon (jahagir)
3730	Nanded	Himayatnagar	Wasi
3731	Nanded	Himayatnagar	Mangrul
3732	Nanded	Himayatnagar	Ramanwadi
3733	Nanded	Himayatnagar	Mahadapur
3734	Nanded	Himayatnagar	Sawana

Sr. No.	District	Taluka	Village
3734	Nanded	Hadgaon	Umri (ja)
3735	Nanded	Hadgaon	Ashti
3736	Nanded	Hadgaon	Kopra
3737	Nanded	Hadgaon	Kanjara (Kh)
3738	Nanded	Hadgaon	Kanjara (Bk)
3739	Nanded	Hadgaon	Choramba Kh.
3740	Nanded	Hadgaon	Takalgaon
3741	Nanded	Hadgaon	Dorli
3742	Nanded	Hadgaon	Shivani
3743	Nanded	Hadgaon	Talegaon
3744	Nanded	Hadgaon	Kolgaon
3745	Nanded	Hadgaon	Kusalwadi
3746	Nanded	Kandhar	Sawargaon Nipani
3747	Nanded	Kandhar	Dewaichiwadi
3748	Nanded	Kandhar	Kallali
3749	Nanded	Kandhar	Pethwadaj
3750	Nanded	Kandhar	Yelur
3751	Nanded	Kandhar	Shirsi Bk.
3752	Nanded	Kandhar	Jakapur
3753	Nanded	Kandhar	Chauki (Mahakaya)
3754	Nanded	Kinwat	Navargaon
3755	Nanded	Kinwat	Mohada Tonda
3756	Nanded	Kinwat	Hatola
3757	Nanded	Kinwat	Unakdeo
3758	Nanded	Kinwat	Pardi
3759	Nanded	Kinwat	Titvi
3760	Nanded	Kinwat	Both
3761	Nanded	Kinwat	Darsangavi (sindkhed)
3762	Nanded	Kinwat	Saklu Naik Tanda
3763	Nanded	Kinwat	Anji
3764	Nanded	Kinwat	Pandhara
3765	Nanded	Kinwat	Bellori (kinwat)
3766	Nanded	Kinwat	Sindgi (Mo)
3767	Nanded	Kinwat	Malborgaon
3768	Nanded	Kinwat	Mohapur
3769	Nanded	Kinwat	Tallari Tanda
3770	Nanded	Kinwat	Zalakwadi
3771	Nanded	Kinwat	Tallari
3772	Nanded	Kinwat	Burkulwadi
3773	Nanded	Kinwat	Pangri
3774	Nanded	Kinwat	Bhisi
3775	Nanded	Kinwat	Roda Naik Tanda
3818	Nanded	Kinwat	Bodhadi Kh

Sr. No.	District	Taluka	Village
3777	Nanded	Himayatnagar	Pardi (jah)
3778	Nanded	Himayatnagar	Jirona
3779	Nanded	Himayatnagar	Chinchordi
3780	Nanded	Kandhar	Bamni P.k.
3781	Nanded	Kandhar	Dahikalamba
3782	Nanded	Kandhar	Binda
3783	Nanded	Kandhar	Mangal Sangvi
3784	Nanded	Kandhar	Halda
3785	Nanded	Kandhar	Alegaon
3786	Nanded	Kandhar	Chikhali
3787	Nanded	Kandhar	Dinda
3788	Nanded	Kandhar	Datala
3789	Nanded	Kandhar	Nandanwan
3790	Nanded	Kandhar	Aural
3791	Nanded	Kandhar	Sawleshwar
3792	Nanded	Kandhar	Hisse Aural
3793	Nanded	Kandhar	Gunda
3794	Nanded	Kandhar	Gogdari
3795	Nanded	Kandhar	Majare Warwat
3796	Nanded	Kandhar	Bachoti
3797	Nanded	Kandhar	Chauki Dharnapuri
3798	Nanded	Kandhar	Chincholi P.K.
3799	Nanded	Kandhar	Gonar
3800	Nanded	Kandhar	Rui
3801	Nanded	Kandhar	Shirsi Kh.
3802	Nanded	Kinwat	Lingdhari (D)
3803	Nanded	Kinwat	Nandgaon Tanda
3804	Nanded	Kinwat	Sangvi
3805	Nanded	Kinwat	Karanji
3806	Nanded	Kinwat	Ritha Tanda
3807	Nanded	Kinwat	Pangari Tanda
3808	Nanded	Kinwat	Sonpeth
3809	Nanded	Kinwat	Sonwadi
3810	Nanded	Kinwat	Nandgaon
3811	Nanded	Kinwat	Iregaon
3812	Nanded	Kinwat	Mulzara
3813	Nanded	Kinwat	Islapur
3814	Nanded	Kinwat	Kollari
3815	Nanded	Kinwat	Kupti Bk
3816	Nanded	Kinwat	Kupti Kh
3817	Nanded	Kinwat	Nakhatewadi

Sr. No.	District	Taluka	Village
3819	Nanded	Kinwat	Bodhadi Bk.
3820	Nanded	Kinwat	Pardi Kh.
3821	Nanded	Kinwat	Pimparphodi
3822	Nanded	Kinwat	Sawari
3823	Nanded	Kinwat	Pardi Bk.
3824	Nanded	Kinwat	Thara
3825	Nanded	Kinwat	Jaroda Tanda
3826	Nanded	Kinwat	Pradhan Sangvi
3827	Nanded	Kinwat	Bendi
3828	Nanded	Kinwat	Darsangvi (chikhli)
3829	Nanded	Kinwat	Bendi Tanda
3830	Nanded	Kinwat	Chikhli Bk
3831	Nanded	Kinwat	Dabhadi
3832	Nanded	Kinwat	Shaniwarpeth
3833	Nanded	Kinwat	Madnapur (Chikhali)
3834	Nanded	Kinwat	Budhawar Peth
3835	Nanded	Kinwat	Chikhil Tanda
3836	Nanded	Kinwat	Chikhli (I.)
3837	Nanded	Kinwat	Hudi (Islapur)
3838	Nanded	Kinwat	Kothari (Chikhali)
3839	Nanded	Kinwat	Malakwadi
3840	Nanded	Kinwat	Amadi
3841	Nanded	Mahoor	Digdi (mohpur)
3842	Nanded	Mahoor	Mandva (Mahur)
3843	Nanded	Mahoor	Dhanora (digdi)
3844	Nanded	Mahoor	Wanola
3845	Nanded	Mahoor	Sakur
3846	Nanded	Mahoor	Panola
3847	Nanded	Mahoor	Kupti (Nahoor)
3848	Nanded	Mahoor	Vanola Tanda (N.V.)
3849	Nanded	Mahoor	Borwadi
3850	Nanded	Mudkhed	Rohi Pimpalgaon Tanda
3851	Nanded	Mudkhed	Malkautha
3852	Nanded	Mudkhed	Hajapur
3853	Nanded	Mudkhed	Chikala Tanda
3854	Nanded	Mudkhed	Wardada
3855	Nanded	Mudkhed	Mendka
3856	Nanded	Mudkhed	Wadi Muktapur
3857	Nanded	Mudkhed	Rohi Pimpalgaon
3858	Nanded	Mudkhed	Chikala
3859	Nanded	Mudkhed	Ijali

Sr. No.	District	Taluka	Village
3860	Nanded	Kinwat	Hudi (D)
3861	Nanded	Kinwat	Kosmet
3862	Nanded	Kinwat	Walki Kh.
3863	Nanded	Kinwat	Lokhandwadi
3864	Nanded	Loha	Madakewadi
3865	Nanded	Loha	Jawala
3866	Nanded	Loha	Dapshed
3867	Nanded	Loha	Pimpalgaon (Ayab)
3868	Nanded	Loha	Pimpranwadi
3869	Nanded	Loha	Nila
3870	Nanded	Loha	Hottalwadi
3871	Nanded	Loha	Borgaon Kolha
3872	Nanded	Loha	Bhendegaon
3873	Nanded	Loha	Pokhari
3874	Nanded	Loha	Palshi
3875	Nanded	Loha	Pokhar Bhoshi
3876	Nanded	Loha	Bet Sangvi
3877	Nanded	Loha	Ambesangvi
3878	Nanded	Loha	Berali Kh.
3879	Nanded	Loha	Hiparga (Chitali)
3880	Nanded	Loha	Sonmanjari
3881	Nanded	Loha	Deulgaon
3882	Nanded	Loha	Khambegaon
3883	Nanded	Loha	Mangrul
3884	Nanded	Loha	Kambegaon
3885	Nanded	Loha	Dhanora (Makta)
3886	Nanded	Loha	Borgaon Aknak
3887	Nanded	Loha	Maski
3888	Nanded	Loha	Chitali
3889	Nanded	Loha	Adgaon
3890	Nanded	Loha	Pangri
3891	Nanded	Loha	Polewadi
3892	Nanded	Mahoor	Mungashi
3893	Nanded	Mahoor	Rampur (Mu.) (N.V.)
3894	Nanded	Mahoor	Mendki
3895	Nanded	Mahoor	Dahegaon (Sa.) (N.V.)
3896	Nanded	Mahoor	Pachunda
3897	Nanded	Mukhed	Dhanaj
3898	Nanded	Mukhed	Undri P.D.
3899	Nanded	Mukhed	Adlur
3900	Nanded	Naigaon	Mustapur
3901	Nanded	Naigaon	Dhuppa
3902	Nanded	Naigaon	Golegaon
3903	Nanded	Naigaon	Manjram

Sr. No.	District	Taluka	Village
3904	Nanded	Mudkhed	wadi Muktaji
3905	Nanded	Mukhed	Sangvi Bhadev
3906	Nanded	Mukhed	Saknur
3907	Nanded	Mukhed	Ambulga Kh.
3908	Nanded	Mukhed	Kolnur
3909	Nanded	Mukhed	Makni
3910	Nanded	Mukhed	Itgyal P.D.
3911	Nanded	Mukhed	Kabnur
3912	Nanded	Mukhed	Wasur
3913	Nanded	Mukhed	Ambulga Bk.
3914	Nanded	Mukhed	Kolgaon
3915	Nanded	Mukhed	Mandlapur
3916	Nanded	Mukhed	Borgaon
3917	Nanded	Mukhed	Hibbat
3918	Nanded	Mukhed	Hangarga P.K.
3919	Nanded	Mukhed	Uchchha Bk.
3920	Nanded	Mukhed	Khatgaon P.D.
3921	Nanded	Mukhed	Mavali
3922	Nanded	Mukhed	Motarga
3923	Nanded	Mukhed	Betmogra
3924	Nanded	Mukhed	Honwadaj
3925	Nanded	Mukhed	Jambhali
3926	Nanded	Mukhed	Chandola
3927	Nanded	Mukhed	Karna
3928	Nanded	Mukhed	Kerur
3929	Nanded	Mukhed	Akharga
3930	Nanded	Mukhed	Gadgyalwadi
3931	Nanded	Mukhed	Dhamangaon
3932	Nanded	Mukhed	Bhagnurwadi
3933	Nanded	Mukhed	Tandli
3934	Nanded	Mukhed	Rathodwadi
3935	Nanded	Mukhed	Nandgaon P.D.
3936	Nanded	Mukhed	Eklara
3937	Nanded	Mukhed	Jamkhed
3938	Nanded	Nanded	Thugaon
3939	Nanded	Nanded	Dhoki
3940	Nanded	Nanded	Dhanora
3941	Nanded	Nanded	Borgaon Telang
3942	Nanded	Nanded	Sugaon Kh.
3943	Nanded	Nanded	Pokharni
3944	Nanded	Nanded	Sugaon Bk.
3945	Nanded	Nanded	Bhanpur
3946	Nanded	Nanded	Rahati Bk.
3947	Nanded	Nanded	Sayal

Sr. No.	District	Taluka	Village
3948	Nanded	Naigaon	Gadga
3949	Nanded	Naigaon	Kopra
3950	Nanded	Naigaon	Mokasdara
3951	Nanded	Naigaon	Khandgaon
3952	Nanded	Naigaon	Bendri
3953	Nanded	Naigaon	Manjramwadi
3954	Nanded	Naigaon	Nawandi
3955	Nanded	Naigaon	Tembhurni
3956	Nanded	Naigaon	Takli(T.M.)
3957	Nanded	Naigaon	Shelgaon (Gauri)
3958	Nanded	Naigaon	Dhanora T.M.
3959	Nanded	Naigaon	Kuncholi
3960	Nanded	Naigaon	Marwali
3961	Nanded	Naigaon	Kedar Wadgaon
3962	Nanded	Naigaon	Kandala
3963	Nanded	Naigaon	Mahegaon
3964	Nanded	Naigaon	Karla T.M.
3965	Nanded	Naigaon	Marwali Tanda
3966	Nanded	Naigaon	Mugaon
3967	Nanded	Naigaon	Aluwadgaon
3968	Nanded	Naigaon	Ratoli
3969	Nanded	Nanded	Gangabet
3970	Nanded	Nanded	Daryapur
3971	Nanded	Nanded	Pimpalgaon Korke
3972	Nanded	Nanded	Wanegaon
3973	Nanded	Nanded	Limbgaon
3974	Osmanabad	Bhum	Dindori
3975	Osmanabad	Bhum	Hadongi
3976	Osmanabad	Bhum	Hiwara
3977	Osmanabad	Bhum	Ramkund
3978	Osmanabad	Bhum	Songiri
3979	Osmanabad	Bhum	Wakwad
3980	Osmanabad	Bhum	Bhongiri
3981	Osmanabad	Bhum	Bhum(rural)
3982	Osmanabad	Bhum	Rosamba
3983	Osmanabad	Bhum	Chincholi
3984	Osmanabad	Bhum	Nawalgaon
3985	Osmanabad	Bhum	Warewadgaon
3986	Osmanabad	Bhum	Golegaon
3987	Osmanabad	Bhum	Jamb
3988	Osmanabad	Bhum	Irachiwadi
3989	Osmanabad	Bhum	Bavi
3990	Osmanabad	Bhum	Panhalwadi
3991	Osmanabad	Bhum	Matrewadi
3992	Osmanabad	Bhum	Sanneewadi

Sr. No.	District	Taluka	Village
3993	Nanded	Nanded	Someshwar
3994	Nanded	Nanded	Kottirth
3995	Nanded	Nanded	Jaitapur
3996	Nanded	Nanded	Hassapur
3997	Nanded	Nanded	Warkhed
3998	Nanded	Nanded	Naleshwar
3999	Nanded	Nanded	Waghi
4000	Nanded	Umri	Turati
4001	Nanded	Umri	Jirona
4002	Nanded	Umri	Bitnal
4003	Nanded	Umri	Hunda Tanda
4004	Nanded	Umri	Bolsa Kh
4005	Nanded	Umri	Ganipur
4006	Nanded	Umri	Mokhandi (Jagir)
4007	Nanded	Umri	Mandala
4008	Nanded	Umri	Waghala
4009	Nanded	Umri	Hunda patti umari
4010	Nanded	Umri	Somthana P.U.
4011	Nanded	Umri	Dhanora Bk.
4012	Nanded	Umri	Sawargaon (kala)
4013	Nanded	Umri	Hiradgaon
4014	Nanded	Umri	Ramkhadak
4015	Nanded	Umri	Bothi
4016	Osmanabad	Kalamb	Gaurgaon
4017	Osmanabad	Kalamb	Ekurka
4018	Osmanabad	Kalamb	Jawala Khurd
4019	Osmanabad	Kalamb	Nagulgaon
4020	Osmanabad	Kalamb	Shelgaon Divani
4021	Osmanabad	Kalamb	Baramachiwadi
4022	Osmanabad	Kalamb	Gaur
4023	Osmanabad	Kalamb	Wanewadi
4024	Osmanabad	Kalamb	Bhosa
4025	Osmanabad	Kalamb	Satephal
4026	Osmanabad	Kalamb	Malkaranja
4027	Osmanabad	Lohara	Hippargarava
4028	Osmanabad	Lohara	Undargaon
4029	Osmanabad	Lohara	Belwadi
4030	Osmanabad	Lohara	Lohara Bk.
4031	Osmanabad	Lohara	Bendkal
4032	Osmanabad	Lohara	Mogha kh
4033	Osmanabad	Lohara	Nagral
4034	Osmanabad	Lohara	Mogha bk.
4035	Osmanabad	Lohara	Mardi
4036	Osmanabad	Lohara	Lohara Kh.
4037	Osmanabad	Lohara	Achaler

Sr. No.	District	Taluka	Village
4038	Osmanabad	Bhum	Anjan soda
4039	Osmanabad	Bhum	Gikhali
4040	Osmanabad	Bhum	Ashta
4041	Osmanabad	Bhum	Wangi Bk.
4042	Osmanabad	Bhum	Wangi kh.
4043	Osmanabad	Bhum	Ashtewadi
4044	Osmanabad	Bhum	Deolali
4045	Osmanabad	Bhum	Tambewadi
4046	Osmanabad	Bhum	Sukta
4047	Osmanabad	Bhum	Bhawanwadi
4048	Osmanabad	Bhum	Padoli
4049	Osmanabad	Bhum	Dukkarwadi
4050	Osmanabad	Kalamb	Wadgaon (jagir)
4051	Osmanabad	Kalamb	Nagzarwadi
4052	Osmanabad	Kalamb	Khamaswadi
4053	Osmanabad	Kalamb	Mangrul
4054	Osmanabad	Kalamb	Saundana Amba
4055	Osmanabad	Kalamb	Awad Shirpura
4056	Osmanabad	Kalamb	Shiradhon
4057	Osmanabad	Kalamb	Tadgaon
4058	Osmanabad	Kalamb	Wathawada
4059	Osmanabad	Kalamb	Naigaon
4060	Osmanabad	Kalamb	Wakdikej
4061	Osmanabad	Kalamb	Hasegaon Kej
4062	Osmanabad	Kalamb	Bhatsangvi
4063	Osmanabad	Kalamb	Andora
4064	Osmanabad	Kalamb	Tandulwadi
4065	Osmanabad	Kalamb	Khadki
4066	Osmanabad	Kalamb	Diksal
4067	Osmanabad	Kalamb	Hawargaon
4068	Osmanabad	Kalamb	Borgaon Bk.
4069	Osmanabad	Kalamb	Govindpur
4070	Osmanabad	Kalamb	Deodhanora
4071	Osmanabad	Kalamb	Hasegaon (shirdhon)
4072	Osmanabad	Osmanabad	Ambehol
4073	Osmanabad	Osmanabad	Zaregaon
4074	Osmanabad	Osmanabad	Khanapur
4075	Osmanabad	Osmanabad	Kaudgaon (Bavi)
4076	Osmanabad	Osmanabad	Ghatangri
4077	Osmanabad	Osmanabad	Kombadwadi
4078	Osmanabad	Osmanabad	Wakharwadi
4079	Osmanabad	Osmanabad	Rui dhoki
4080	Osmanabad	Osmanabad	Dhoki
4081	Osmanabad	Osmanabad	Borkheda
4082	Osmanabad	Osmanabad	Chikhali

Sr. No.	District	Taluka	Village
4083	Osmanabad	Lohara	Kolnur pandari
4084	Osmanabad	Lohara	Dastapur
4085	Osmanabad	Lohara	Wadgaonwadi
4086	Osmanabad	Lohara	Phanapur
4087	Osmanabad	Lohara	Hipparga sayyad
4088	Osmanabad	Lohara	Jewali
4089	Osmanabad	Lohara	Malegaon
4090	Osmanabad	Lohara	Wadgaon
4091	Osmanabad	Lohara	Karwanji
4092	Osmanabad	Lohara	Vilaspur pandhari
4093	Osmanabad	Lohara	Kanegaon
4094	Osmanabad	Lohara	Arni
4095	Osmanabad	Osmanabad	Kawaldara Tanda
4096	Osmanabad	Osmanabad	Sanja
4097	Osmanabad	Osmanabad	Medsinga
4098	Osmanabad	Osmanabad	Wadgaon
4099	Osmanabad	Osmanabad	Shekapur
4100	Osmanabad	Osmanabad	Gaundgaon
4101	Osmanabad	Osmanabad	Ruibhar
4102	Osmanabad	Osmanabad	Ambewadi
4103	Osmanabad	Osmanabad	Ansurda
4104	Osmanabad	Osmanabad	Deolali
4105	Osmanabad	Osmanabad	Uttami Kayapur
4106	Osmanabad	Osmanabad	Baramgaon Bk.
4107	Osmanabad	Osmanabad	Palaswadi
4108	Osmanabad	Osmanabad	Gad Deodari
4109	Osmanabad	Osmanabad	Sonegaon
4110	Osmanabad	Osmanabad	Ambejawalga
4111	Osmanabad	Osmanabad	Sangvi
4112	Osmanabad	Osmanabad	Walgud
4113	Osmanabad	Osmanabad	Junoni
4114	Osmanabad	Paranda	Ingoda
4115	Osmanabad	Paranda	Chinchpur Kh.
4116	Osmanabad	Paranda	Hingangaon kh.
4117	Osmanabad	Paranda	Anala
4118	Osmanabad	Paranda	Ratnapur
4119	Osmanabad	Paranda	Undegaon
4120	Osmanabad	Paranda	Malkapur
4121	Osmanabad	Tuljapur	Katri
4122	Osmanabad	Tuljapur	Dhekri
4123	Osmanabad	Tuljapur	Apsinga
4124	Osmanabad	Tuljapur	Kamtha
4125	Osmanabad	Tuljapur	Haglur
4126	Osmanabad	Tuljapur	Bornadwadi (Nal)
4127	Osmanabad	Tuljapur	Jawalga Mesai

