



WORLD BANK ASSISTED
STATE OF MAHARASHTRA'S
AGRIBUSINESS AND RURAL TRANSFORMATION
(SMART)

PROJECT IMPLEMENTATION PLAN (PIP)

GOVERNMENT OF MAHARASHTRA

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Project Coordination and Management Unit, Pune

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INTRODUCTION

1. Maharashtra's population in 2019 is estimated at 126 million, of which approximately 55 per cent is engaged in the agriculture and allied sector. Over 80 per cent of the rural population is dependent on agriculture.
2. There are 1.36 crore farmers in the State, of which 48.9 per cent and 29.5 per cent are marginal and small farmers respectively (Agriculture Census 2015-16). The total area of small and marginal farmers (with land holdings upto 2 ha) stands at 89.25 lakh hectares and constitutes 45.2 per cent of the total area under agriculture. As per Agriculture Census 2015-16, Maharashtra, with an average size of operational land holding of 1.34 ha, ranks 10th amongst all States in terms of size of land holdings.
3. The share of agriculture and allied activities sector in the total Gross State Value Added (GSVA) is about 12.2 per cent during 2016-17. Agriculture and its allied sector together comprise four sub-sectors i.e. crops (horticulture and field crops), livestock, forestry, and fishing and aquaculture. Contribution to GSVA from the different sectors is as follows: Horticulture and agriculture crops (68 per cent), livestock (21 per cent) and the forestry, fishing and aquaculture sector (11 per cent). Horticulture holds a significant share of about 30 per cent in GSVA of crop sector. Total food grain production in the State is 172.29 lakh MT in 2016-17, of which production of cereals stands at 126.46 lakh MT, that of pulses stands at 45.83 lakh MT and that of oilseeds stands at 51.13 lakh MT. The major crops that are grown in the state are soybean, cotton, pigeon pea, chickpea, wheat, millets, groundnut and maize.
4. Maharashtra has emerged as one of the country's largest producers of fruits and vegetable crops. In terms of production, the State accounts for 11 per cent of total fruits and 5 per cent of total vegetables produced in the country. Maharashtra is the largest producer of seedless grapes and pomegranates in India. The State is also the 3rd leading producer of citrus fruits such as mandarin (orange). It is also a robust producer of other fruits such as banana, custard apple and strawberry. Maharashtra is the largest producer of onions in the country. Tomato, green chillies, ginger are among other major crops grown in the state. The State is the leading exporter of fruits and vegetables such as Alphonso mangoes, grapes, pomegranates, oranges, bananas, onion, green chillies etc. from India to the European Union, Thailand, Netherlands, Doha, Bahrain etc.
5. With a population of 2.6 million sheep and 8.4 million goats, the State has one of the highest livestock wealth in the country