Sr. No.	District	Taluka	Village
4128	Osmanabad	Osmanabad	Borgaon raje
4129	Osmanabad	Osmanabad	Karajkheda
4130	Osmanabad	Osmanabad	Toramba
4131	Osmanabad	Osmanabad	Wadala
4132	Osmanabad	Osmanabad	Baramgaon Kh.
4133	Osmanabad	Osmanabad	Bhandari
4134	Osmanabad	Osmanabad	Patoda
4135	Osmanabad	Osmanabad	Gogaon
4136	Osmanabad	Osmanabad	Kakaspur
4137	Osmanabad	Osmanabad	Nandurga
4138	Osmanabad	Osmanabad	Tawaraj Kheda
4139	Osmanabad	Osmanabad	Bhanasgaon
4140	Osmanabad	Osmanabad	Nitali
4141	Osmanabad	Osmanabad	Ghuggi
4142	Osmanabad	Osmanabad	Samudrawani
4143	Osmanabad	Osmanabad	Lasona
4144	Osmanabad	Osmanabad	Mendha
4145	Osmanabad	Osmanabad	Kond
4146	Osmanabad	Paranda	Hingangaon Bk.
4147	Osmanabad	Paranda	Deogaon kh.
4148	Osmanabad	Paranda	Katrabad
4149	Osmanabad	Paranda	Gosaviwadi (Donja)
4150	Osmanabad	Paranda	Aleshwar
4151	Osmanabad	Paranda	Bangalwadi
4152	Osmanabad	Paranda	Dhagpimpri
4153	Osmanabad	Paranda	Awar pimpri
4154	Osmanabad	Paranda	Wangepavhan
4155	Osmanabad	Paranda	Wadner
4156	Osmanabad	Paranda	Kapilapuri
4157	Osmanabad	Paranda	Kangalgaon
4158	Osmanabad	Paranda	Jawala (n.)
4159	Osmanabad	Paranda	Sawadarwadi
4160	Osmanabad	Paranda	Yenegaon
4161	Osmanabad	Paranda	Gharagaon
4162	Osmanabad	Paranda	Wadi Rajuri
4163	Osmanabad	Paranda	Shirala
4164	Osmanabad	Paranda	Lohara
4165	Osmanabad	Paranda	Nalgaon
4166	Osmanabad	Paranda	Loni
4167	Osmanabad	Paranda	Watephal
4168	Osmanabad	Paranda	Jakate wadi
4169	Osmanabad	Paranda	Takmodwadi
4170	Osmanabad	Tuljapur	Khadki
4171	Osmanabad	Tuljapur	Jalkot
4172	Osmanabad	Tuljapur	Jalkotwadi
4173	Osmanabad	Tuljapur	Hangarga (Nal)
4174	Osmanabad	Tuljapur	Indiranagar

Sr. No.	District	Taluka	Village
4175	Osmanabad	Tuljapur	Karla
4176	Osmanabad	Tuljapur	Wadgaon deo
4177	Osmanabad	Tuljapur	Shivkarwadi
4178	Osmanabad	Tuljapur	Wanegaon
4179	Osmanabad	Tuljapur	Salgara divti
4180	Osmanabad	Tuljapur	Ghandora
4181	Osmanabad	Tuljapur	Deosinga (Tul)
4182	Osmanabad	Tuljapur	Kilaj
4183	Osmanabad	Tuljapur	Chikundra
4184	Osmanabad	Tuljapur	Manewadi
4185	Osmanabad	Tuljapur	Tadwala
4186	Osmanabad	Tuljapur	Hangarga
4187	Osmanabad	Tuljapur	Kakrambawadi
4188	Osmanabad	Tuljapur	Bori
4189	Osmanabad	Tuljapur	Kakramba
4190	Osmanabad	Tuljapur	Morda
4191	Osmanabad	Tuljapur	Tuljapur
4192	Osmanabad	Tuljapur	Horti
4193	Osmanabad	Tuljapur	Murta
4194	Osmanabad	Tuljapur	Manmodi
4195	Osmanabad	Tuljapur	Wadacha Tanda
4196	Osmanabad	Tuljapur	Bolegaon
4197	Osmanabad	Tuljapur	Fulwadi
4198	Osmanabad	Tuljapur	Andur
4199	Osmanabad	Tuljapur	Umarga
4200	Osmanabad	Tuljapur	Arbali
4201	Osmanabad	Tuljapur	Shirgapur
4202	Osmanabad	Tuljapur	Chivari
4203	Osmanabad	Tuljapur	Dhangarwadi
4204	Osmanabad	Tuljapur	Kerur
4205	Osmanabad	Tuljapur	Itkal
4206	Osmanabad	Tuljapur	Keshegaon
4207	Osmanabad	Tuljapur	Sarati
4208	Osmanabad	Tuljapur	Babhalgaon
4209	Osmanabad	Tuljapur	Devsinga Nal
4210	Osmanabad	Tuljapur	Telarnagar
4211	Osmanabad	Tuljapur	Kunsawali
4212	Osmanabad	Tuljapur	Sindgaon
4213	Osmanabad	Tuljapur	Salgara Tatur
4214	Osmanabad	Umarga	Varnalwadi
4215	Osmanabad	Umarga	Dudhanal
4216	Osmanabad	Umarga	Kadamapur
4217	Osmanabad	Umarga	Trikoli
4218	Osmanabad	Umarga	Handral
4219	Osmanabad	Umarga	Kunhali
4220	Osmanabad	Umarga	Kaddora
4221	Osmanabad	Umarga	Vhantal

Sr. No.	District	Taluka	Village
4222	Osmanabad	Tuljapur	Barul
4223	Osmanabad	Tuljapur	Bornadwadi
4224	Osmanabad	Tuljapur	Khandala
4225	Osmanabad	Tuljapur	Honala
4226	Osmanabad	Tuljapur	Wadgaon lakh
4227	Osmanabad	Umarga	Jagadalwadi
4228	Osmanabad	Umarga	Dhaktiwadi
4229	Osmanabad	Umarga	Kolsur (K)
4230	Osmanabad	Umarga	Guruwadi
4231	Osmanabad	Umarga	Thorliwadi
4232	Osmanabad	Umarga	Talmod
4233	Osmanabad	Umarga	Chinchkota
4234	Osmanabad	Umarga	Malgi
4235	Osmanabad	Umarga	Malgiwadi
4236	Osmanabad	Umarga	Karali
4237	Osmanabad	Umarga	Hippargarao
4238	Osmanabad	Umarga	Kolsur (G)
4239	Osmanabad	Umarga	Kesar Jawalga
4240	Osmanabad	Umarga	Kaldeo nimbala
4241	Osmanabad	Umarga	Rampur
4242	Osmanabad	Umarga	Kalnimbala
4243	Osmanabad	Umarga	Yeli
4244	Osmanabad	Umarga	Matola kh.
4245	Osmanabad	Umarga	Narangwadi
4246	Osmanabad	Umarga	Babalsur
4247	Osmanabad	Umarga	Sawalsur
4248	Osmanabad	Umarga	Bori
4249	Osmanabad	Umarga	Kawatha
4250	Osmanabad	Umarga	Jawalga Bet
4251	Osmanabad	Umarga	Madaj
4252	Osmanabad	Umarga	Koregaon
4253	Osmanabad	Umarga	Gugalgaon
4254	Osmanabad	Umarga	Wagdari
4255	Parbhani	Gangakhed	Brahmanathwadi
4256	Parbhani	Gangakhed	Khali
4257	Parbhani	Gangakhed	Gaundgaon
4258	Parbhani	Gangakhed	Dharasur
4259	Parbhani	Gangakhed	Chinchtakli
4260	Parbhani	Gangakhed	Arbujwadi
4261	Parbhani	Gangakhed	Khokalewadi
4262	Parbhani	Gangakhed	Supa (jagir)
4263	Parbhani	Gangakhed	Suppa Tanda
4264	Parbhani	Gangakhed	Limbewadi
4265	Parbhani	Gangakhed	Limbewadi Tanda

Sr. No.	District	Taluka	Village
4266	Osmanabad	Umarga	Balsur
4267	Osmanabad	Umarga	Ekurga
4268	Osmanabad	Umarga	Ekurgawadi
4269	Osmanabad	Umarga	Supatgaon
4270	Osmanabad	Washi	Nandgaon
4271	Osmanabad	Washi	Isrup
4272	Osmanabad	Washi	Pardi
4273	Osmanabad	Washi	Bori
4274	Osmanabad	Washi	Kanheri
4275	Osmanabad	Washi	Khanapur
4276	Osmanabad	Washi	Sonarwadi
4277	Osmanabad	Washi	Bavi
4278	Osmanabad	Washi	Mandva
4279	Osmanabad	Washi	Satvaiwadi
4280	Osmanabad	Washi	Khamkarwadi
4281	Osmanabad	Washi	Terkheda
4282	Osmanabad	Washi	Indapur
4283	Osmanabad	Washi	Zinner
4284	Osmanabad	Washi	Gojwada
4285	Osmanabad	Washi	Golegaon
4286	Osmanabad	Washi	Ghodki
4287	Osmanabad	Washi	Dasmegaon
4288	Osmanabad	Washi	Kelewadi
4289	Osmanabad	Washi	Rui
4290	Osmanabad	Washi	Lonkhas
4291	Osmanabad	Washi	Ghatpimpari
4292	Osmanabad	Washi	Jeba
4293	Osmanabad	Washi	Wadji
4294	Osmanabad	Washi	Yasawandi
4295	Parbhani	Jintur	Pimpri Kh
4296	Parbhani	Jintur	Sawargaon Tanda
4297	Parbhani	Jintur	Kanha
4298	Parbhani	Jintur	Sawargaon
4299	Parbhani	Jintur	Dabha
4300	Parbhani	Jintur	Gadadgavhan
4301	Parbhani	Jintur	Karanji
4302	Parbhani	Jintur	Dahegaon
4303	Parbhani	Jintur	Badanapur
4304	Parbhani	Jintur	Chaudharni Kh
4305	Parbhani	Jintur	Kawi
4306	Parbhani	Jintur	Kurhadi
4307	Parbhani	Jintur	Pimpalgaon Kajale Tanda
4308	Parbhani	Jintur	Borgalwadi
4309	Parbhani	Jintur	Limbala

Sr. No.	District	Taluka	Village
4310	Parbhani	Gangakhed	Supa (khalsa)
4311	Parbhani	Gangakhed	Kundgirwadi
4312	Parbhani	Gangakhed	Chilgarwadi
4313	Parbhani	Gangakhed	Devkatwadi
4314	Parbhani	Gangakhed	Wagdara
4315	Parbhani	Gangakhed	Pandhargaon
4316	Parbhani	Gangakhed	Waghdara Tanda
4317	Parbhani	Gangakhed	Sirsam Shegaon
4318	Parbhani	Gangakhed	Dongarpimpla
4319	Parbhani	Gangakhed	Dhebewadi (Thagyachiwadi)
4320	Parbhani	Gangakhed	Kodri
4321	Parbhani	Gangakhed	Undegaon
4322	Parbhani	Gangakhed	Antarweli
4323	Parbhani	Gangakhed	Anand Nagar
4324	Parbhani	Gangakhed	Tandulwadi
4325	Parbhani	Gangakhed	Dongarjawla
4326	Parbhani	Gangakhed	Katkarwadi
4327	Parbhani	Gangakhed	Badwani Dongargaon
4328	Parbhani	Gangakhed	Shelgaon
4329	Parbhani	Gangakhed	Mairal Sawangi
4330	Parbhani	Gangakhed	Nagthana
4331	Parbhani	Gangakhed	Dharkhed
4332	Parbhani	Gangakhed	Muli
4333	Parbhani	Jintur	Kotha
4334	Parbhani	Jintur	Belura
4335	Parbhani	Jintur	Navhati Tanda
4336	Parbhani	Jintur	Waghi (Dhanora)
4337	Parbhani	Jintur	Sawangi Bhamble
4338	Parbhani	Jintur	Kawada
4339	Parbhani	Jintur	Korwadi
4340	Parbhani	Jintur	Asola
4341	Parbhani	Jintur	Belkheda
4342	Parbhani	Jintur	Umarad
4343	Parbhani	Jintur	Ghagara
4344	Parbhani	Jintur	Mola
4345	Parbhani	Jintur	Sevalal nagar
4346	Parbhani	Jintur	Charthana
4347	Parbhani	Jintur	Brahmangaon
4348	Parbhani	Jintur	Mohadi

Sr. No.	District	Taluka	Village
4349	Parbhani	Jintur	Pimpalgaon Kajale
4350	Parbhani	Jintur	Ambarwadi
4351	Parbhani	Jintur	Kawatha
4352	Parbhani	Jintur	Dudhangaon
4353	Parbhani	Jintur	Dhanora Kh
4354	Parbhani	Jintur	Dhanora Bk.
4355	Parbhani	Jintur	Vadi
4356	Parbhani	Jintur	Handi
4357	Parbhani	Jintur	Warud
4358	Parbhani	Jintur	Sakhartala
4359	Parbhani	Jintur	Devsadi
4360	Parbhani	Jintur	Chitnarwadi
4361	Parbhani	Jintur	Adgaon[Khandagal e.]
4362	Parbhani	Jintur	Wassa
4363	Parbhani	Jintur	Dhopatwadi
4364	Parbhani	Jintur	Kaudgaon P.Zari
4365	Parbhani	Jintur	Sonna
4366	Parbhani	Jintur	Asegaon Kaudgaon
4367	Parbhani	Jintur	Pr.Aundha
4368	Parbhani	Jintur	Dudhagaon
4369	Parbhani	Manwath	Kekar Jawala
4370	Parbhani	Manwath	Thar
4371	Parbhani	Manwath	Wazur Bk
4372	Parbhani	Manwath	Wazur Kh
4373	Parbhani	Manwath	Shevadi Jahagir
4374	Parbhani	Manwath	Pardi (p.takli)
4375	Parbhani	Manwath	Somthana
4376	Parbhani	Manwath	Kothala
4377	Parbhani	Manwath	Narlad
4378	Parbhani	Manwath	Kolha
4379	Parbhani	Manwath	Kharba
4380	Parbhani	Manwath	Manwat Road
4381	Parbhani	Manwath	Atola
4382	Parbhani	Manwath	Ratnapur
4383	Parbhani	Manwath	Itali
4384	Parbhani	Manwath	Ukkalgaon
4385	Parbhani	Manwath	Bondarwadi
4386	Parbhani	Manwath	Nagar Jawala
4387	Parbhani	Parbhani	Mirzapur

Sr. No.	District	Taluka	Village
4388	Parbhani	Jintur	Hanwatkhed
4389	Parbhani	Jintur	Shivachi Wadi
4390	Parbhani	Jintur	Jambhrun
4391	Parbhani	Manwath	Rajura
4392	Parbhani	Manwath	Deulgaon Awachar
4393	Parbhani	Manwath	Tad Borgaon
4394	Parbhani	Manwath	Palodi
4395	Parbhani	Palam	Tambulgaon
4396	Parbhani	Palam	Sipegaon
4397	Parbhani	Palam	Umra
4398	Parbhani	Palam	Ramapur
4399	Parbhani	Palam	Banwas
4400	Parbhani	Palam	Fattunaik Tanda
4401	Parbhani	Palam	Girdharwadi
4402	Parbhani	Palam	Mutkhed
4403	Parbhani	Palam	Mozmabad Tanda
4404	Parbhani	Palam	Mozamabad
4405	Parbhani	Palam	Warkhed
4406	Parbhani	Palam	Wadi (kh)
4407	Parbhani	Palam	Selu
4408	Parbhani	Palam	Pendu Bk.
4409	Parbhani	Palam	Pendu Kh.
4410	Parbhani	Palam	Anjanwadi
4411	Parbhani	Palam	Dhuppa
4412	Parbhani	Palam	Kolwadi
4413	Parbhani	Palam	Sarfrajpur
4414	Parbhani	Palam	Peth Shivani
4415	Parbhani	Palam	Wadi {Bk}
4416	Parbhani	Palam	Gulkhand
4417	Parbhani	Palam	Pharkanda
4418	Parbhani	Palam	Sadlapur
4419	Parbhani	Parbhani	Salapuri
4420	Parbhani	Parbhani	Bramhapuri tarf pathri
4421	Parbhani	Parbhani	Paralgavhan
4422	Parbhani	Parbhani	Dhasadi
4423	Parbhani	Parbhani	Angalgaon
4424	Parbhani	Parbhani	Pimpalgaon tong
4425	Parbhani	Parbhani	Takli Bobade
4426	Parbhani	Parbhani	Pingli kothala
4427	Parbhani	Parbhani	Sawangi kh.
4428	Parbhani	Parbhani	Pimpalgaon sayyadmia

Sr. No.	District	Taluka	Village
4429	Parbhani	Parbhani	Hingla
4430	Parbhani	Parbhani	Sultanpur
4431	Parbhani	Parbhani	Zari
4432	Parbhani	Parbhani	Sadegaon
4433	Parbhani	Parbhani	Pimpla
4434	Parbhani	Parbhani	Wadi damai
4435	Parbhani	Parbhani	Dharangaon
4436	Parbhani	Parbhani	Parawa
4437	Parbhani	Parbhani	Gavha
4438	Parbhani	Parbhani	Aland
4439	Parbhani	Parbhani	Mohapuri
4440	Parbhani	Parbhani	Jamb
4441	Parbhani	Parbhani	Purjawala
4442	Parbhani	Parbhani	Pandhari
4443	Parbhani	Parbhani	Mirkhel
4444	Parbhani	Parbhani	Varpud
4445	Parbhani	Parbhani	Tadlimbla
4446	Parbhani	Parbhani	Sirsi bk.
4447	Parbhani	Parbhani	Sirsi kh.
4448	Parbhani	Parbhani	Thola
4449	Parbhani	Parbhani	Zadgaon
4450	Parbhani	Parbhani	Lohagaon
4451	Parbhani	Pathri	Sarola Bk
4452	Parbhani	Pathri	Waghala
4453	Parbhani	Pathri	Chate Pimpalgaon
4454	Parbhani	Pathri	Takalgavhan
4455	Parbhani	Pathri	Babultar
4456	Parbhani	Pathri	Renapur
4457	Parbhani	Pathri	Pohe Takli
4458	Parbhani	Pathri	Devnandra
4459	Parbhani	Pathri	Kherda
4460	Parbhani	Pathri	Sarola Kh
4461	Parbhani	Pathri	Bandar Wada
4462	Parbhani	Pathri	Vadi
4463	Parbhani	Pathri	Kinhola Kh
4464	Parbhani	Pathri	Patoda Ganga Kinara
4465	Parbhani	Pathri	Warkhed
4466	Parbhani	Pathri	Niwali
4467	Parbhani	Pathri	Hadgaon Bk
4468	Parbhani	Pathri	Renakhali
4469	Parbhani	Pathri	Pathargavhan Bk

Sr. No.	District	Taluka	Village
4470	Parbhani	Parbhani	Ekrukha Tarf Pedgaon
4471	Parbhani	Parbhani	Panhera
4472	Parbhani	Parbhani	Bhogaon
4473	Parbhani	Parbhani	Kinhola
4474	Parbhani	Parbhani	Kashtagaon
4475	Parbhani	Parbhani	Wadgaon tarf takli
4476	Parbhani	Parbhani	Pedgaon
4477	Parbhani	Parbhani	Bramhapuri tarf pedgaon
4478	Parbhani	Parbhani	Nandkheda
4479	Parbhani	Parbhani	Dharmapuri
4480	Parbhani	Parbhani	Tuljapur
4481	Parbhani	Parbhani	Hasnapur
4482	Parbhani	Parbhani	Sonna
4483	Parbhani	Parbhani	Mandakhali
4484	Parbhani	Parbhani	Kaudgaon tarf singanapur
4485	Parbhani	Purna	Chudawa
4486	Parbhani	Purna	Kalmula
4487	Parbhani	Purna	Pimpran
4488	Parbhani	Purna	Changephal
4489	Parbhani	Purna	Kawalgaon
4490	Parbhani	Purna	Banegaon
4491	Parbhani	Purna	Mahagaon
4492	Parbhani	Purna	Dhanora Kale
4493	Parbhani	Purna	Golegaon Palam
4494	Parbhani	Purna	Maher
4495	Parbhani	Purna	Phulkalas
4496	Parbhani	Purna	Hatkarwadi
4497	Parbhani	Purna	Kalgaon
4498	Parbhani	Purna	Mumber
4499	Parbhani	Purna	Tamkalas
4500	Parbhani	Purna	Makhani
4501	Parbhani	Purna	Sirkalas
4502	Parbhani	Purna	Wazur
4503	Parbhani	Purna	Kharbada
4504	Parbhani	Sailu	Chikhalthana Bk
4505	Parbhani	Sailu	Taltumba
4506	Parbhani	Sailu	Chikhalthana Kh
4507	Parbhani	Sailu	Sonwati
4508	Parbhani	Sailu	Nagthana
4509	Parbhani	Sailu	Jawala Jivaji

Sr. No.	District	Taluka	Village
4510	Parbhani	Pathri	Manjarath
4511	Parbhani	Pathri	Nathara
4512	Parbhani	Pathri	Mardasgaon
4513	Parbhani	Pathri	Pathargavhan Kh
4514	Parbhani	Pathri	Banegaon
4515	Parbhani	Pathri	Gopegaon
4516	Parbhani	Purna	Surwadi
4517	Parbhani	Purna	Wadgaon tarf navki
4518	Parbhani	Purna	Pimpala bhatya
4519	Parbhani	Purna	Kaulgaonwadi
4520	Parbhani	Purna	Alegaon
4521	Parbhani	Sailu	Kundi
4522	Parbhani	Sailu	Mhalasapur
4523	Parbhani	Sailu	Ravalgaon
4524	Parbhani	Sailu	Aher Borgaon
4525	Parbhani	Sailu	Deulgaon Gat
4526	Parbhani	Sailu	Gugli Dhamangaon
4527	Parbhani	Sailu	Hissi
4528	Parbhani	Sailu	Tidi Pimpalgaon
4529	Parbhani	Sailu	Simangaon
4530	Parbhani	Sailu	Kupta
4531	Parbhani	Sailu	Bhangapur
4532	Parbhani	Sailu	Hatta
4533	Parbhani	Sailu	Gulkhand
4534	Parbhani	Sailu	Tandulwadi
4535	Parbhani	Sailu	Gavha
4536	Parbhani	Sailu	Ladnandra
4537	Parbhani	Sailu	Khavne Pimpri
4538	Parbhani	Sonpeth	Wanisangam
4539	Parbhani	Sonpeth	Waghalgaon (j)
4540	Parbhani	Sonpeth	Dudhgaon
4541	Parbhani	Sonpeth	Thadi Pimpalgaon
4542	Parbhani	Sonpeth	Lasina
4543	Parbhani	Sonpeth	Wadi Pimpalgaon
4544	Parbhani	Sonpeth	Vita Kh.
4545	Parbhani	Sonpeth	Thadiukkadgaon
4546	Parbhani	Sonpeth	Golegaon
4547	Parbhani	Sonpeth	Dhamoni
4548	Parbhani	Sonpeth	Kothala
4549	Parbhani	Sonpeth	Narwadi

Sr. No.	District	Taluka	Village
4550	Parbhani	Sailu	Salegaon
4551	Parbhani	Sailu	Paragane Partur
4552	Parbhani	Sailu	Kinara
4553	Parbhani	Sailu	Moregaon
4554	Parbhani	Sailu	Arsad
4555	Parbhani	Sailu	Sawangi P.C.
4556	Parbhani	Sailu	Gohegaon
4557	Wardha	Arvi	Panjara Bothali
4558	Wardha	Arvi	Laxmipur
4559	Wardha	Arvi	Nagapur
4560	Wardha	Arvi	Saikheda
4561	Wardha	Arvi	Sirpur
4562	Wardha	Arvi	Malatpur
4563	Wardha	Arvi	Saldara
4564	Wardha	Arvi	Ambapur
4565	Wardha	Arvi	Dahyapur
4566	Wardha	Arvi	Gaurkheda
4567	Wardha	Arvi	Hivara
4568	Wardha	Arvi	Dighi
4569	Wardha	Arvi	Chor Amba
4570	Wardha	Arvi	Wai
4571	Wardha	Arvi	Bodad
4572	Wardha	Arvi	Rohana
4573	Wardha	Ashti	Sahur
4574	Wardha	Ashti	Theka Kinhi
4575	Wardha	Ashti	Panchala
4576	Wardha	Ashti	Dhadi
4577	Wardha	Ashti	Shahapur
4578	Wardha	Ashti	Porgavhan
4579	Wardha	Ashti	Borkhedi
4580	Wardha	Ashti	Tumni
4581	Wardha	Ashti	Zadgaon
4582	Wardha	Ashti	Satnur
4583	Wardha	Ashti	Borgaon
4584	Wardha	Ashti	Pandhurna
4585	Wardha	Ashti	Milanpur
4586	Wardha	Ashti	Rambhapur
4587	Wardha	Deoli	Sirpur (Hore)
4588	Wardha	Deoli	Bopapur
4589	Wardha	Deoli	Hurdanpur
4590	Wardha	Deoli	Wabgaon
4591	Wardha	Deoli	Mominpur
4592	Wardha	Deoli	Durgada
4593	Wardha	Deoli	Chandrapur
4594	Wardha	Deoli	Kolhapur
4595	Wardha	Deoli	Karmalapur

Sr. No.	District	Taluka	Village
4596	Parbhani	Sonpeth	Bondargaon
4597	Parbhani	Sonpeth	Dighol Islampur
4598	Wardha	Deoli	Babapur
4599	Wardha	Hinganghat	Mansaoli
4600	Wardha	Hinganghat	Chanki
4601	Wardha	Hinganghat	Kanholi
4602	Wardha	Hinganghat	Balapur
4603	Wardha	Hinganghat	Gadegaon
4604	Wardha	Hinganghat	Mendukdoh
4605	Wardha	Hinganghat	Rohankheda
4606	Wardha	Hinganghat	Kholapur
4607	Wardha	Hinganghat	Nandgaon
4608	Wardha	Hinganghat	Gangapur
4609	Wardha	Hinganghat	Kasapur
4610	Wardha	Hinganghat	Tembha
4611	Wardha	Hinganghat	Wadner
4612	Wardha	Hinganghat	Donduda
4613	Wardha	Hinganghat	Bambarda
4614	Wardha	Karanja	Mahadapur
4615	Wardha	Karanja	Khairwada
4616	Wardha	Karanja	Yelhati
4617	Wardha	Karanja	Panjara Gondi
4618	Wardha	Karanja	Eni Dodka
4619	Wardha	Karanja	Maraksur
4620	Wardha	Karanja	Raipur
4621	Wardha	Karanja	Budhalagad
4622	Wardha	Karanja	Sindi Vihiri
4623	Wardha	Karanja	Ambhora
4624	Wardha	Karanja	Bangadapur
4625	Wardha	Samudrapur	Peth
4626	Wardha	Samudrapur	Mohgaon
4627	Wardha	Samudrapur	Tawi
4628	Wardha	Samudrapur	Faridpur
4629	Wardha	Samudrapur	Waigaon
4630	Wardha	Samudrapur	Rajjakpur
4631	Wardha	Samudrapur	Pardi
4632	Wardha	Samudrapur	Wandhali
4633	Wardha	Samudrapur	Parsoda
4634	Wardha	Samudrapur	Isabpur
4635	Wardha	Samudrapur	Nandpur
4636	Wardha	Seloo	Tuljapur
4637	Wardha	Seloo	Shivangaon
4638	Wardha	Seloo	Kinhala
4639	Wardha	Seloo	Pahelanpur
4640	Wardha	Seloo	Khapri (Dhone)
4641	Wardha	Seloo	Dahegaon (Gosai)

Sr. No.	District	Taluka	Village
4642	Wardha	Deoli	Kharda
4643	Wardha	Deoli	Saidapur
4644	Wardha	Deoli	Mahamadpur
4645	Wardha	Deoli	Mohanapur
4646	Wardha	Deoli	Talni(Khanderao)
4647	Wardha	Deoli	Kashimpur
4648	Wardha	Deoli	Bhidi
4649	Wardha	Deoli	Husnapur
4650	Wardha	Deoli	Akoli
4651	Wardha	Deoli	Ganeshpur
4652	Wardha	Deoli	Bhojankheda
4653	Wardha	Deoli	Sekapur
4654	Wardha	Deoli	Aloda
4655	Wardha	Deoli	Jaitapur
4656	Wardha	Deoli	Mund
4657	Wardha	Wardha	Degaon
4658	Wardha	Wardha	Kelapur
4659	Wardha	Wardha	Dorli
4660	Wardha	Wardha	Waifad
4661	Wardha	Wardha	Lonsawali
4662	Wardha	Wardha	Selukate
4663	Wardha	Wardha	Bhuigaon
4664	Wardha	Wardha	Bhiwapur
4665	Wardha	Wardha	Neri
4666	Washim	Karanja	Pilkheda
4667	Washim	Karanja	Yawardi
4668	Washim	Karanja	Karli
4669	Washim	Karanja	Mohgavhan
4670	Washim	Karanja	Alimardapur
4671	Washim	Karanja	Pimpri Warghat
4672	Washim	Karanja	Ganeshpur
4673	Washim	Karanja	Naregaon
4674	Washim	Karanja	Umarda (Bajar)
4675	Washim	Karanja	Yevta
4676	Washim	Karanja	Dhanora Tathod
4677	Washim	Karanja	Zodaga
4678	Washim	Karanja	Bramhanwada
4679	Washim	Karanja	Dhanj Kh
4680	Washim	Karanja	Morpur
4681	Washim	Karanja	Wadgaon [Range]
4682	Washim	Karanja	Donad Bk.
4683	Washim	Karanja	Manbha
4684	Washim	Karanja	Dudhora
4685	Washim	Karanja	Waghola
4686	Washim	Karanja	Dhamni

Sr. No.	District	Taluka	Village
4687	Wardha	Seloo	Bakhalapur
4688	Wardha	Seloo	Junona
4689	Wardha	Seloo	Bondsula
4690	Wardha	Seloo	Chincholi
4691	Wardha	Seloo	Dabalapur
4692	Wardha	Seloo	Uttampur
4693	Wardha	Seloo	Dhapki
4694	Wardha	Seloo	Hamdapur
4695	Wardha	Seloo	Algaon
4696	Wardha	Seloo	Anjangaon
4697	Wardha	Wardha	Taharpur
4698	Wardha	Wardha	Dapori
4699	Wardha	Wardha	Dewangan
4700	Wardha	Wardha	Aminpur
4701	Wardha	Wardha	Bhawanpur
4702	Wardha	Wardha	Rampur
4703	Wardha	Wardha	Walhapur
4704	Wardha	Wardha	Ambapur
4705	Washim	Mangrulpir	Kawathal
4706	Washim	Mangrulpir	Borwha bk.
4707	Washim	Mangrulpir	Ekamba
4708	Washim	Mangrulpir	Januna bk.
4709	Washim	Mangrulpir	Ismailpur
4710	Washim	Mangrulpir	Khadi
4711	Washim	Mangrulpir	Dhotra
4712	Washim	Mangrulpir	Zadgaon
4713	Washim	Mangrulpir	Shahapur Bk.
4714	Washim	Mangrulpir	Belkhed
4715	Washim	Mangrulpir	Dawakha
4716	Washim	Mangrulpir	Gimbha
4717	Washim	Mangrulpir	Chukamba
4718	Washim	Mangrulpir	Kumbhi
4719	Washim	Mangrulpir	Vasantwadi
4720	Washim	Mangrulpir	Lahi
4721	Washim	Mangrulpir	Sanlapur
4722	Washim	Mangrulpir	Chakwa
4723	Washim	Manora	Dhawanda
4724	Washim	Manora	Palodi
4725	Washim	Manora	Vasantnagar (N.V.)
4726	Washim	Manora	Poharadevi
4727	Washim	Manora	Ratanwadi
4728	Washim	Manora	Gogjai
4729	Washim	Manora	Kakad Chikhali
4730	Washim	Manora	Pimpal Shenda
4731	Washim	Manora	Fulumari

Sr. No.	District	Taluka	Village
4732	Washim	Karanja	Shelu Bk.
4733	Washim	Karanja	Sohal
4734	Washim	Karanja	Wadgaon
4735	Washim	Karanja	Gaiwal
4736	Washim	Karanja	Wai Pr.Karanja
4737	Washim	Karanja	Wadhavi
4738	Washim	Karanja	Isafpur
4739	Washim	Karanja	Kisan Nagar
4740	Washim	Karanja	Deochandi
4741	Washim	Karanja	Kinkhed
4742	Washim	Karanja	Lohara
4743	Washim	Karanja	Mandwa
4744	Washim	Malegaon	Kalakamatha
4745	Washim	Malegaon	Malegaon Najik Kini
4746	Washim	Malegaon	Pimpalwadi
4747	Washim	Malegaon	Sonkhas
4748	Washim	Malegaon	Pangrabandi
4749	Washim	Malegaon	Pimpal Shenda
4750	Washim	Malegaon	Kawardari
4751	Washim	Malegaon	Udi
4752	Washim	Malegaon	Kutardoh
4753	Washim	Malegaon	Wardari Kh.
4754	Washim	Malegaon	Jaulka
4755	Washim	Malegaon	Dhamdhami
4756	Washim	Malegaon	Wardari Bk.
4757	Washim	Malegaon	Umardari
4758	Washim	Malegaon	Wadiramrao
4759	Washim	Malegaon	Kinhiraja
4760	Washim	Malegaon	Gunja
4761	Washim	Mangrulpir	Dilawalpur
4762	Washim	Mangrulpir	Poti
4763	Washim	Mangrulpir	Ghota
4764	Washim	Mangrulpir	Mohari
4765	Washim	Manora	Amdari
4766	Washim	Manora	Galamgaon
4767	Washim	Manora	Hatoli
4768	Washim	Risod	Loni Bk.
4769	Washim	Risod	Agarwadi
4770	Washim	Risod	Kankarwadi
4771	Washim	Risod	Mohjabandi
4772	Washim	Risod	Asola
4773	Washim	Risod	Kurha
4774	Washim	Risod	Loni Kh.
4775	Washim	Risod	Sarapkhed
4776	Washim	Risod	Ekalaspur

Sr. No.	District	Taluka	Village
4777	Washim	Manora	Umari Kh.
4778	Washim	Manora	Sawali
4779	Washim	Manora	Mendra
4780	Washim	Manora	Gosta
4781	Washim	Manora	Vatphal
4782	Washim	Manora	Rajitnagar
4783	Washim	Manora	Renkapur
4784	Washim	Manora	Bidgaon
4785	Washim	Manora	Sayyadpur
4786	Washim	Manora	Ajani
4787	Washim	Manora	Bhandegaon
4788	Washim	Manora	Dara
4789	Washim	Manora	Nainy
4790	Washim	Manora	Dahithana
4791	Washim	Manora	Jamuna Kh.
4792	Washim	Manora	Mhasni
4793	Washim	Manora	Bhoyani
4794	Washim	Manora	Chausala
4795	Washim	Manora	Gartek
4796	Washim	Manora	Gavha
4797	Washim	Manora	Karpa
4798	Washim	Manora	Karkheda
4799	Washim	Manora	Vitholi
4800	Washim	Manora	Asola Kh.
4801	Washim	Manora	Chakur
4802	Washim	Manora	Ujwal Nagar
4803	Washim	Manora	Bhuli
4804	Washim	Washim	Bhatumra
4805	Washim	Washim	Jambhrun Mahali
4806	Washim	Washim	Depul
4807	Washim	Washim	Sakra
4808	Washim	Washim	Asola
4809	Washim	Washim	Kamathwada
4810	Washim	Washim	Surala
4811	Washim	Washim	Kajlamba
4812	Washim	Washim	Waghjali
4813	Washim	Washim	Kalamba Mahali
4814	Washim	Washim	Fulsakra
4815	Washim	Washim	Gondegaon
4816	Washim	Washim	Wara Jahangir
4817	Washim	Washim	Kharola
4818	Washim	Washim	Tornala
4819	Washim	Washim	Malegaon N. Bhat Umra
4820	Washim	Washim	Kinkheda
4821	Washim	Washim	Karli

Sr. No.	District	Taluka	Village
4822	Washim	Risod	Bhar Jahagir
4823	Washim	Risod	Ner
4824	Washim	Risod	Chakoli
4825	Washim	Risod	Shelu Khadse
4826	Washim	Risod	Morgavhan
4827	Washim	Risod	Pimparkhed
4828	Washim	Risod	Borkhedi
4829	Washim	Risod	Kanheri
4830	Washim	Risod	Mop
4831	Yavatmal	Arni	Kopara
4832	Yavatmal	Arni	Kurha
4833	Yavatmal	Arni	Bhandari
4834	Yavatmal	Arni	Sukali
4835	Yavatmal	Arni	Kelzara
4836	Yavatmal	Arni	Pimpalner
4837	Yavatmal	Arni	Bhansara
4838	Yavatmal	Arni	Kolwan
4839	Yavatmal	Arni	Pandhurna
4840	Yavatmal	Arni	Anjargaon
4841	Yavatmal	Arni	Mangrul
4842	Yavatmal	Arni	Yermal
4843	Yavatmal	Arni	Chikhali
4844	Yavatmal	Arni	Kathoda
4845	Yavatmal	Arni	Deurwadi (R.H.V.)
4846	Yavatmal	Babulgaon	Renakapur
4847	Yavatmal	Babulgaon	Mankapur
4848	Yavatmal	Babulgaon	Madani
4849	Yavatmal	Babulgaon	Isapur
4850	Yavatmal	Babulgaon	Watkhed Kh
4851	Yavatmal	Babulgaon	Nagargaon
4852	Yavatmal	Babulgaon	Mustabad
4853	Yavatmal	Babulgaon	Naigaon
4854	Yavatmal	Babulgaon	Maralpur
4855	Yavatmal	Babulgaon	Kondha
4856	Yavatmal	Babulgaon	Kotamba
4857	Yavatmal	Babulgaon	Ashtarampur
4858	Yavatmal	Babulgaon	Warud
4859	Yavatmal	Babulgaon	Saujana
4860	Yavatmal	Darwaha	Deulgaon
4861	Yavatmal	Darwaha	Palashi
4862	Yavatmal	Darwaha	Dob
4863	Yavatmal	Darwaha	Taroda
4864	Yavatmal	Darwaha	Dolhari
4865	Yavatmal	Darwaha	Sindhi
4866	Yavatmal	Darwaha	Bramhanath
4867	Yavatmal	Darwaha	Antargaon
4868	Yavatmal	Darwaha	Lakhkhind

Sr. No.	District	Taluka	Village
4869	Washim	Washim	Sawanga Jahagir
4870	Washim	Washim	Pandaw Umra
4871	Yavatmal	Digras	Kandali
4872	Yavatmal	Digras	Wadgaon
4873	Yavatmal	Digras	Dolambawadi
4874	Yavatmal	Digras	Dolamba
4875	Yavatmal	Ghatanji	Nimbarda
4876	Yavatmal	Ghatanji	Kurhad
4877	Yavatmal	Ghatanji	Padurna Bk
4878	Yavatmal	Ghatanji	Padurna Kh
4879	Yavatmal	Ghatanji	Tiwsala
4880	Yavatmal	Ghatanji	Kinhi
4881	Yavatmal	Ghatanji	Sasani
4882	Yavatmal	Ghatanji	Kopri
4883	Yavatmal	Ghatanji	Dahegaon
4884	Yavatmal	Ghatanji	Anji (N)
4885	Yavatmal	Ghatanji	Pimpri
4886	Yavatmal	Ghatanji	Pangadi
4887	Yavatmal	Ghatanji	Manoli
4888	Yavatmal	Ghatanji	Junoni
4889	Yavatmal	Ghatanji	Amdi
4890	Yavatmal	Ghatanji	Kumbhari
4891	Yavatmal	Kalamb	Nimgavhan
4892	Yavatmal	Kalamb	Pimpalshenda
4893	Yavatmal	Kalamb	Dongarkharda
4894	Yavatmal	Kalamb	Potgavhan
4895	Yavatmal	Kalamb	Wandli
4896	Yavatmal	Kalamb	Nilaj
4897	Yavatmal	Kalamb	Ekaspur
4898	Yavatmal	Kalamb	Dattapur
4899	Yavatmal	Kalamb	Kamathwada
4900	Yavatmal	Kalamb	Ganamgaon
4901	Yavatmal	Kalamb	Daulatpur
4902	Yavatmal	Kalamb	Chaparda
4903	Yavatmal	Kalamb	Aurangpur
4904	Yavatmal	Kalamb	Kalamb
4905	Yavatmal	Kalamb	Mankapur
4906	Yavatmal	Kalamb	Kasampur
4907	Yavatmal	Kalamb	Belona
4908	Yavatmal	Kalamb	Mawalni
4909	Yavatmal	Kalamb	Sonegaon
4910	Yavatmal	Kalamb	Mubarkpur
4911	Yavatmal	Kalamb	Mahitapur
4912	Yavatmal	Kalamb	Gangadevi
4913	Yavatmal	Kalamb	Sonkhas
4914	Yavatmal	Kalamb	Jondhalni
4915	Yavatmal	Kalamb	Gandha

Sr. No.	District	Taluka	Village
4917	Yavatmal	Darwaha	Takali Bk.
4918	Yavatmal	Darwaha	Haru
4919	Yavatmal	Darwaha	Khed
4920	Yavatmal	Darwaha	Ramgaon
4921	Yavatmal	Darwaha	Umari (I)
4922	Yavatmal	Darwaha	Kurhad Bk.
4923	Yavatmal	Darwaha	Jawala
4924	Yavatmal	Digras	Vasantnagar
4925	Yavatmal	Digras	Ashta
4926	Yavatmal	Digras	Warandali
4927	Yavatmal	Digras	Vithala
4928	Yavatmal	Digras	Dolhari
4929	Yavatmal	Digras	Dehani
4930	Yavatmal	Digras	Pimpri
4931	Yavatmal	Digras	Mahagaon
4932	Yavatmal	Digras	Kalgaon
4933	Yavatmal	Kelapur	Meera
4934	Yavatmal	Kelapur	Joginkawada
4935	Yavatmal	Kelapur	Dabha
4936	Yavatmal	Kelapur	Shampur
4937	Yavatmal	Kelapur	Pathari
4938	Yavatmal	Kelapur	Wathoda
4939	Yavatmal	Kelapur	Tatapur
4940	Yavatmal	Kelapur	Pimpari Road
4941	Yavatmal	Mahagaon	Thar Kh.
4942	Yavatmal	Mahagaon	Tembhi
4943	Yavatmal	Mahagaon	Kasarbehel
4944	Yavatmal	Mahagaon	Sevanagar
4945	Yavatmal	Mahagaon	Kawatha Jahagir
4946	Yavatmal	Mahagaon	Dagad Thar
4947	Yavatmal	Mahagaon	Kali (Tembhi)
4948	Yavatmal	Mahagaon	Warodi
4949	Yavatmal	Mahagaon	Pimpalgaon
4950	Yavatmal	Mahagaon	Wadad
4951	Yavatmal	Mahagaon	Bhamb
4952	Yavatmal	Mahagaon	Thar Bk.
4953	Yavatmal	Mahagaon	Dharkanha
4954	Yavatmal	Maregaon	Khadaki
4955	Yavatmal	Maregaon	Mendhani
4956	Yavatmal	Maregaon	Ghoguldara
4957	Yavatmal	Maregaon	Khapari
4958	Yavatmal	Maregaon	Shivnala
4959	Yavatmal	Maregaon	Ghoddara
4960	Yavatmal	Maregaon	Dhanpur
4961	Yavatmal	Maregaon	Khekadwai
4962	Yavatmal	Maregaon	Sarati
4963	Yavatmal	Maregaon	Khandani
4964	Yavatmal	Maregaon	Hatwanjari

Sr. No.	District	Taluka	Village
4965	Yavatmal	Kalamb	Khutala
4966	Yavatmal	Kalamb	Hirapur
4967	Yavatmal	Kalamb	Malkapur
4968	Yavatmal	Kalamb	Shingnapur
4969	Yavatmal	Kalamb	Satephal
4970	Yavatmal	Kalamb	Thalegaon
4971	Yavatmal	Kalamb	Ghoti
4972	Yavatmal	Kelapur	Runza
4973	Yavatmal	Kelapur	Jira
4974	Yavatmal	Ner	Adgaon
4975	Yavatmal	Ner	Pandhari
4976	Yavatmal	Ner	Shirajgaon
4977	Yavatmal	Pusad	Weni Kh
4978	Yavatmal	Pusad	Balawadi
4979	Yavatmal	Pusad	Yehala
4980	Yavatmal	Pusad	Londari
4981	Yavatmal	Pusad	Kondai
4982	Yavatmal	Pusad	Dharamwadi
4983	Yavatmal	Pusad	Palu
4984	Yavatmal	Pusad	Pokhari
4985	Yavatmal	Pusad	Harshi
4986	Yavatmal	Pusad	Pimparwadi
4987	Yavatmal	Pusad	Asoli
4988	Yavatmal	Pusad	Khadakdari
4989	Yavatmal	Pusad	Warwat
4990	Yavatmal	Pusad	Bibi
4991	Yavatmal	Pusad	Kharshi
4992	Yavatmal	Pusad	Dahiwad Bk
4993	Yavatmal	Ralegaon	Wadjai
4994	Yavatmal	Ralegaon	Ramtirth
4995	Yavatmal	Ralegaon	Pimpri Durg
4996	Yavatmal	Ralegaon	Hiwari
4997	Yavatmal	Ralegaon	Mandawa
4998	Yavatmal	Ralegaon	Waldhur
4999	Yavatmal	Ralegaon	Warha
5000	Yavatmal	Ralegaon	Mudhapur
5001	Yavatmal	Ralegaon	Dapori
5002	Yavatmal	Ralegaon	Pimpalkhuti
5003	Yavatmal	Ralegaon	Jalka
5004	Yavatmal	Ralegaon	Ibrahimpur
5005	Yavatmal	Ralegaon	Warna
5006	Yavatmal	Ralegaon	Hiwari
5007	Yavatmal	Ralegaon	Gopalnagar
5008	Yavatmal	Ralegaon	Malki
5009	Yavatmal	Ralegaon	Sawangi (perka)
5010	Yavatmal	Ralegaon	Kolwan
5011	Yavatmal	Ralegaon	Raveri
5012	Yavatmal	Ralegaon	Shrirampur

Sr. No.	District	Taluka	Village
5013	Yavatmal	Maregaon	GondBuranda
5014	Yavatmal	Maregaon	Chinchoni Botoni
5015	Yavatmal	Ner	Donad
5016	Yavatmal	Ner	Tembhi
5017	Yavatmal	Ner	Domga
5018	Yavatmal	Ner	Ajani
5019	Yavatmal	Ner	Kharadgaon
5020	Yavatmal	Ner	Ramgaon
5021	Yavatmal	Ner	Parjana
5022	Yavatmal	Ner	Kholapuri
5023	Yavatmal	Ner	Mahajanpur
5024	Yavatmal	Ner	Khalana
5025	Yavatmal	Ner	Vyahali
5026	Yavatmal	Ner	Bramhanwada (P)
5027	Yavatmal	Ner	Khanapur
5028	Yavatmal	Ner	Ghareful
5029	Yavatmal	Ner	Sawargaon
5030	Yavatmal	Ner	Umartha
5031	Yavatmal	Ner	Bhalki
5032	Yavatmal	Ner	Chikani
5033	Yavatmal	Ner	Kanhergaon
5034	Yavatmal	Ner	Satefal
5035	Yavatmal	Ner	Karkheda
5036	Yavatmal	Umarkhed	Churmura
5037	Yavatmal	Umarkhed	Nageshwadi
5038	Yavatmal	Umarkhed	Rangoli
5039	Yavatmal	Umarkhed	Warud Bibi
5040	Yavatmal	Umarkhed	Kailas Nagar
5041	Yavatmal	Umarkhed	Shri Dattanagar
5042	Yavatmal	Umarkhed	Botha
5043	Yavatmal	Umarkhed	Chilli
5044	Yavatmal	Umarkhed	Amala
5045	Yavatmal	Umarkhed	Dahagaon
5046	Yavatmal	Umarkhed	Chincholi Sangam
5047	Yavatmal	Umarkhed	Kaleshwar
5048	Yavatmal	Umarkhed	Bittargaon
5049	Yavatmal	Umarkhed	Limgavhan
5050	Yavatmal	Umarkhed	Ambawan
5051	Yavatmal	Umarkhed	Marlegaon
5052	Yavatmal	Wani	Panchdhar
5053	Yavatmal	Wani	Kayar
5054	Yavatmal	Wani	Kundra
5055	Yavatmal	Wani	Pimpri
5056	Yavatmal	Wani	Mahankalpur
5057	Yavatmal	Wani	Chendkapur

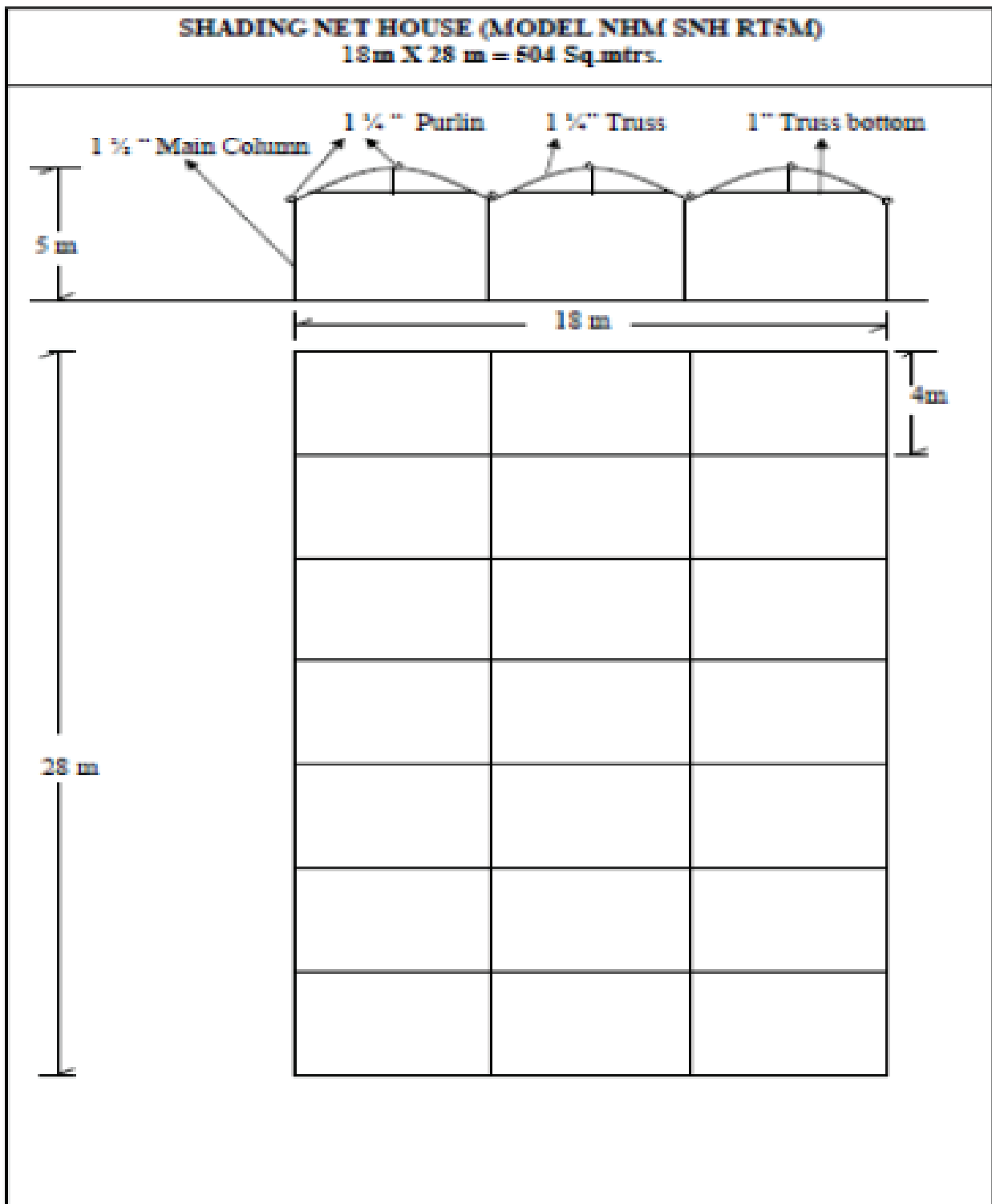
Sr. No.	District	Taluka	Village
5058	Yavatmal	Ralegaon	Ratnapur
5059	Yavatmal	Ralegaon	Chikana
5060	Yavatmal	Ralegaon	Ralegaon
5061	Yavatmal	Ralegaon	Bhamb
5062	Yavatmal	Ralegaon	Borakhadi
5063	Yavatmal	Ralegaon	Lakhapur
5064	Yavatmal	Ralegaon	Kalamner
5065	Yavatmal	Ralegaon	Khemkund
5066	Yavatmal	Ralegaon	Chondhi
5067	Yavatmal	Ralegaon	Bhimsenpur
5068	Yavatmal	Umarkhed	Dindala
5069	Yavatmal	Umarkhed	Amdari
5070	Yavatmal	Umarkhed	Marsul
5071	Yavatmal	Umarkhed	Amanpur
5072	Yavatmal	Umarkhed	Karodi
5073	Yavatmal	Umarkhed	Sukali (Jahagir)
5074	Yavatmal	Yavtmal	Kolambi
5075	Yavatmal	Yavtmal	Rohana
5076	Yavatmal	Yavtmal	Karegaon
5077	Yavatmal	Yavtmal	Warud
5078	Yavatmal	Yavtmal	Ghatana
5079	Yavatmal	Yavtmal	Loni
5080	Yavatmal	Yavtmal	Khairgaon
5081	Yavatmal	Yavtmal	Hatgaon
5082	Yavatmal	Yavtmal	Rahulghari
5083	Yavatmal	Yavtmal	Murzadi (Lal)
5084	Yavatmal	Yavtmal	Pimpri (Buti)
5085	Yavatmal	Yavtmal	Barbada
5086	Yavatmal	Yavtmal	Ghodkhindi
5087	Yavatmal	Yavtmal	Nilona
5088	Yavatmal	Yavtmal	Kinhi
5089	Yavatmal	Yavtmal	Dhanora
5090	Yavatmal	Yavtmal	Murzadi (Chinch)
5091	Yavatmal	Yavtmal	Sawargad
5092	Yavatmal	Yavtmal	Chapdoh
5093	Yavatmal	Yavtmal	Dhamani
5094	Yavatmal	Yavtmal	Ratchandana
5095	Yavatmal	Yavtmal	Bothgavhan
5096	Yavatmal	Yavtmal	Pangari
5097	Yavatmal	Yavtmal	Chaudhara
5098	Yavatmal	Yavtmal	Pandhari
5099	Yavatmal	Yavtmal	Godhani
5100	Yavatmal	Yavtmal	Jamb
5101	Yavatmal	Zari Jamani	Pardi

Sr. No.	District	Taluka	Village
5103	Yavatmal	Wani	Purad
5104	Yavatmal	Wani	Wadjapur
5105	Yavatmal	Wani	Nawargaon
5106	Yavatmal	Wani	Babapur
5107	Yavatmal	Wani	Pimpalgaon
5108	Yavatmal	Wani	Kumbhari
5109	Yavatmal	Wani	Ukani
5110	Yavatmal	Wani	Niljai
5111	Yavatmal	Wani	Belora
5112	Yavatmal	Wani	Naigaon Bk.
5113	Yavatmal	Wani	Chincholi
5114	Yavatmal	Wani	Borgaon
5115	Yavatmal	Wani	Junada
5116	Yavatmal	Yavtmal	Madkona
5117	Yavatmal	Yavtmal	Warzadi
5118	Yavatmal	Yavtmal	Kamathawada
5119	Yavatmal	Yavtmal	Zuli
5120	Yavatmal	Yavtmal	Paunmari
5121	Yavatmal	Yavtmal	Manjarda
5122	Yavatmal	Yavtmal	Moha
5123	Yavatmal	Yavtmal	Borgaon
5124	Yavatmal	Yavtmal	Murzadi
5125	Yavatmal	Yavtmal	Dorli
5126	Yavatmal	Yavtmal	Yevati

Sr. No.	District	Taluka	Village
5127	Yavatmal	Zari Jamani	Pandharkawada
5128	Yavatmal	Zari Jamani	Ganeshpur Kh
5129	Yavatmal	Zari Jamani	Govindpur
5130	Yavatmal	Zari Jamani	Sawali
5131	Yavatmal	Zari Jamani	Pimparad
5132	Yavatmal	Zari Jamani	Marki Bk
5133	Yavatmal	Zari Jamani	Mangali
5134	Yavatmal	Zari Jamani	Hirapur
5135	Yavatmal	Zari Jamani	Kamalpur
5136	Yavatmal	Zari Jamani	Ardhawan
5137	Yavatmal	Zari Jamani	Bhendala
5138	Yavatmal	Zari Jamani	Khapari
5139	Yavatmal	Zari Jamani	Bailampur
5140	Yavatmal	Zari Jamani	Rajur
5141	Yavatmal	Zari Jamani	Pawanar
5142	Yavatmal	Zari Jamani	Adakoli

Annexure –II

Design No.3.1 Shadenet house (RTSNH 5 M)
18 m X 28 m = 504 Sq.mtrs.



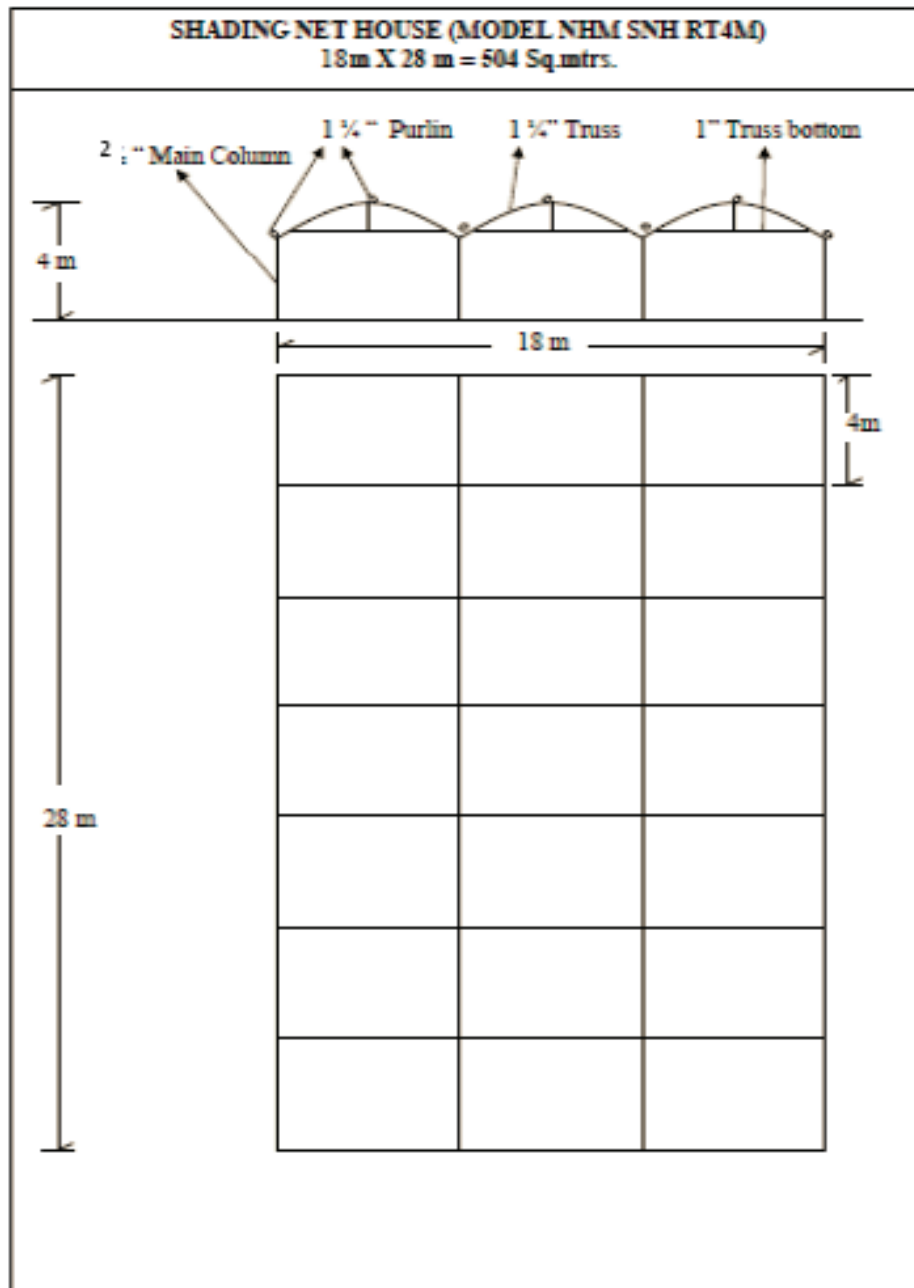
The detail estimates of RTSNH-5M models

Table 3.1 The detail estimates of **RTSNH-5M-500** model

Model	RTSNH-5M-500
Structural material	G.I. Pipes
Size	504 sq m
Dimensions	18 m x 28 m
Height	Minimum 5 m at center

Sr. No.	Particulars	Rate (Rs)	Unit	18 m x 28 m	
				504	
				Quantity	Amount
A	Cost of Material				
1	GI Pipes	65	Kgs.	2225	144625
2	Shade Net (Tapenet on roof)	30	Sq.mtrs	653	19590
3	Insect Net (on sides)	40	Sq.mtrs	313	12520
4	Laminated woven film (apron)	45	Sq.mtrs	148	6660
5	Aluminium Profiles	40	Mtrs.	223	8920
6	Locking spring	6	Mtrs.	324	1944
7	Self drilling tapping Screws	1.5	Nos.	426	639
8	Clamps & Accessories	15	Sq.mtrs	504	7560
9	High Tensile Nuts & Bolts	8	Sq.mtrs	504	4032
10	UV stabilised FRP-Door	2000	Nos.	1	2000
	Sub Total				208490
	VAT	5%			10425
	Total Material Cost				218915
B	Foundation-civil material	150	Nos.	34	5100
C	Labour Cost				
1	Fabrication	48	Sq.mtrs	504	24192
2	Foundation	120	Nos.	34	4080
3	Installation	48	Sq.mtrs	504	24192
	Total Labour cost				52464
D	Service Tax on Labour cost	14.00%			7345
E	Transport cost	2.00%			4170
F	a) Control Head - 500	78	Rs/Sq.mtr	504	39312
	b) Irrigation System	25	Rs/Sq.mtr	504	12600
	c) Fogging System	25	Rs/Sq.mtr	504	12600
	Irrigation System	128	Rs/Sq.mtr	504	64512
	Grand Total				352505
	Total Unit Rate		Rs/Sq.mtr		699

Design No.4. 1 Shadenet house (RTSNH 4 M)18 m X 28 m = 504 Sq.mtrs.



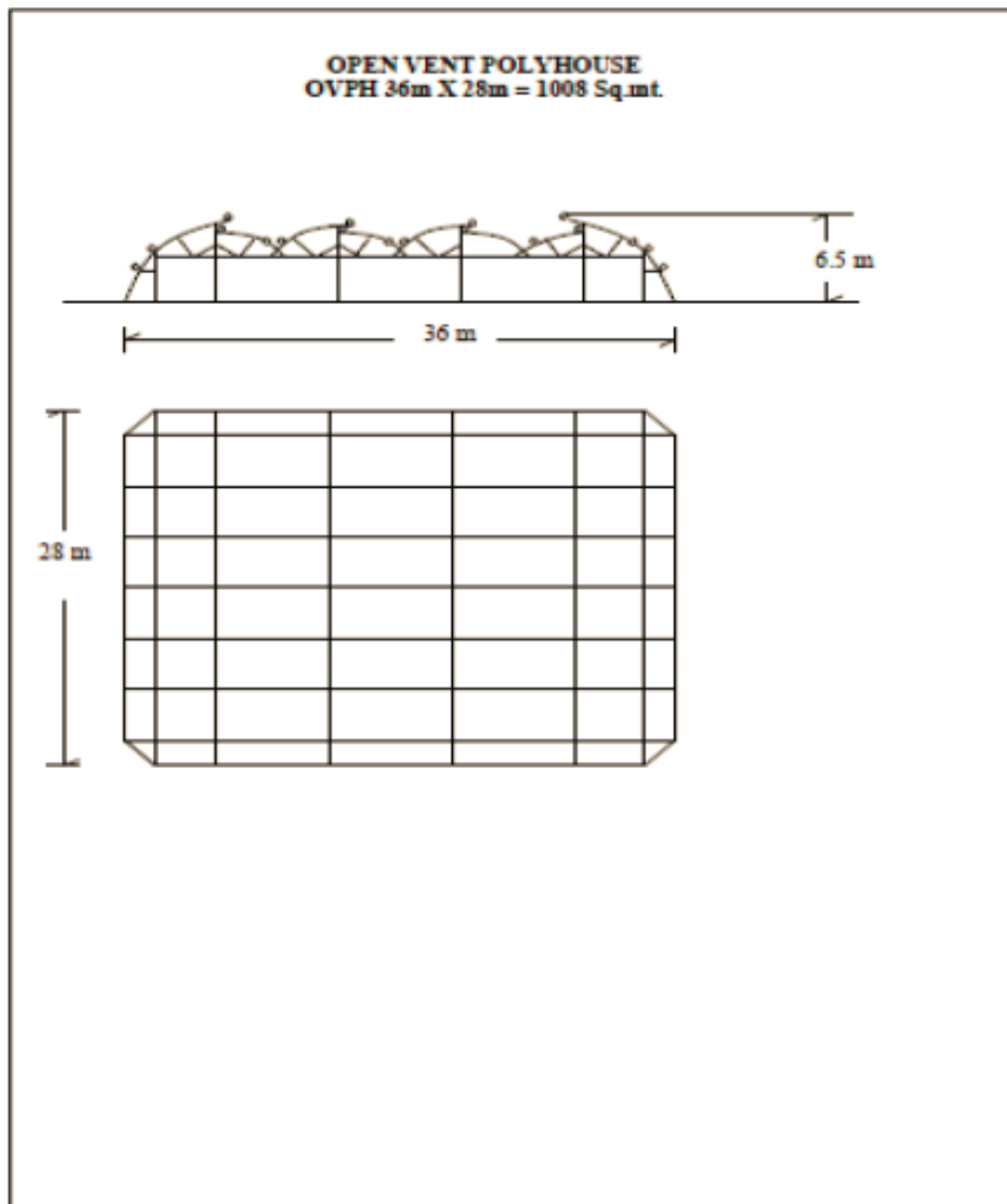
The detail estimates of RTSNH-4M models

Table 4.1. The detail estimates of **RTSNH-4M-500** model

Model	RTSNH-4M-500
Structural material	G.I. Pipes
Size	504 sq m
Dimensions	18 m x 28 m
Height	Minimum 4 m at center

Sr. No.	Particulars	Rate (Rs)	Unit	18 m x 28 m	
				504	
				Quantity	Amount
A	Cost of Material				
1	GI Pipes	65	Kgs.	1700	110500
2	Shade Net (Tapenet on roof)	30	Sq.mtrs	653	19590
3	Insect Net (on sides)	40	Sq.mtrs	206	8240
4	Laminated woven film (apron)	45	Sq.mtrs	148	6660
5	Aluminium Profiles	40	Mtrs.	208	8320
6	Locking spring	6	Mtrs.	303	1818
7	Self drilling tapping Screws	1.5	Nos.	397	596
8	Clamps & Accessories	15	Sq.mtrs	504	7560
9	High Tensile Nuts & Bolts	8	Sq.mtrs	504	4032
10	UV stabilised FRP-Door	2000	Nos.	1	2000
	Sub Total				169316
	VAT	5%			8466
	Total Material Cost				177781
B	Foundation-civil material	150	Nos.	34	5100
C	Labour Cost				
1	Fabrication	45	Sq.mtrs	504	22680
2	Foundation	120	Nos.	34	4080
3	Installation	45	Sq.mtrs	504	22680
	Total Labour cost				49440
D	Service Tax on Labour cost	14.00%			6922
E	Transport cost	2.00%			3386
F	a) Control Head - 500	78	Rs/Sq.mtr	504	39312
	b) Irrigation System	25	Rs/Sq.mtr	504	12600
	c) Fogging System	25	Rs/Sq.mtr	504	12600
	Irrigation System	128	Rs/Sq.mtr	504	64512
	Grand Total				307141
	Total Unit Rate		Rs/Sq.mtr		609

Design No. 1. 3 Open Ventilated Polyhouse.(1008 Sq.mtrs)
OVPH 36 m X 28 m =1008



The detail estimates of NHM-OVPH models

Table 1.3 The detail estimates of NHM-OVPH-1000 model

	Model	NHM-OVPH-1000					
	Structural material	G.I. Pipes					
	Size	1008 sq m					
	Dimensions	28 m x 36 m					
		36 m x 28 m					
	Height	Minimum 6 m at center					
Sr. No.	Particulars	Rate (Rs)	Unit	28 m X 36 m		36 m X 28 m	
				1008		1008	
				Quantity	Amount	Quantity	Amount
A	Cost of Material						
1	GI Pipes	65	Kgs.	6156	400140	6235	405275
2	UV stablised Poly Film	55	Sq.mtrs	1809	99495	1862	102410
3	GI Gutter	65	Kgs.	287	18655	325	21125
4	Aluminium Profiles	40	Mtrs.	676	27040	699	27960
5	Clamps & Accessories	22	Sq.mtrs.	1008	22176	1008	22176
6	Shade Net (Tapenet on roof)	30	Sq.mtrs.	840	25200	832	24960
7	Insect Net (on sides)	40	Sq.mtrs.	353	14120	353	14120
8	Laminated woven film (apron)	52	Sq.mtrs	176	9152	176	9152
9	Locking spring	6	Mtrs.	983	5898	1017	6102
10	High Tensile Nuts & Bolts	8	Sq.mtrs.	1008	8064	1008	8064
11	Self drilling tapping Screws	1.5	Nos.	1290	1935	1335	2002.5
12	GI Wire	55	Kgs.	24	1320	24	1320
13	Plastic Rope	4	Mtrs.	231	924	218	872
14	Curtain Clamps	10	Nos.	93	930	93	930
15	Pulley assembly	30	Nos.	16	480	12	360
16	Curtain Rings	2	Nos.	108	216	84	168
17	UV stabilised FRP-Door	2000	Nos.	1	2000	1	2000
	Sub Total				637745		648997
	VAT (compulsory)	5%			31887		32450
	Total Material Cost				669632		681446

B	Foundation-civil material	150	Nos.	83	12450	82	12300
C	Labour Cost						
1	Fabrication	64	Sq.mtrs.	1008	64512	1008	64512
2	Foundation	120	Nos.	83	9960	82	9840
3	Installation	64	Sq.mtrs.	1008	64512	1008	64512
	Total Labour cost				138984		138864
	Total				821066		832610
D	Service Tax on Labour cost	14.00%			19458		19441
E	Transport cost	2.00%			12755		12980
F	a) Control Head - 1000	67	Rs/Sq.mtr	1008	67536	1008	67536
	b) Irrigation System	25	Rs/Sq.mtr	1008	25200	1008	25200
	c) Fogging System	25	Rs/Sq.mtr	1008	25200	1008	25200
	Irrigation System	117	Rs/Sq.mtr	1008	117936	1008	117936
	Grand Total				971215		982967
	Total Unit Rate		Rs/Sq.mtr		964		975
	Eligibility as per MIDH Guidelines		Rs/Sq.mtr		935		935

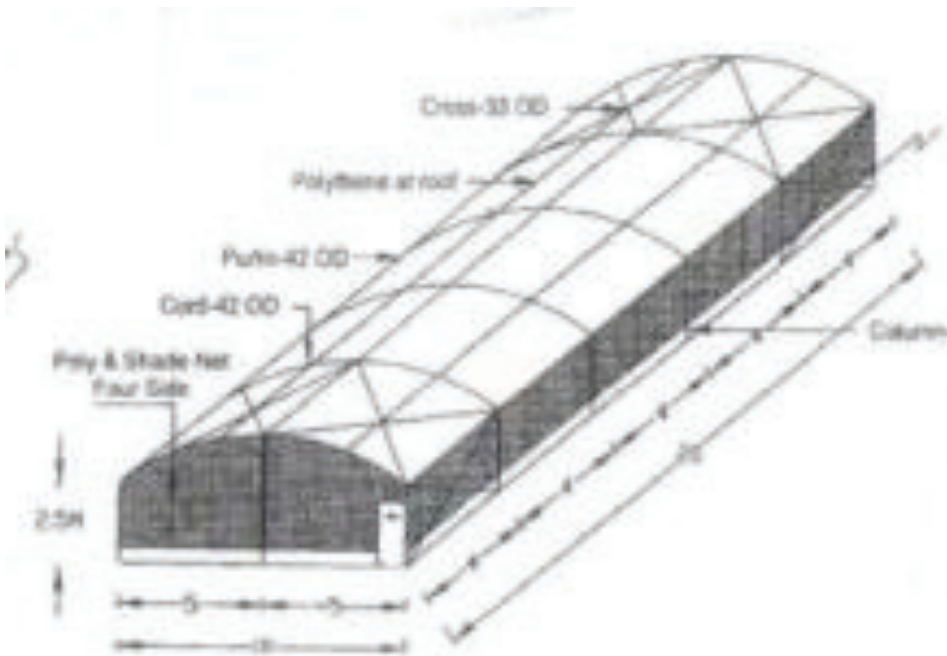
Plastic Tunnel-

It is low cost model used for cultivation of vegetables, hardening of grafts/saplings & floriculture. PVC or LDPE plastic film of 40 to 920 micron & plastic net of 20 mesh is used for setting up of plastic tunnel.

The length is kept up to 30 M for ease of operations. Metal or cane material can be used in construction of plastic tunnel.

Site Selection-

- 1) It should be well drained site.
- 2) It will get maximum sun light
- 3) Tunnel length should not be across the wind direction.



Pack House

It is a physical structure where harvested produce is consolidated and prepared for transport and distribution to markets. Various operations include cleaning, sorting/grading, pre-treatments, packing, cooling, storage and dispatch to market

Component Description

A modern integrated pack-house unit enables small lot sourcing of horticulture produce, and should be built close to farming area.

A maximum admissible cost norm of 50 lakhs per integrated pack-house unit is applicable for each beneficiary. The actual value of the equipment will vary as per design options.

The unit capacity of an integrated pack-house is considered at 16 MT per day and is considered for output of 2MT/hour sorting grading line, running for 8 hours a day. The design capacity of each project will be considered pro-rata – for example a 32 MT per day throughput will be equivalent to 2 pack-houses.

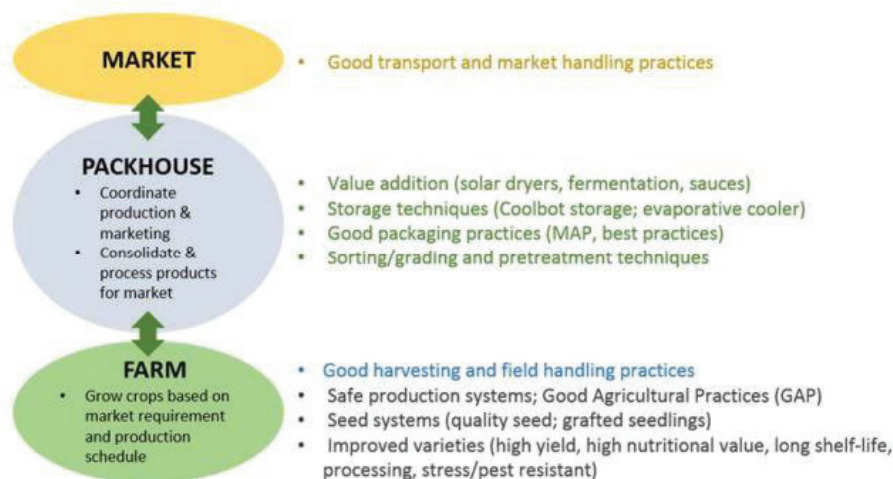
The included equipment are weighing scales, mechanised facilities like conveyer belt for sorting, grading units and where applicable washing, drying units.

The component “Integrated Pack-house” includes:

1. Receiving area, covered: a covered shaded area for arriving produce to be off-loaded and undergo pre-selection and weighing.
2. Enclosed covered sorting and grading area: a food handling hall with mechanised handling and cleaning equipment.
3. Sorting and grading conveyors: mechanised roller or belt based system to allow working personnel to selectively pick and choose produce for next activity, capable of handling 15 MT of output per day. Water based conveyor system used for some crops.
4. Washing/Drying equipment: where required, mechanised washing and drying lines.
5. Packaging area: designated area where produce is manually packaged into market lots.
6. Electricity generator: a DG set to produce power for equipment operations. Where alternate energy options (bio-mass based generators, solar powered generators, etc.) are used, add-on technology component (MIDH Appendix II - xv) will apply.

An area of 9 x 18 metres is the indicative minimum enclosed area for each pack-house. Each pack-house appraised under this component should have minimum equipment to facilitate the basic sorting and grading. Additionally washing, drying and weighing equipment can also be installed so that product is readied for packaging. In special cases, such as bulk storage for perishables like apples, sorting grading facility is built adjoining the storage facility

to sort storable quality. These pack-house facilities can handle upto 150MT per day. Where the sorting grading line incorporates electronic sorting, the related add-on technology component can be applied for.



Reference Data Sheet

#	Component: Integrated Pack house	Description
1	Pack house Handling capacity	Specify total incoming volume of raw produce in MT/day.
2	Products to be handled	Describe the details of the products planned for value addition.
3	Area of the pack house	Specify the total Plinth area of the construction in m2.
4	Receiving Area (L x W x H)m	Provide the dimensions of the receiving, weighing and preliminary handling area.
5	Dimension of the building (L x W x H) m	Provide the total covered area of the building.
6	Handling Area (L x W x H)m	External dimensions of the designated sorting, grading, cleaning and packing area.
7	Roof Details	Provide the construction material and specifications of roof.
8	Outer walls and Flooring Details	Description of the outer walls and flooring of enclosed area (food grade materials).
9	Lighting - Internal and External	Type of lighting used (CFL/LED/Normal – total numbers and wattage).
10	Door/ Window Details	Number and Dimensions of openings - doors and windows.
11	Pest control details	Number and details of pest control used (air curtains, other equipment, etc.).
12	Fumigation Details	Specify the details of fumigation if used.
13	De-sapping tables	Specify use of de-sapping tables if used.
14	Mechanised Conveyor system & capacity	Dimensions of conveyor system – belt or roller based, and throughput handling capacity in tons/hour.

15	Washing and Drying machinery (if used)	Specify the details of throughput capacity/motors/pumps/belts used.
16	Power generating unit	Details of electric generator installed (kVA). If using alternate energy or hybrid systems, provide specifications.
17	Inclusion of Pre-cooling chamber in pack-house	Yes/No
18	Inclusion of staging cold-room in pack-house	Yes/No
19	Layout Drawing	Provide layout drawings of the complete pack house including pre-cooler and staging cold room.

All mandatory rules & regulations (BIS, ISO, IS etc.) relevant to the item must be complied with.

Sources:

- **Guidelines & minimum System Standards for Implementation in Cold-chain Components**, by NCCD

Ripening Chamber

Ripening is the process by which fruits attain their desirable flavor, quality, color and other textural properties.

On the basis of ripening behavior, fruits are classified as:

- i. **Climacteric:** Climacteric fruits are defined as fruits that enter 'climacteric phase' after harvest i.e. they continue to ripen. During the ripening process the fruits emit ethylene along with increased rate of respiration. Ripe fruits are soft and delicate and generally cannot withstand rigors of transport and repeated handling. Small dose of ethylene is used to induce ripening process under controlled conditions of temperature and humidity. Climacteric fruits are mango, banana, papaya, guava, sapota, kiwi, persimmon, fig, apple, passion fruit, apricot, plum and pear.
- ii. **Non-Climacteric:** Non-climacteric fruits once harvested do not ripen further. Non-climacteric fruits produce very small amount of ethylene and do not respond to ethylene treatment. There is no characteristic increased rate of respiration or production of carbon dioxide. Non-climacteric fruits are citrus, pineapple, grape, strawberry, pomegranate, lichi, watermelon and cherry.

Sl.No	Items / Particulars	Minimum Technical Specification
1	Civil Structure-building design	<ol style="list-style-type: none"> i. Structural Safety – Structural design as per BIS Code ii. Adherence to local Building Regulation iii. Concrete floor with sufficient load bearing capacity. iv. Chamber size is not smaller than 50 Cu M for preventing v. Building up of high concentration of ethylene.

2	Ripening Room Dimensions	<ul style="list-style-type: none"> i. Ripening Room dimensions will depend on number of tiers and number of pallets to be stored. ii. Number of chambers may vary from four to eight depending on ripening cycle in terms of number of days. Chambers will be generally identical in dimension. iii. Further Increase in number of chambers in multiple of ripening cycle may be undertaken but situation in which mechanized handling is possible, multi tier ripening chamber is an alternative option available. Number of tiers may go up to three.
3	Ripening Room Construction	<p>Construction Features</p> <ul style="list-style-type: none"> i. Ripening Room Chambers should be designed and constructed to hermetically seal with appropriate closures / doors. The key feature of ripening rooms is that conditioned air is forced through the product rather than the product just being stored in a temperature controlled room. The system passes air through each pallet or series of pallets before returning to the evaporator. Therefore, any “air-stacking” or “cross-stacking” of boxes is not necessary, and the result is less space requirement, lesser handling of the fruit and improved product quality. It is for this reason that they are recommended even for ripening of fruits in crates and are mandatory for fruits in CFB boxes and single or multi-tier stacking system. ii. The airflow within the ripening rooms is to be designed to penetrate all boxes of fruit with an even airflow throughout the room resulting in all fruit being ripened uniformly. Recommend air flow is 0.3 cfm per pound of bananas or 2000 m³/ per hour / per metric ton of product. If the pulp temperature difference between the warmest and coolest fruit is less than 1oF or 0.55oC then there is adequate airflow. Plenum chamber is recommended so as to equalise pressure through the product for uniform distribution/flow of air and ethylene through the product. iii. Ripening rooms may be constructed of PUF panels or by application of suitable thermal insulation with vapour barrier and cladding on walls, floor and ceiling of civil structure. Panels are prefabricated building components filled with insulation, clad on both sides with facing materials and arranged with a jointing means to connect panels and may be preferred. In any case, inner chamber surface should be of food grade cladding. iv. The insulation envelope shall be designed to ensure that air pressure created by fans does not affect the integrity of the cold store structure or the panel joints.

		<ul style="list-style-type: none"> v. The height of wall panels is often such that care must be taken to ensure that adequate stability of the wall panels is maintained. If ceiling support are provided, the Ceiling support system shall be connected to the main structure in a manner which takes into account: <ul style="list-style-type: none"> a. The method of supporting the insulating ceiling panels, b. The position of the supports to avoid local over stress within the supports, the suspended ceiling or the main structure, c. The expansion and contraction of the main structure.
4	Ripening Room Doors	<p>Ripening doors should be designed for minimal gas leakage. In general.</p> <ul style="list-style-type: none"> i. For single tier loading, hinged doors, and in some cases, sliding doors are used. The doors should be designed for rugged operation and easy access for incoming and outgoing fruits on pallets. ii. When stacking is multi-tier and handling of pallets is mechanised, wider openings of doors are required. iii. Care should be taken when positioning doors adjacent to fans to avoid ingress or egress of air as significant changes in store pressure can occur when such doors are opened. Where possible the door should be located on the external (warm side) of the cold store insulation. iv. Suitable gaskets shall be provided to form a seal around the door opening. v. Large doors shall be supported by a sub-frame independent of the insulating panels. vi. Automatic doors shall open and close promptly. vii. Automatic doors shall incorporate a safety device to avoid injury to personnel or damage to product in the case of accidental closure. viii. All doors required for means of escape purposes shall be easily and immediately operable from the inside at all times. Doors, which open automatically, are not acceptable for means of escape unless they have a manual override and can be opened manually in the event of a power failure. ix. In case of multi tier stacking, doors are rolling up type and therefore, following desirable safety features for doors should be ensured. <ul style="list-style-type: none"> a) Internal Door Release b) Bottom Edge Pressure Operated Safety Stop c) Cable Break Electrical Safety Stop d) Spring Break Mechanical Safety Stop e) Vision Panel with emergency Knock out panel

		<p>f) Vertical “D” section flexible seal for effective sealing in condition of reverse airflow for uniform ripening. Seal should be strong enough to withstand impact from pallets during loading operations and flexible enough to create an adequate seal between air distribution system and product. Horizontal pallet seals should be supported continuously along the full length of room but should be easy to remove a seal for cleaning or replacement.</p> <p>g) Door protection by Goal Post Protection which protect door perimeters or Single Fixed Bollards doors suitable for ripening chamber.</p>
5	Insulation material	<p>i. Insulation Material</p> <p>a) Some manufacturers recommend Rockwool or Polyisocyanurate (PIR) core composite panels for fire proofing. However, Polyurethane (PUR) Foam / EPS /Extruded polystyrene are also used.</p> <p>b) PUF panels are advisable for ripening chambers. Minimum 60 mm thick up to 120mm thick (PUF) insulated sandwiched panel (minimum density of 40 Kg / M3) depending on the design requirements; or any other insulation material having minimum R value of 2.6 M2.K / W are recommended for easy in-situ construction and vapour barrier effect. Floor shall have PUF slab 60 mm (minimum density of 40 Kg / M3) or any other equivalent insulating material is recommended.</p> <p>c) Covering floor insulation with 100mm concrete is recommended. Floor finish should be smooth with polymer coating so has to be kept clean.</p> <p>ii. Facing Materials- One of the following coverings may be used; the first three are used more frequently than the others and a minimum total coated thickness of 0,5 mm is recommended. A vapour seal shall be used on the outer facing of materials, which are permeable, such as brick masonry:</p> <p>a) Galvanized steel sheeting</p> <p>b) Suitable plastic coated galvanized steel sheeting</p> <p>c) Polyester coated galvanized steel sheeting</p> <p>d) Stainless steel sheeting</p> <p>e) Aluminium sheeting</p> <p>f) Aluminium/zinc protected steel sheeting</p> <p>g) Glass reinforced plastics</p> <p>iii. Adhesives</p>

		<p>a) Certain adhesives have a combustible solvent base which can be absorbed by and remain in the panel insulation. These solvents should, therefore, be avoided.</p> <p>b) Certain adhesives should be stored under controlled conditions and the manufacturer's requirements should be strictly observed; many adhesives have a maximum shelf life.</p> <p>c) Adhesives should not have a lingering taint</p>
6	Temperature & Humidity levels	Ripening is preferred at a lower temperature but above level of chilling injury. System has to be designed to achieve prescribed ripening conditions in terms of temperature and relative humidity for target fruits. Generally, RH level of 90- 95% is recommended to prevent moisture loss.
7	Heat Load Calculation and Refrigerant	Cooling and heating system needs to be designed based on heat load calculation. As per Kyoto Protocol standards, any eco friendly refrigerant should be used including ammonia, R-134a and R 404a.
8	Cooling / Heating coils and plenum chamber	<p>i. Cooling coils are manufactured from Copper or Stainless chamber Steel Tubes and Aluminium Fins. The coils must provide exceptionally large surface area to ensure high natural humidity levels within ripening rooms. In case of ammonia as refrigerant, copper tube shall not be used.</p> <p>ii. In case of a plenum chamber; cooling coils and fans must be easily accessible via single access hatch located above or at the end of the plenum chamber at roof level. Ceiling voids should be fully illuminated to facilitate inspection of coils at regular intervals.</p> <p>iii. Electric heating elements should be used for heating ripening room during lower temperature season as per design requirement and be placed in easily accessible locations. Open flame type chamber heating should never be used due to explosive nature of ethylene.</p> <p>iv. Fixing of the cooler shall be arranged to avoid disturbance of the ceiling panel support system. Ceiling panels in the vicinity of the cooler units will be subjected to continual variations in temperature and therefore, relative movement during defrost cycles.</p>
9	Material to be used for ripening	Ethylene gas with suitable detection and dosing equipment to maintain ethylene concentration within required levels depending on product (Range 10 to 200 ppm).
10	Ethylene Generator and Dosing device	<p>i. Ethylene may be introduced in ripening chambers in one of the three ways- by using independent ethylene generator with regulator; ethylene cartridges and ethylene-nitrogen mixture (5% ethylene + 95% nitrogen) cylinder. Whichever method is used, the duty holder should ensure that there are adequate means of dispersing the ethylene gases throughout the ripening room on its release.</p>

		<ul style="list-style-type: none"> ii. Centralized Ethylene supply with Automation for multiple chambers for controlled and safe dosing of ethylene may be preferred for larger units. iii. If a generator containing ethanol based solution requires to be moved, it should be switched off, the mains cord removed from the socket outlet, and the manufacturer’s instructions closely followed. iv. It may be borne in mind that ethylene in concentration above 27000 ppm may explode.
11	Specification for Air circulation system	<ul style="list-style-type: none"> i. Minimum air flow should be 2000 M3 per hour, per MT of product ripened at 95%. ii. In Ripening Units type-1, air circulation is modified for uniform ripening by introduction of system of Tarp, Tarp/ Lock Sock System / Air Bag for Vertical Air Circulation or Horizontal Air Flow. iii. In case of Ripening Units type -2, air circulation fans should have adequate static pressure for uniform air/ ethylene flow through the ventilation holes provided in the CFB boxes/ Plastic Crates / Plastic Bags containing fruits. For this, large diameter, reversible axial flow fans should be installed in the false ceiling accessible via a single access hatch for air supply under pressure. Each fan should preferably be equipped with venturi inlet to provide maximum efficiency throughout the ripening process. In such cases, pallet isolation must be provided for energy savings in part load conditions by providing a series of isolation dampers along the length of the ripening chamber. This function is operated by making proper selection for pallet isolation on Computerized Ripening Room Management System.
12	Ventilation System	<ul style="list-style-type: none"> i. When fruits are ripening, they release carbon dioxide which will build up in a ripening room. The CO2 production begins as the fruit ripens enters the “climacteric” phase, or the period when bananas release ethylene and have an elevated rate of respiration (along with a great deal of other physiological changes). Respiration involves the uptake of oxygen, the release of carbon dioxide, and the breakdown of starches. Carbon dioxide concentrations above 1% (10,000 ppm) will retard ripening, delay the effects of ethylene and cause quality problems. Suitable venting system consisting of fans/dampers/open – shut valves should be installed to maintain CO2 concentration below 5000 ppm. ii. In ripening rooms Type-1, ventilation may be automatic or manual. iii. In case of ripening rooms type-2 with pallet isolation, ventilation may be provided by a roof mounted fan which is identical in specification to the pressure fans.

		<p>iv. In case of automatic forced air exhaust / ventilation system with ducting, a dual inlet / discharge damper operates in parallel with the fan to allow fresh air from outside to replace the air within the room when vent is required. Automatic exhaust fans (either timed or sensor based) or “flow-through” (constant) ventilation are provided at two locations (one near ceiling of chamber and another a little above floor level) in each chamber. This also evacuates the ethylene after the desired exposure period and helps to maintain CO2 concentration low (below 5000 ppm) during the ripening cycle for proper ripening. In such cases, pening and shutoff actuators/ valves control is affected by CO2 sensor and timer device.</p>
13	Sensors and Control devices	<p>a) Suitable sensors and controlled devices should be used for maintaining following parameters. For this, temperature & humidity loggers and Ripening Chamber Air Analysis Kit (for Ethylene and CO2 levels) may be used.</p> <ul style="list-style-type: none"> i. Temperature ii. Relative humidity iii. Ethylene concentration iv. CO2 Concentration <p>b) PLC device also known as Ripening Room Management System – “RMS” is must in Ripening Unit Type-2. The controller provides total control of the ripening system allowing operators secure and password protected access to following functions.</p> <ul style="list-style-type: none"> c) Clear real time temperature display and control d) Fan speed and energy usage e) Ventilation intervals f) Relative humidity indicator and control g) Ethylene level monitoring and regulation h) Door control i) Lighting control j) Pallet loading and isolation k) Differential Pressure Display Differential Pressure Display provides the ripener with an indication of air pressure drop cross the fruit pallets. This information along with information from Temperature. Ethylene gas sensors located inside chamber, within pallets and within boxes / plastic bags, is used to determine the setting of the inverter drive based on factors such as the type of product packaging and fruit, amount of pallets in the room and current stage of the ripening process. The RMS for multi chamber pressure ripening system should preferably be able to be configured to allow all rooms to be viewed and controlled locally and, or remotely.

14	Electrical plug point	<ul style="list-style-type: none"> i. For operating Portable Ethylene Generator, an Electrical Plug point is required inside the room. Metal Clad Plug point in the Metal Socket housing with the independent circuit breaker system, in order to isolate the system independent with the rest of the System, is recommended. ii. For centralized gas emission, no electrical connections are required inside the room.
15	Pallet Racking and Material Handling	<ul style="list-style-type: none"> i. Ripening unit with single tier stacking should have a manually operated pallet lifting and carrying device. Pallet racking system comprises of box section construction which may be designed as per BS 5950 or equivalent IS standards for strength and cleanliness, providing easy access for pallet loading at high level. ii. For multi-tier stacking motorized forklift should be provided. In such cases, in order to assist loading at upper levels, fork lift guides are to be installed to form a centre aisle which are strengthened by back filling with concrete. These guides are to be tapered at the front. To facilitate loading and centralizing the fork lift truck in the drive in racking, the middle and upper tiers of racking are offset from the lower tier. An access ladder is also provided to the rear wall for access to an optional grated walkway at middle and upper pallet levels.
16	Some Useful Appliances and Instrument	<p>Weighing Scales and Fruit Inspection Instruments such as follows</p> <ul style="list-style-type: none"> a) Weighing Scale b) Firmness Tester c) Refractometer d) Sizers and Callipers e) Produce Knife
17	Safety Certification	<ul style="list-style-type: none"> i. Various fire detection and prevention systems and devices are commercially available and use of these is good practice. They include detectors for heat and smoke; fixed water-sprinkling system, inert gas snuffing systems smoke release valves, flameproof barriers, fire breaks formed by the separation of chambers, etc. All devices used shall have been tested at low temperatures and shown to be satisfactory. ii. Certification for safe storage of ethylene and for system for prevention of ignition and explosion from competent authority, as per statutory requirement, if any, must be taken. Similarly, safety for workers against suffocation must be ensured. Certification from following Certification Authority is necessary. <ul style="list-style-type: none"> a) Factory Inspector b) Fire Fighting Inspector c) Electrical Safety Inspector

Sources: National Horticulture Board: - Technical Standards and Protocol for the fruit Ripening Chamber in India

Annexure –III & IV

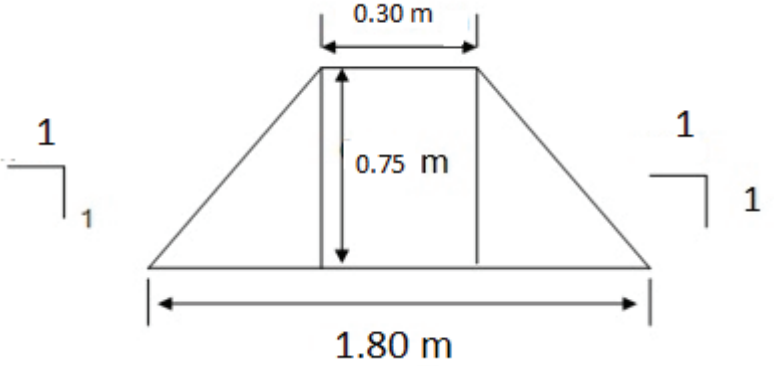
Watershed approach Specified in Guidelines

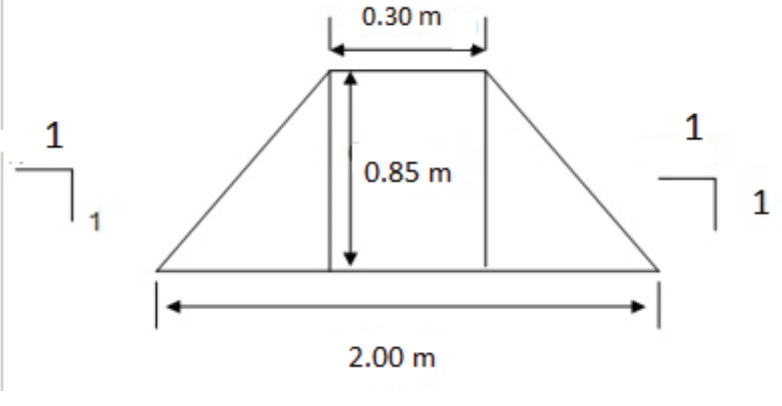
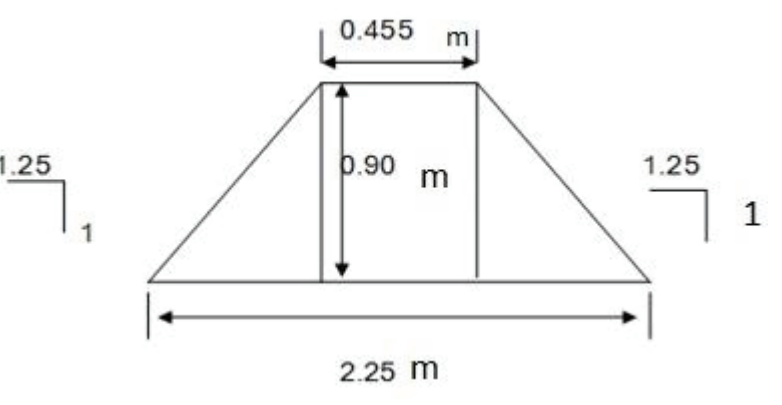
A)Compartment Bunding

Selection of Site-

1. It is a common treatment.
2. Compartment Bunding Treatment is effective for treated as well as non-treated area.
3. Treatment should be executed for area receiving less than 750 mm average annual rainfall
4. Treatment is most appropriate where the slope of the land is upto 4%.
5. Compartment Bunding should be avoided in CCT or TCM treated areas

Diagrams-

Slope - 0 to 4, Soil- Shallow		cross section - 0.80 sq. m

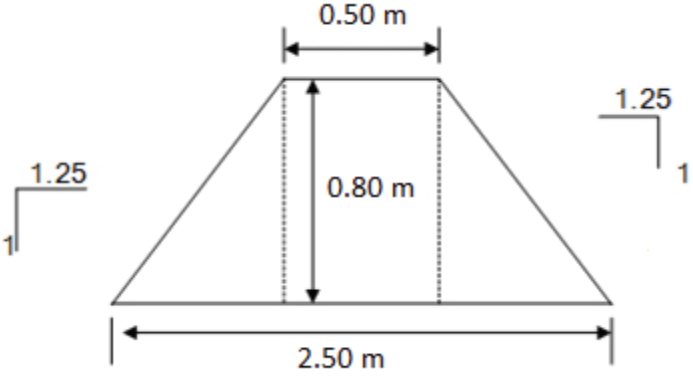
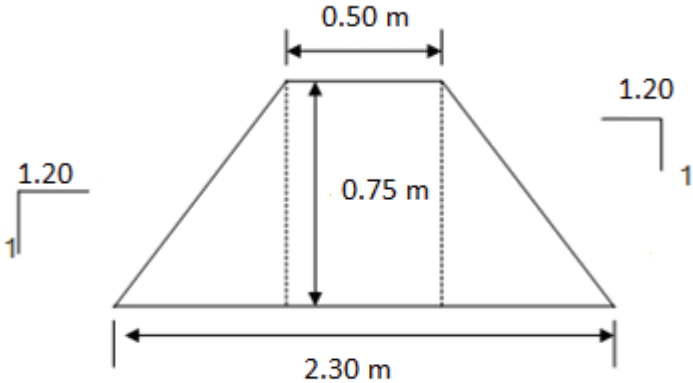
<p>Slope - 0 to 4, Soil-Medium</p>	 <p>Diagram showing a cross-section of a trapezoidal embankment. The top width is 0.30 m, the bottom width is 2.00 m, and the height is 0.85 m. The slope is indicated by a 1:1 ratio on both sides.</p>	<p>cross section - 1.00 sq. m</p>
<p>Slope - 0 to 4, Soil-Heavy</p>	 <p>Diagram showing a cross-section of a trapezoidal embankment. The top width is 0.455 m, the bottom width is 2.25 m, and the height is 0.90 m. The slope is indicated by a 1.25:1 ratio on both sides.</p>	<p>cross section - 1.20 sq. m</p>

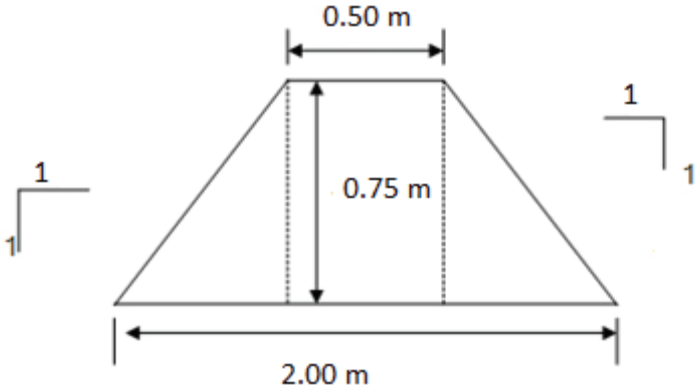
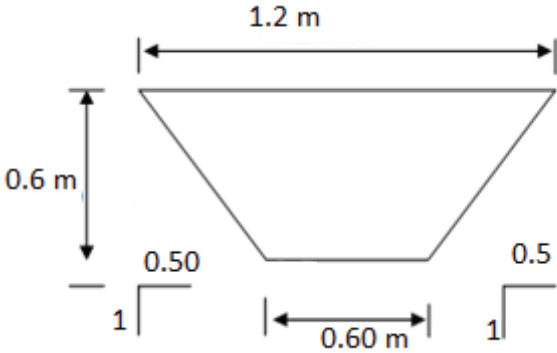
Slope and soil type	Technical Specifications						
	base width (m)	base height (m)	crest width (m)	side slope (m)	trans section of bund (sq m)	length of bund (m)	outlets (no.)
Slope - 0 to 4, Soil- Shallow	1.8	0.75	0.30	1:1	0.80	200	3
Slope - 0 to 4, Soil- Medium	2.00	0.85	0.30	1:1	1.00	200	3
Slope - 0 to 4, Soil- Heavy	2.25	0.90	0.45	1.25:1	1.20	200	3

B) Graded Bunding

Objectives-

1. To check soil erosion
2. To slow down the runoff velocity
3. Ground recharge through water percolation

Heavy Soil		cross section - 1.20 sq. m
Medium Soil		cross section - 1.05 sq. m

Shallow Soil		cross section - 0.95 sq. m
Figure of Farm Trench		Cross section of trench - 0.54 sq m Length of trench - 80.00 m

soil type	Technical Specifications							
	base width (m)	base height (m)	crest width (m)	side slope (m)	trans section of bund (sq m)	length of bund (m)	hay outlets (no.)	farm trench (cu. m)
heavy soil	2.5	0.80	0.50	1.25:1	1.20	95	2	43.20
medium soil	2.30	0.75	0.50	1.20:1	1.05	165	3	43.20
shallow soil	2.00	0.75	0.50	1:1	0.95	210	4	43.20

C) Continuous Contour Trench

Objectives-

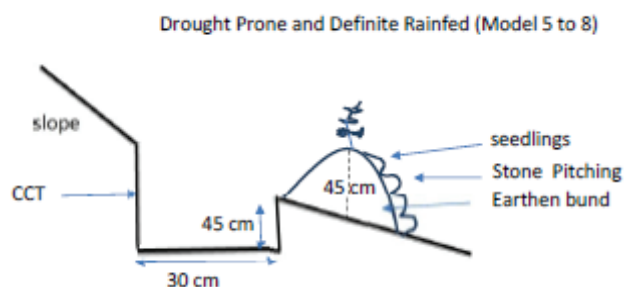
1. To check soil erosion
2. To slow down the velocity of rain water flowing along hill slope
3. To enhance water percolation by trenches and plantation
4. To bring waste land under cultivation
5. To develop marginal treatable waste land substantially

Selection of site —

1. CCT are generally followed on culture able waste land.
2. Approval of waste land holder is necessary.
3. CCT are followed in upper and middle reaches of watershed having slope up to 33%.

Technical specification -

1. Trench Bottom width - 0.60 m
2. Trench depth - 1.00 m
3. Trench top width - 1.90 m
4. Per hectare Trench Length - 102 m



D) Deep CCT:

Objectives-

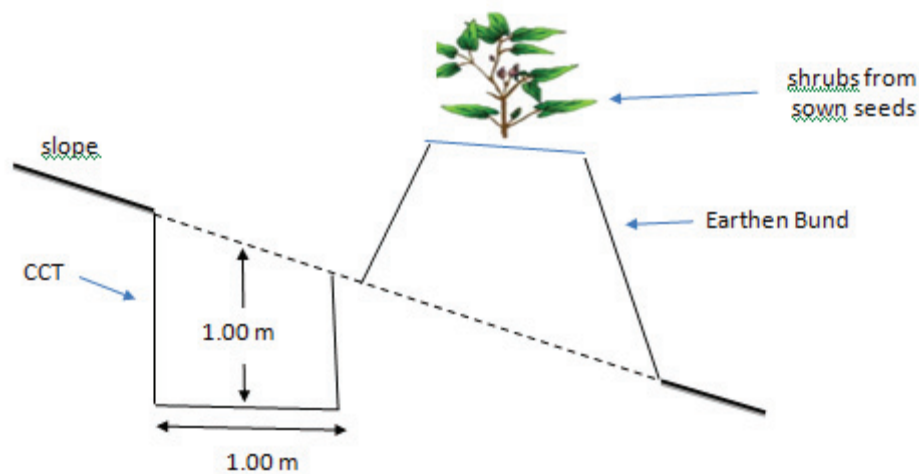
1. To check soil erosion
2. To slow down the velocity of rain water flowing along hill slope
3. To enhance water percolation by trenches and plantation
4. To bring waste land under cultivation
5. To develop marginal treatable waste land substantially

Selection of site —

1. Deep CCTs should be followed in watershed area selected under watershed development scheme.
2. Deep CCTs are constructed on land having slope upto 33%.
4. Deep CCTs should be followed on interested farmer's land who gives Pre Approval in written
5. Beneficiary should be ready to take care and protect plantation along trenches.

Lay out of Construction of Deep CCT

1. Conduct survey of waste land by 30mx30m and get contour lines on toposheet accordingly
2. Using dumpy level, prepare contour line toposheet by 30mx30m and make it sure that slope of land is below 8%.
3. Mark nala, channel, other specific things on toposheet; write survey numbers; draw a line to differentiate the toposheet as per local specific condition; name each part as A, B, C, D,...
4. Deep CCT should be planned on contours only.



E) Ground Water recharge using Tube Well

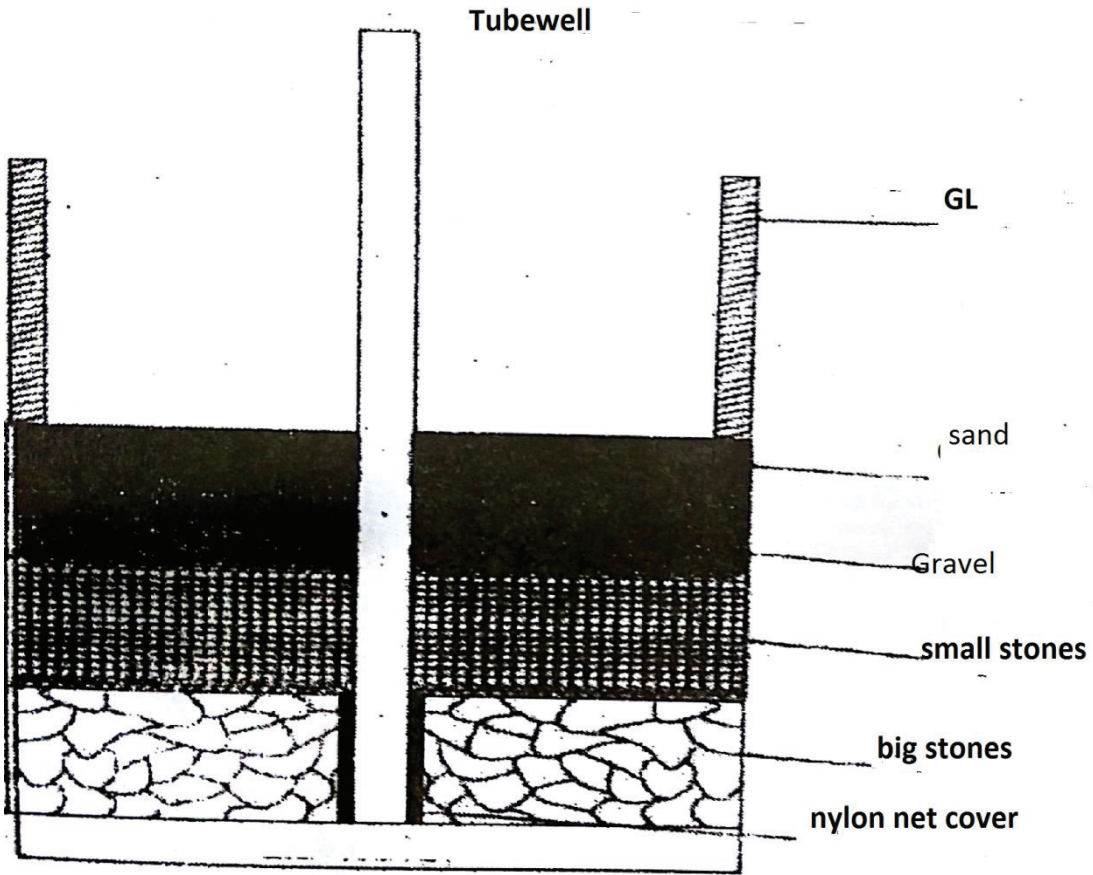
Methodology-

1. Divert stream water near tube well.
2. Pit having size 2x2x2 m is dug around tube well.
3. Holes are made on casing pipe up to ground level at intervals of 1-2 cm.
4. Cover holes with gunny bag.
5. Stones, gravels, sand and cleaned clay should be filled in pit from bottom to top to facilitate filtration.

Precautions-

1. Use Clean, chemical free and salts free water.
2. Industrial waste water should not be used.
3. Filter consisting Stones, gravels, sand and cleaned clay should be cleaned before rainy season.

(pl use following dia.)



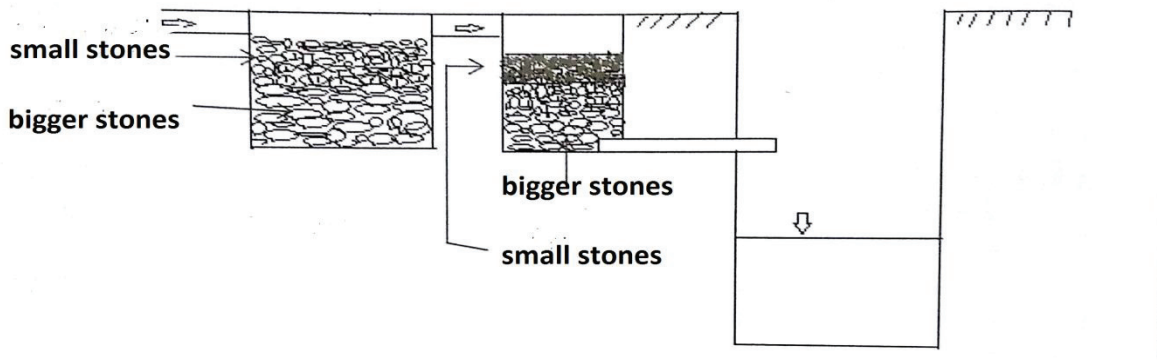
F) Well Recharge

Objectives-

1. Facilitate ground water recharge
2. Enhance the quality of water
3. Improvement in rural livelihood.

Technical specification-

1. Cluster approach according to irrigation and drainage
2. Well should be deep enough and bed rock must had be broken in order to facilitate artificial ground water recharge.
3. Those wells should be selected which could retain minimum water for rabi or water table in moth of October is below 4 m.
4. Select most of the wells of the village for artificial ground water recharge to fulfil the need of village.
5. Saline, low lying land and polluted area should be avoided.
6. Do not allow 1st rain shower and muddy water to enter in filter.
7. Dig trenches to insure availability of water for artificial ground water recharge with the help of beneficiary.
8. Avoid flooded situation.



Annexure-V

A) Farm Pond-

Objective-

The main objective of farm pond is to harvest rainwater, which otherwise would have flowed out of the field. There may be long dry spell induring rainy season. Such prolonged dry spells may actually ruin the kharif crop. The farm pond would be goo source for protective irrigation to avoid crop failure.

Benefits of Farm pond-

1. Enhance ground water recharge
2. Protective irrigations in contingency situation
3. Supplementary irrigations increases crop productivity
4. Minimise the problem of water logged soils
5. Multiple enterprises like fish culture, duck farming increases farmers' income.
6. Food security by enhancing the crop productivity and climate resilience.
7. Facilitate ferti-gation, spraying operations etc.

Types of farm ponds-

1. Dug out type
2. Dugout cum embankment type
3. Spring or creek fed ponds
4. Off stream storage pond

Selection of site-

1. Soil of the dugout should be impermeable so that water can be stored for longer time.
2. Not appropriate in every project of Irrigation Department
3. Soils like Clayey soil, saline soils, gravelly soil and soils with porous rocks are suitable
4. Rainfall should be taken into consideration to determine size of farm pond.
5. Watershed area should be appropriate with farm pond size.

6. Farm pond can be dug out on upper side of terracing.
7. Land slope should be up to 3%.
8. Farmers intervention and pro-activeness is important.

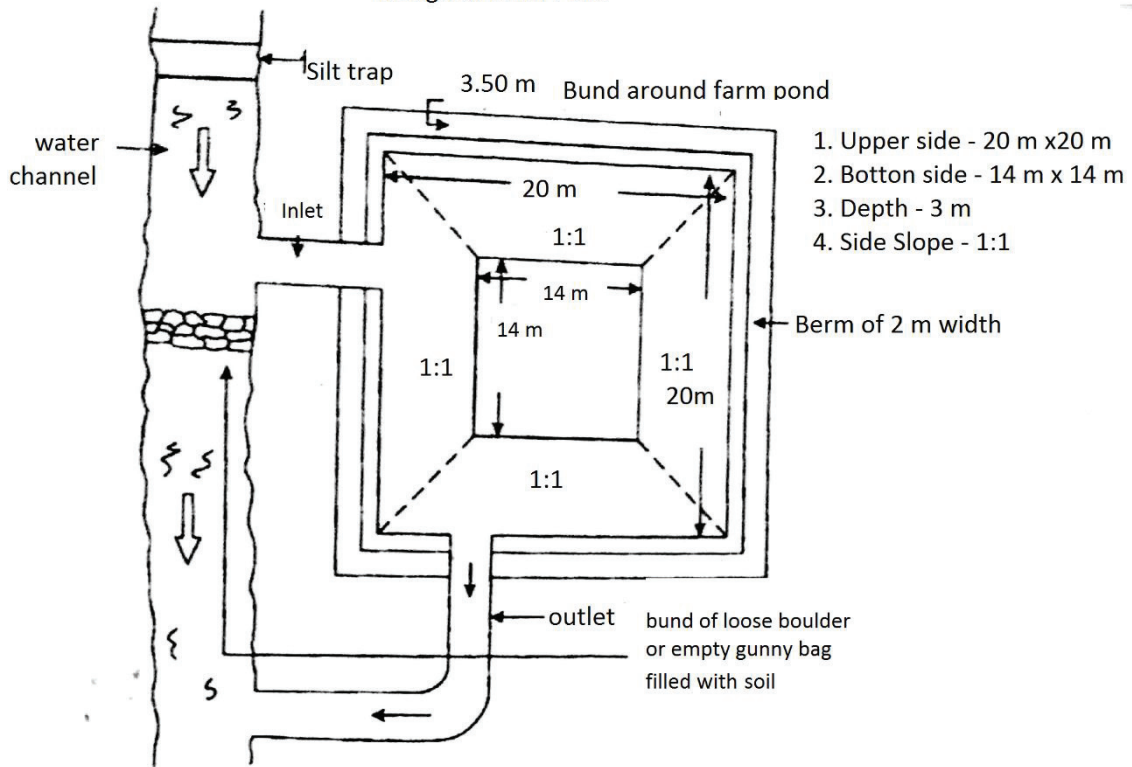
Different sizes of farm ponds-

Farm pond size is depend upon watershed area and drainages-

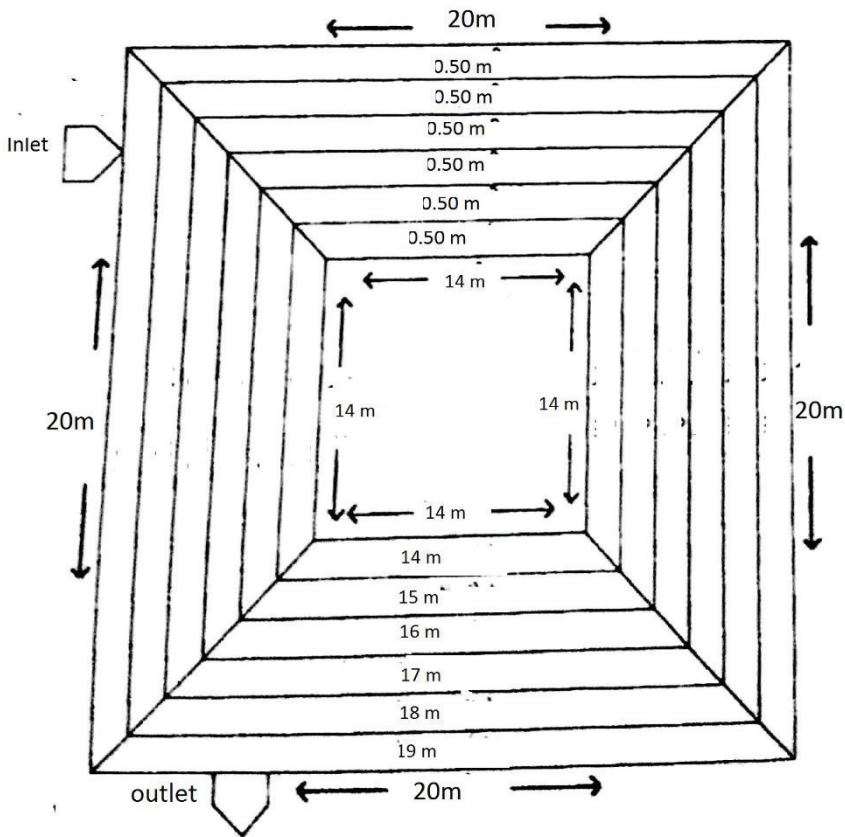
Sr no	Size of farm pond (m)	Water storage (TCM)
1	30x30x3	2.196
2	25x25x3	1.791
3	25x25x3	1.461
4	25x20x3	1.131
5	20x20x3	0.876
6	20x15x3	0.621
7	15x15x3	0.441
8	15x10x3	0.261
9	10x10x3	0.156

If we want to provide 10 cm of protective irrigation to the crop over 1 hectare, we need 1000 cum of water. Volume of water required = Area to be irrigated x depth of irrigation = 1 hectare x 10 cm. = 10,000 sq.m. x 0.1m. = 1000 cum. A DOP whose dimensions are 25m x 20 m x 2.5 m will yield this amount of water. Such a DOP will occupy 25m. x 20m. = 500 sq.m. in 1 hectare, i.e., 5% of the area to be irrigated (500/10,000 = 5%). That is why this is sometimes referred to as the 5% model.

Design of Farm Pond



Plan of Farm Pond



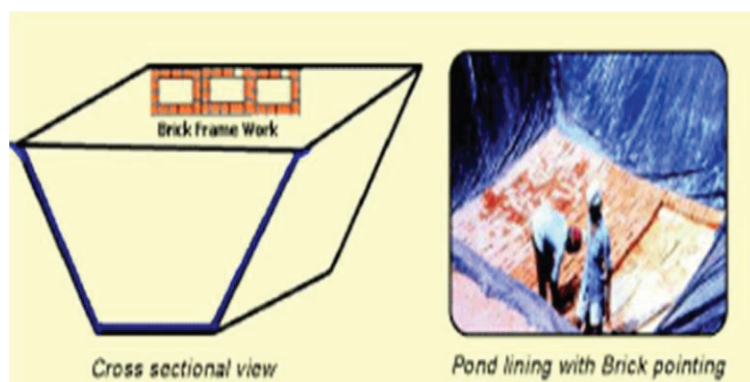
B)COMMUNITY FARMPONDS

1. BENEFITS OF POND LINING WITH PLASTICS FILMS:

- Reduction in seepage losses to the maximum extent (95%)
- Harvesting and storing of rain water from early monsoons.
- Utilization of harvested rain-water for short during crops as well as during off season.
- Lining of ponds and reservoirs with plastics film improve water availability over a longer period of time.
- It is highly useful in porous soils where water retention in ponds and water harvesting tanks is minimal.
- Economical and effective method of storing water.
- Eliminates water logging and prevents upward intrusion of salts into stored water.
- Prevents soil erosion.
- Technique is also suitable for lining of effluent ponds and channels to reduce soil and ground water contamination.
- It can also be used in the lining of saltpans for improving productivity as well as quality of salt.
- The water from bore wells, canals during the rainy (peak) season can be stored in these ponds and which can be used during lean season.

2. GENERAL CRITERIA FOR POND CONSTRUCTION (RECOMMENDED BY NCPAH):

- **Survey of water resources/catchments:** The most important factor for designing farm ponds is water source. There should be enough water available either by perennial, seasonal, runoff through watershed areas or by other sources to fill the pond.
- **Selection of Site:** Site should be selected from where maximum area can be covered for supplemental irrigation of the water stressed crops. The natural tendency of soil and elevation should also be taken into consideration.
- **Selection of size of tank:** The selection of size of tank is very important depends on the irrigated area, sources of water available, types of soil, frequency of irrigation and volume of water required etc. The slope and shape of trapezoidal pond depends on the types of soil and its topography.
- **Depth of pond:** Depth of the pond should range from 3 to 5 m. Greater than 2 m of depth are advantageous as the surface area is less resulting in minimum evaporation loss and maintenance hazard. If sufficient land is not available, this can be off set to some degree by increasing the depth of the pond.
- **Slope of pond:** Slopes lies “between” 1.5V:1H to 3V:1H have been recommended for clay to sandy loam soil.



DESIGN CRITERIA OF POND:

Design criteria for constructing farm pond play an important role that includes excavation, slope, shape, leveling and compacting the soil after considering all general criteria. The following parameter should be kept in mind while designing a pond.

A) Preparation of pit:

- Mark out the outer corner of the selected field using pegs
- Measure the bottom dimension of the pond by calculating depth and slope ratio. It appears in center of the outer corner of the selected site and marked it before excavation process.
- Excavate marked area first up to desired depth.
- After that, excavate rest area in inclined manner from one edge of bottom to top of the outer edge of same side and repeat the same for next three sides.
- Spread the excavated soil in the depressions for leveling and also on edges to make bunds of desired height from ground level.
- Level the excavated pond in order to suppress the angular projection
- Cut soil must be sealed or compacted unless the site is dug into a tight, clay formation so that film could be saved from puncture caused by these projections.
- After compaction, the whole area of pond should be treated with 4% atrazine (Weedicide solution) so that the plastic film could be saved from puncture caused by root infestation.
- After that all surface of pond should be smoothed properly.
- Excavate a trench of one cubic feet size on top of the bund at distance of 0.75 - 1.0 m from the inner edge of the pond for anchoring the HDPE film.

B) HDPE (high density poly-ethylene, with carbon black)

This lining material shall be UV light resistant and one of the best available to last many years (generally 100 plus). It is used in lining under gasoline storage tanks, public dumps, toxic settling ponds, aquaculture ponds, etc. It can be heat-welded together. A minimum of 0.5 mm (500 micron) film is best suited for regular ponds.

C) Laying of HDPE films:

For laying of HDPE films minimum of 0.5mm (500 micron) film are best suited for lasting of film and the following procedure are taken into consideration:

- Choose the film as per BIS /ISI mark (IS: 15351 / IS: 10889 / IS: 2508)
- Use minimum of 500 micron black HDPE film
- Calculate the film requirement for dugout pond and cut it accordingly
- Measure and cut the film as per calculation.

- HDPE films manufactured into panels of standard widths. Therefore convert the film into a single sheet as desired either mechanically by heat-sealing machine like Hot Air fusion welding machine or manually (by overlapping 15 cm of the edge of two sheet and scrubbed lightly using emery paper or sand paper (120 grade) using bitumen/Synthetic Rubber adhesive No -998 made by fevicol so that it fit exactly to fit into the pond.
- Monitor the film in sunlight for searching/puncture hole if any, sealed the hole with bitumen/adhesive or by heat-sealing procedure.
- The ends of the film at the surface have to be firmly buried in a trench at the bank of the pond to avoid sagging in of the film.
- Care should be taken to avoid the wrinkles and film must be pleated at the corner.

D) Pointing over the film

To protect the film from damage pointing over the laid film is required. Generally locally available material / easily available material to be used

- Over laying works can be done in many ways but most suitable and economic ways are one of them is overlaying brick alone completely on all four sides, bunds and bottom of the lined tank. Secondly construct a brick work frame of size 2' x 2' and place mortar of cement and soil (1:8) inside the frame.
- Install water inlet and outlet pipes duly fixing them in brick masonry post over laid plastic film and to measure the discharge of water from the tanks, a 'V'- notch weir can be constructed.
- Drainage channel all along the border of the field is formed according to the gradient/slope.
- Live grass/ Turf is established on the bunds of the pond to prevent soil erosion.

E) Cost economics of pond:

SI.No.	Work components	Pond No 1
1	Dimension of pond	100 m x 100 m
2	Bottom dimension	91 m x 91 m
3	Depth of pond	3 m
	Slope	1.5:1
4	Capacity of pond	27420 m ³
5	Excavation and spreading the soil in depressions and on bunds	Rs. 572800/-
6	Lining with 500 micron PE film	Rs. 634040/-
7	Formation of brick pointing / frame work (2' x 2') and over laying with cement and soil (1:8)	Rs. 204500/-
8	Labour, fixing, jointing, anchoring etc	Rs. 275675/-
9	Laying charges & others	Rs. 60/-
10	Total cost (Rs)	Rs. 1687015/-

18. DO'S & DON'TS:

- Site selection must be at appropriate place of water sources
- Cultivable command area should be near the pond.
- Avoid hard rock area, it will be labour expensive and angular projection in dugout pond may damaged the laid films.
- Level the excavated pond in order to suppress the angular projection
- The top layer of tank basin sub grade should be compacted to at least 90% of proctor's density by mechanical equipment like vibratory compacter or by other suitable equipments.
- Any weak and soft spots present shall be removed and shall be replaced with compacted fills.
- Standing water or excess moisture in dugout pond should not be allowed for laying of films.
- Films rolls should be packed properly and should be of ISI marked.
- Keep the film rolls in original packing prior to actual use or laying the film
- See the uniform pressure is applied while sealing the film
- Don't handle roughly and don't drag the film rolls as they may get damaged in the process.
- Don't walk on the film while lining operation is in process to avoid any damage to the film
- Don't slide cover overlaying material like bricks, tiles etc. on the film to avoid any damage and displacement.
- Don't use hooks for lifting the rolls of film
- Don't use reprocessed HDPE films as the quality is not guaranteed and may lead to premature failure of the film.

Annexure-VI

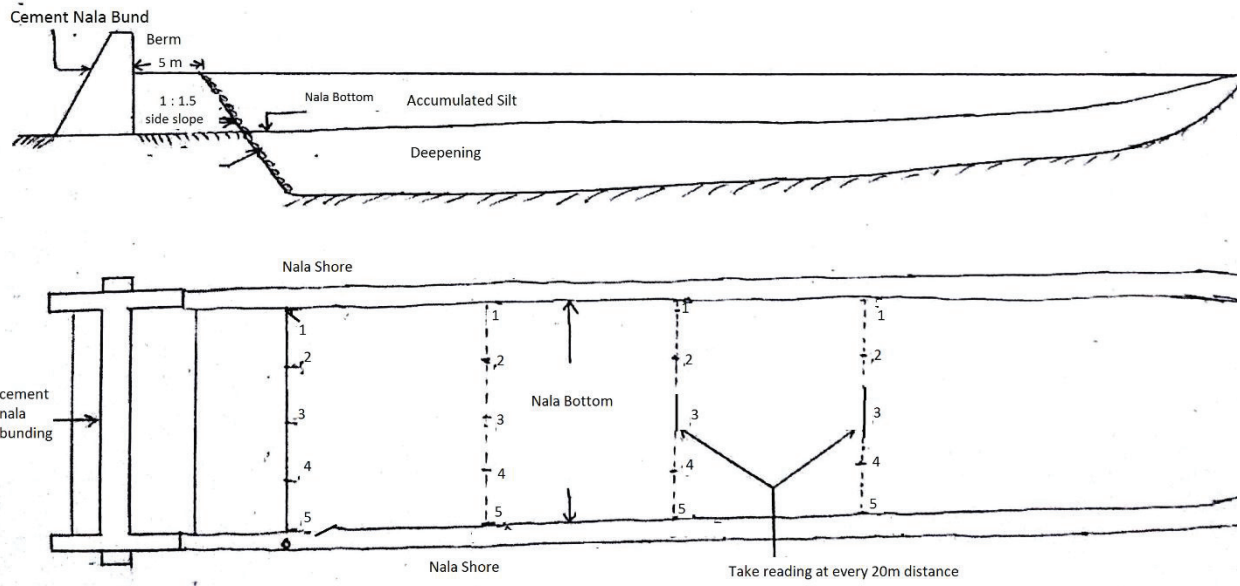
Desilting of Cement nala bunds

Objectives-

1. To harvest surface runoff
2. Recharging of ground water
3. To retain water carrying capacity of stream
4. Flood water removes away fertile top cover of soil. Desilting of bunds avoid spread of flood water in surround area and minimise fertile soil erosion.
5. Heavily silted bunds become useless. Desilting of bunds can retain more water and thus avoid excess expenditure on construction of new bunds in down stream.
6. Provide drinking water
7. Generation of rural employment and improvement in rural livelihood.

Technical and Financial specification —

In Maharashtra basaltic rocks, metamorphic rocks, sedimentary rocks are found in 96% of total area. While alluvial terrain is present on 4% of area. Methodology varies accordingly. Hence, Financial specification is as per Regional Schedule of rates. Use of machinery is mandatory.



Desilting of nala

Annexure No. VII

Drainage Line Treatment

Loose Boulder Structure

Objectives —

1. To reduce the water flow rate
2. To reduce soil erosion;
3. To trap silt for slowing down the rate of siltation in water bodies in the lower reaches of the watershed. It enhances conversion of waste land into cultivable land.
4. To induce water recharge
5. Plantation around the LBS will help in increasing vegetative cover.

Types of Loose Boulder Structure —

According to Watershed area

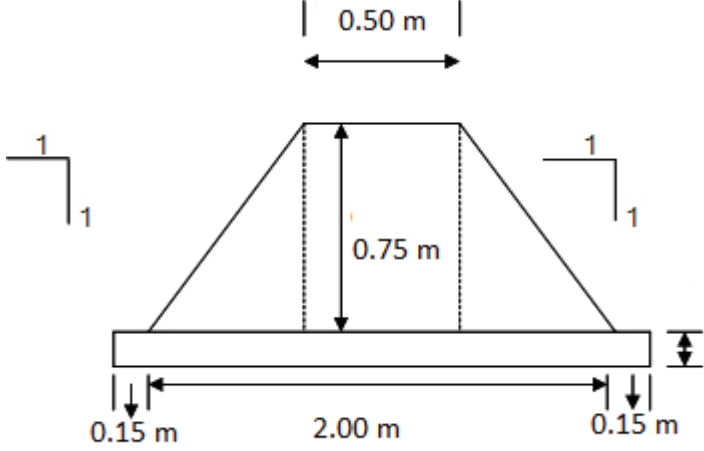
Sr no	Boulder structure type	Watershed area	Height of Watershed area
1.	Small Loose Boulder Structure	Up to 5 ha	0.75 m
2	Large Loose Boulder Structure	5 to 10 ha	1.00 m

Site Selection —

1. The independent catchment should not be more than 5 ha for small LBS and should be between 5 to 10 ha for large LBS.
2. Place of LBS is to be decided as per L-section drawn as per gully or channel. The height of the embankment at the location of the structure must be at least equal the maximum depth of flow in the stream plus

the design height of the structure in the central portion of the drainage line or simply height between upper and lower embankment should be adjusted more than 1m.

3. LBS should not be located in nala, lake or open rock.
4. Boulder checks should be made where boulders are available in large quantities in the requisite size.

Upper Reaches	 <p>The diagram shows a cross-section of a bund. At the top, there is a horizontal line representing the crest, with a double-headed arrow indicating a width of 0.50 m. Below this, a vertical double-headed arrow indicates a height of 0.75 m. The bund has a trapezoidal shape with sloped sides. On either side, a small right-angled triangle indicates a slope of 1 horizontal to 1 vertical. The base of the bund is a horizontal line with a double-headed arrow indicating a width of 2.00 m. Below the base, there are two vertical arrows pointing downwards, each labeled 0.15 m, indicating the depth of the foundation on both sides. A small vertical double-headed arrow on the right side of the foundation indicates a depth of 0.30 m.</p>	Cross section of bund - 0.94 sq m
		Depth of base - 0.30m

<p>Middle Reaches</p>	<p>The diagram shows a cross-section of a bund. At the top, there is a horizontal line representing the crest, with a width of 0.50 m. Below this, a vertical line indicates the height of the bund, which is 1.00 m. The bund has a trapezoidal shape with a bottom width of 2.50 m. On both the left and right sides, the bund is shown to be 0.15 m deep. The slope of the bund is indicated by a 1:1 ratio, meaning for every 1 unit of vertical height, there is 1 unit of horizontal distance. The base of the bund is shown to be 0.30 m deep.</p>	<p>Cross section of bund - 1.50 sq. m</p> <p>Depth of base - 0.30m</p>
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Slope grouped	technical specification				
	base width (m)	bund height (m)	crest width (m)	side slope	TS of bund (sq. m)
upper reaches	2.00	0.75	0.50	1:1	0.94
middle reaches	2.50	1.00	0.50	1:1	1.50

Gabian Bandhara

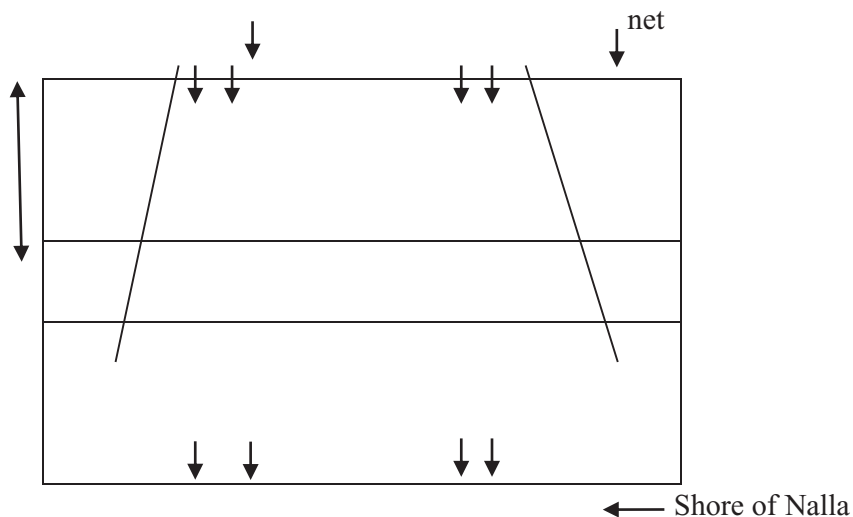
Objectives-

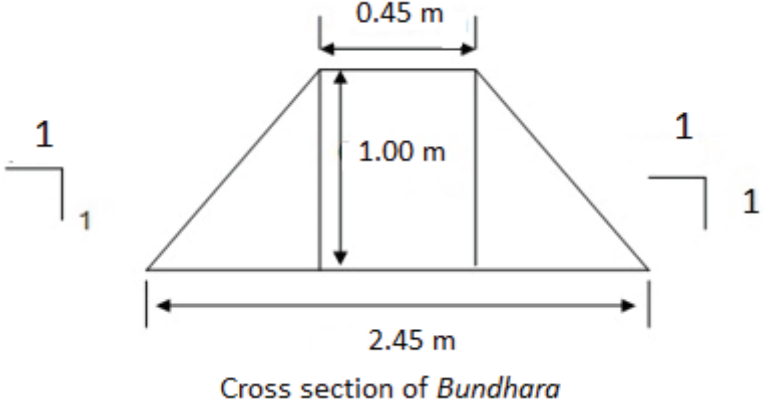
1. To reduce the water flow rate
2. To reduce soil erosion;
3. To trap silt for slowing down the rate of siltation in water bodies in the lower reaches of the watershed. It enhances conversion of waste land into cultivable land.
4. To induce water recharge

Selection of site-

1. Stability of the embankments is the primary consideration. The less stable and more erodible the material on the embankments, the weaker the structure is likely to be. In such a situation, making the structure stronger would render it too expensive.
2. The width of the gabion must not exceed 2 metres
3. Embankments should not be on turn of nala.
4. Site should be between upper and middle reaches of watershed.
5. Gabian Bandhara is meant for soil conservation. The height of the embank -ments should not be less than 1 m or less than 1/3 of the depth gully.
6. The material composing the bed of the drainage line upstream of the structure should not be completely impermeable.
7. It is ideal for gully's where other structures are not workable.
8. It is most suitable above the site CNB/ Nala bandh, digged pond

Diagram-

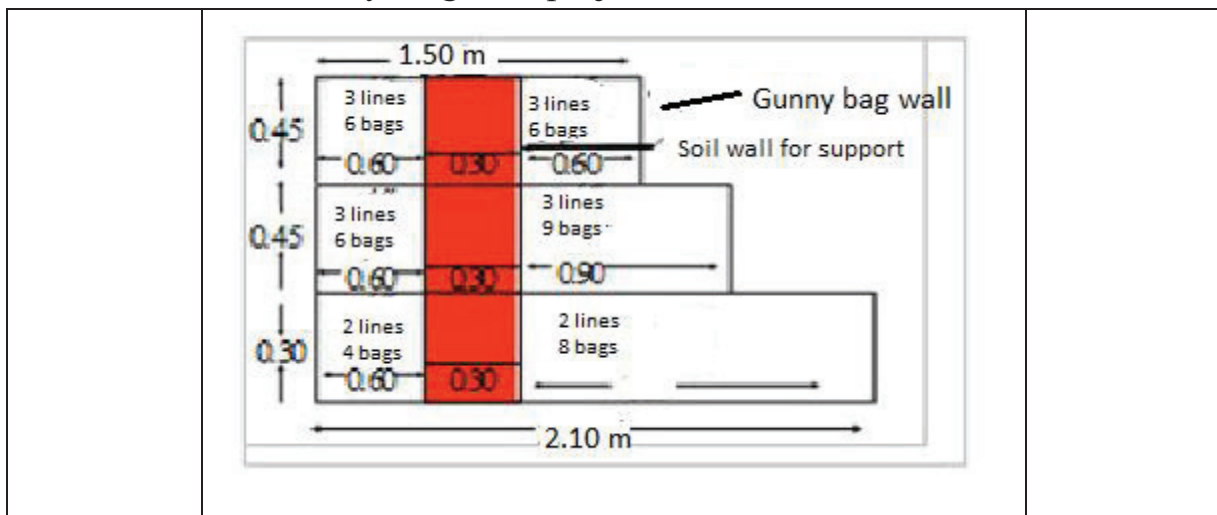


<p>Figure</p>	 <p>The diagram shows a trapezoidal cross-section of a bund. The top width is 0.45 m, the bottom width is 2.45 m, and the height is 1.00 m. A vertical line is drawn from the top center to the bottom center. On both the left and right sides, there are right-angle symbols with the number '1' next to them, indicating that the sides are perpendicular to the top and bottom edges.</p> <p style="text-align: center;">Cross section of <i>Bundhara</i></p>	<p>Cross section of bund - 1.45 sq. m</p>
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Vanrai Bhandara

Selection of site -

1. Vanrai bandhara can be constructed in catchment area as well as in non-catchment area.
2. Narrow and deep stream is chosen for constructing bunds. Stream should have sufficient flowing water.
3. Bottom slope should be in the range of 2-3%.
4. Height of vanrai bandhara should not exceed 1.5 m.
5. Vanrai bandhara should be near village/ hamlet. It should not be constructed in any irrigation project area.



Earthen Nala Bund

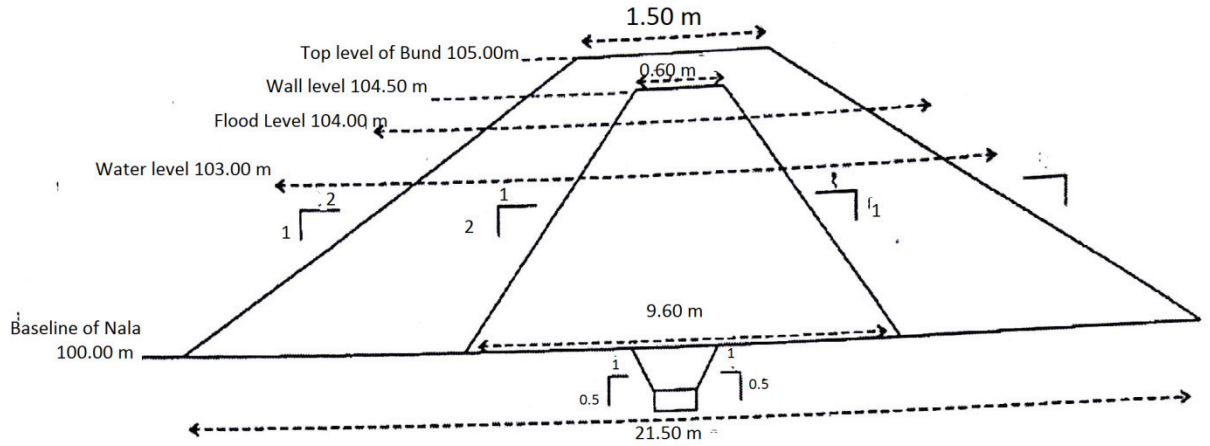
Objectives-

1. It is suitable for both flood control as well as gully control.
2. Velocity of runoff is greater in nala or gully due to heavy rainfall which erodes shores and increases adjacent pan of nalla. Earthen nala bunds are placed in gully or nala to restrict its widening.
3. Percolation dams are constructed for recharging groundwater. Such structures are usually made on the upper part of the catchment area. Water stored here percolates to wells and tube wells located in the lower part of the catchment.
4. The kharif crop needs to be drought-proofed through 'protective' irrigation, applied to overcome soil moisture deficits within the rainy season. Such structures are especially important in areas which are poor in groundwater resources and which do not have access to canal irrigation.
5. Drinking water source for cattle.

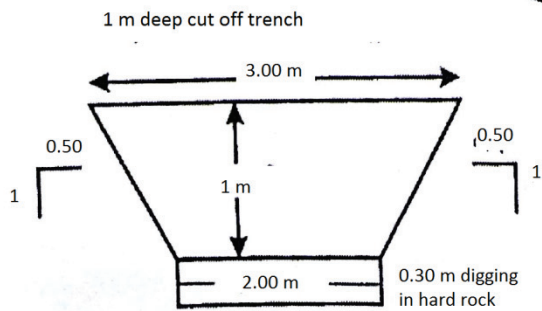
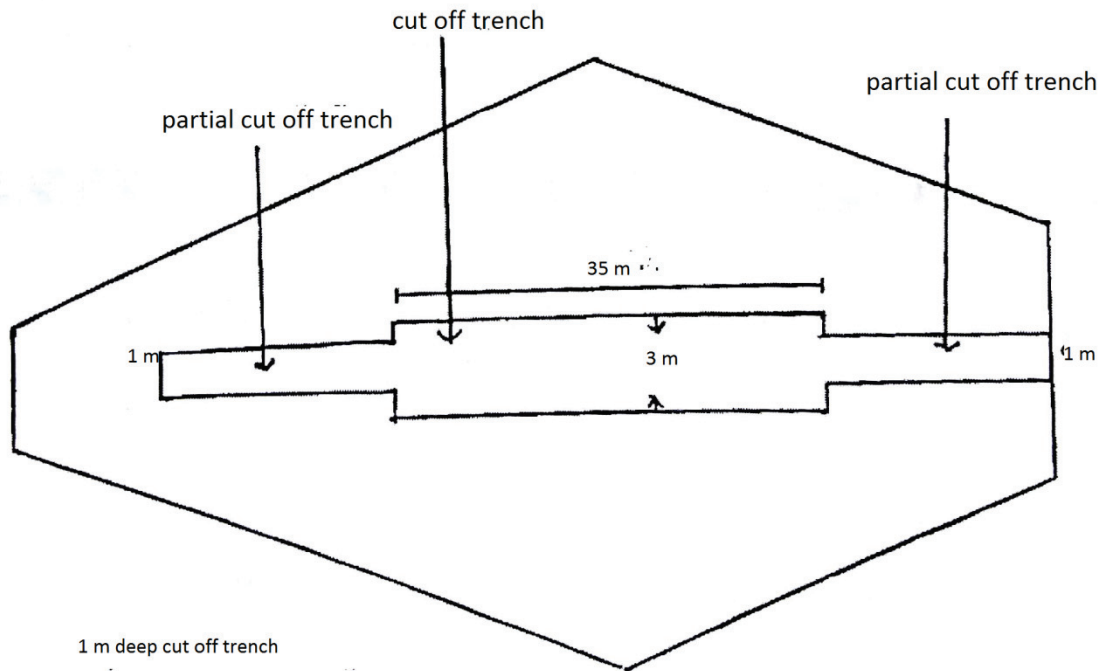
Selection of site-

1. Embankment is suitable for nala's having catchment area between 10 ha to 500 ha.
2. Downstream slope should not be more than 3%.
3. Stream width should not be less than 5 m.
4. Stream depth should not be less than 1 m.
5. Water logging condition should not happen after ENB.
pH of soil should be 6.5 to 8.
6. Embankment should be constructed where stream is narrow in order to reduce earthen work.
7. Non sloppy land should be above embankment to facilitate more retention of water.
8. Excavation for bund construction should be done at a place where hard rock is found.
9. Avoid a site near electric poles or just below the electric wires.

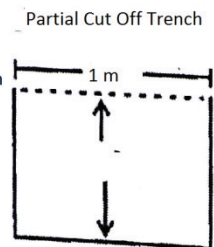
Earthen Nala Bund
Model No. 7
Water Level 3.00 m



Cut Off Trench



- Eg.
1. Model 3 to 7
2. Hard Rock above 1.00 m



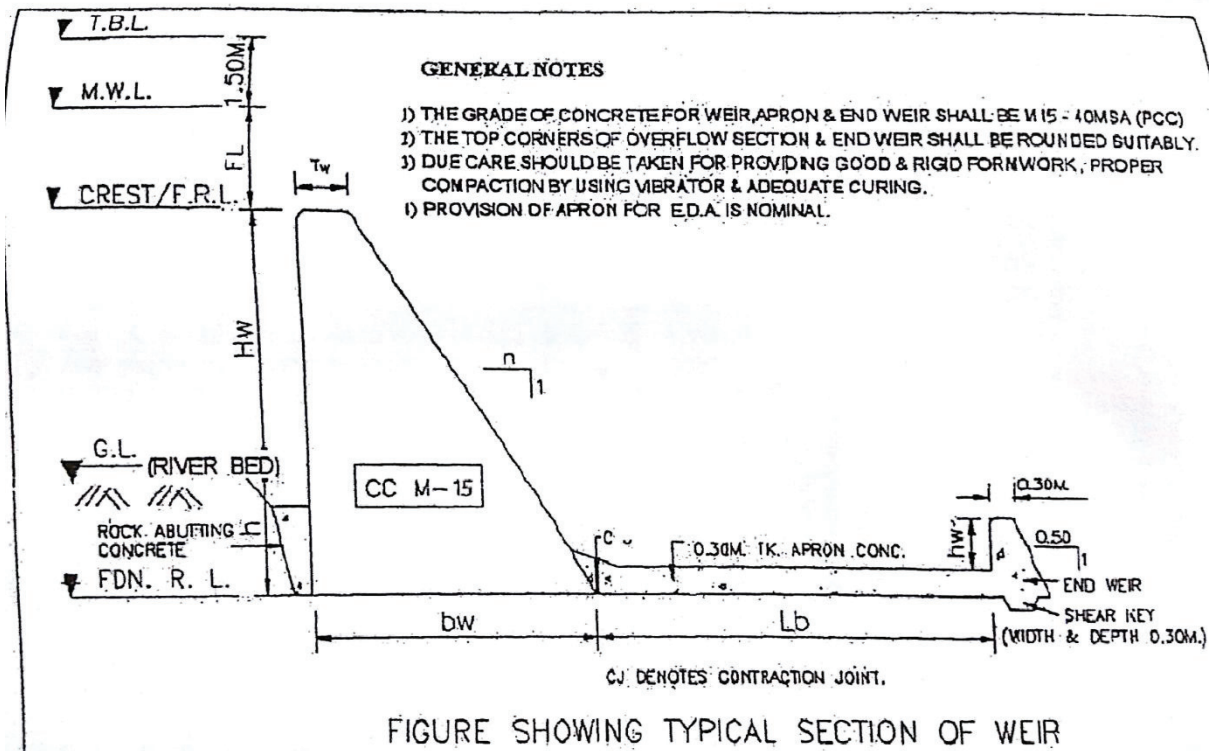
Cement Nala Bund

Objectives-

1. To check soil erosion
2. To slow down the velocity of runoff
3. To enhance percolation of water in order to improve local soil moisture profile
4. Increase area under irrigation
5. Minimise soil erosion from hill and due to flood
6. Increase water table in wells
7. Protective irrigations

Selection of site-

1. Suitable for watershed area between 40 ha to 1000 ha.
2. Bottom slope of stream should not be more than 3%.
3. Bottom width of stream should not be less than 3 m and more than 50 m.
4. The banks of the drain should be high and firm.
5. Construction of bund should be done in hard rock.
6. More suitable for area where earthen naala bund is not preferable.
7. Water logging should be avoided. Flood line should be taken into consideration.
8. Prohibit silting of CNB.



Contingency planning approach for PoCRA project

Contingency planning steps and approach

A two stage contingency planning approach is suggested for CRA project. The detailed approach and steps for the two stage Contingency Planning is presented below.

<i>Stages</i>	<i>Timeline</i>	<i>Task</i>
Stage - I	First year of the CRA project	- Adaptation of CRIDA contingency planning (at district level)
Stage - II	Second year of the CRA project (for the remaining part of the project)	- Constitute “Contingency Plan Expert Committee” - Develop Real Time Contingency Plan (RTCP) for cluster of village - Implement and monitor

STAGE – I: Contingency planning – Year – I

Step 1	Select the districts under CRA project
Step 2	Select the CRIDA contingency plans for the district – cropping systems + agronomic practices + water management for different rainfall scenarios
Step 3	Workshop: Conduct workshop involving CRIDA + SAU + KVK in 2 divisions (Vidharbha and Marathwada) + climate change experts Objective: To discuss and modify if necessary CRIDA contingency plans, based on the experience SAUs and District KVKs
Step 4	Communication Strategy: Develop information dissemination strategy and plan to communicate to farmers the contingency plans
Step 5	Seed Supply: Organize seed supply and other services
Step 6	Monitor and assess: The effectiveness of the contingency plans in building resilience in the farming community of the project area

Stage - II: Real Time Contingency Planning

<i>Sl No</i>	<i>Task</i>	<i>Institution</i>
1	Workshop to evaluate “CRIDA” approach and develop approach and methodology for Real Time Contingency Planning for <i>Cluster of Villages</i> specific contingency plan development	PMU
2	“ <i>Contingency Plan Expert Group</i> ” – Form Contingency Plan Expert Group for each project region involving - Scientists from the respective SAU + CRIDA experts + climate change experts + seed supply agency + other experts as required	PMU
3	Generate all the data required for contingency planning at Cluster level – historical rainfall + climate change rainfall projections + soil + water balance + other factors. <i>Develop Contingency Plan database</i> for each cluster.	KVK, SDAO, Cluster Assistant
4	Develop a set of climate or rainfall and cropping system scenarios – along with recommended crops + agronomic practices + water management + other practices. Develop Decision Support System for selecting Contingency Plans	Contingency Plan Expert Group
5	Develop contingency plans for each of the three regions of the CRA project area by involving the local SAU; by using the <i>Contingency Plan database</i> and the weather prediction data from IMD.	Contingency Plan Expert Group
8	Expert workshop during March-April every year to develop a set of contingency plans at Cluster level.	Contingency Plan Expert Group
9	Contingency Plan Expert group – to continuously monitor on a fortnightly basis the rainfall events and sowing practices on the ground based on some sample of villages surveys	Contingency Plan Expert Group
10	Contingency Plan Expert Group – to meet and modify the contingency plan based on the progress of the monsoon and farmers response – on a fortnightly basis during June – July and on monthly basis during August - December.	Contingency Plan Expert Group
11	Organize seed supply according to the contingency plan recommendations	DPMU
12	Periodically monitor the effectiveness and impact of “Real Time Contingency Plans”	External agency

Annexure No. IX

Staffing Structure

Sr.No.	Designation	Pay Scale/pay(per Month)	No. of posts
PMU			
1	Project Director	37400-67000(10000)	1
2	Dy. Project Director	15600-39100(6600)	1
3	Assistant Project Director	15600-39100(5400)	1
4	Agronomist	15600-39100(6600/5400)	1
5	Soil Scientist	15600-39100(6600/5400)	1
6	Agril. Engineer	15600-39100(6600/5400)	1
7	Hydrologist	15600-39100(6600/5400)	1
8	Finance Specialist	15600-39100(6600/5400)	1
9	Procurement Specialist	Up to Rs.150000	1
10	Monitoring & Evaluation Specialist	Up to Rs.150000	1
11	Sociologist	Up to Rs.150000	1
12	Agri business expert	Up to Rs.150000	1
13	GIS Specialist	Up to Rs.150000	1

14	Assistant (Deputation)	9300-34800 GP 4300	6
15	Assistant (Contractual)	Rs.40000	12
16	Stenographer	9300-34800 GP 4300/4400	2
17	Clerk cum typist	5200-20200 GP1900	6
18	Peon/ Messenger	Rs.25000	8
19	Account Officer	9300-34800 GP 4600	1
20	Asst. Account Officer	9300-34800 GP. 4400	2
21	Dy. Account	9300-34800 GP 4200	3
22	Account/Cashier	9300-34800 GP 4200	1
23	Account Clerk	5200-20200 GP 1900	6
24	Technical officer	9300-34800 GP 4400/4600	9
25	Environment Specialist	Rs.100000	1
26	Communication Specialist	Rs.100000	1
Total			71
District Level			
1	Agril. Specialist	9300-34800 GP4400	15

2	Procurement Specialist	Rs.35000	15
3	Agri-business expert	Rs.35000	15
4	Project Specialist (HR)	Rs.35000	15
5	Project Acct. Assistant	Rs.25000	30
Total			90
Subdivision Level			
1	Acct. Officer/ Asst. Acct. Officer	9300-34800 GP 4600/4400	36
2	Project Assistant	5200-20200 GP2400/4200	36
3	Project Acct. Assistant	Rs..15000	72
Total			144
Cluster Level			
1	Cluster Assistance	Rs.15000	500
All Total			805

Annexure No. X

Item	WB CRIS	Baseline Value (Year 0)	Value	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 (end of project)	Frequency of data collection	Data source	Comments (to be filled at time of reporting)
PDO Level Indicators												
1. Climate resilient agriculture: Farmers adopting improved agricultural technology												
Farmers adopting improved agricultural technologies promoted (CRA)		0	Target	9800	300000	410000	440000	96000	17000	Annual	PoCRA MIS	
	(% targeted farmers) (% share of female)	Yes	0% (0% fem.)	1	24	32	34	8	1			
			Actual	20	27	30	33	35	29			
2. Climate resilient agriculture: Improved water-use efficiency at farm level												
Area provided with new/improved irrigation or drainage services (in ha)	Yes	0	Target	7000	28000	56000	55000	30000	24000	Annual	PoCRA MIS	
			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
3. Climate resilient agriculture: GHG Accounting												
Net GHG emissions (in tCO ₂ -eq/ha)	Yes		Target	n.a.	n.a.	n.a.	n.a.	n.a.	-0.082	End of project	EX-ACT model (PMU)	
			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
4. Profitability: Annual farm income												
Farm income comparator (as ratio with/ without farm income)	No	1	Target	1	1.1	1.35	1.5	1.65	1.82	Annual	Data source	
			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
5. Direct project beneficiaries												
Number of farmers reached with agricultural assets or services (% of female)	Yes	0	Target	14000	435000	555000	588000	120000	20000	Semi annual	PoCRA MIS	
			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
Intermediate Outcome Indicators - Component A: Promoting Climate-resilient Agricultural Systems												
6. Climate resilient agriculture: improved yield uniformity and stability												
Spatial and temporal yield variability for crop A: Soybean	No	52%	Target	52%	50%	45%	34%	31%	28%	Annual	PoCRA MIS	
coefficient of variation			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			
Spatial and temporal yield variability for crop B: Cotton	No	44%	Target	44%	42%	40%	34%	31%	28%	Annual	PoCRA MIS	
coefficient of variation			Actual	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.			

Item	WB CRIS	Baseline Value (Year 0)	Value	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6 (end of project)	Frequency of data collection	Data source	Comments (to be filled at time of reporting)
7. Climate resilient agriculture: Improved availability of water for agriculture												
Surface water storage capacity from new farm ponds (in 1,000 m ³)	No	0	Target	5200	19500	31300	22300	5600	0	Semi annual	PoCRA MIS	
			Actual									
8. Climate resilient agriculture: Enhanced soil health at farm level												
Area with GAPs for improved management of saline and sodic soils (in ha)	No	0	Target	3000	23000	40000	40000	10000	0	Semi annual		
			Actual									
Intermediate Outcome Indicators - Component B: Climate-smart Post-harvest Management and Value-chain Promotion												
9. Seeds supply: Promotion of climate resilient crop varieties												
Share of arable land under cultivation with improved seed varieties (in %)	No		Target	25	27	30	32	34	36	Annual	PoCRA MIS	
			Actual								MSSC	
10. Farmer Producer Companies: Strengthened and financially sustainable FPCs												
Number of project-supported FPCs with growth in annual profit	No	0	Target	n.a.	20	35	60	50	35	Annual	Audited financial statements	
			Actual									
Intermediate Outcome Indicators - Component C: Institutional Development, Service Delivery and Knowledge for Climate-resilient Agriculture												
11. Research and Extension: Mainstreaming climate-resilience in agricultural research and technical advisory services												
Number of updated district SREPs centered around climate resilience (x out of 15)	No	0	Target	5	10	10	5			Annual	ATMA	
			Actual									
12. Climate Innovation Center: Private sector participation												
Number of clients (FPCs, SMEs, ...) receiving services from the CIC	No	0	Target	0	0	0				Annual	CIC	
			Actual									
Cross-cutting Indicators												
13. Beneficiary Participation and Civic Engagement												
Number of approved participatory mini watershed plans implemented / under implementation	No	0	Target	130	350	190				Semi annual	PoCRA MIS	
			Actual									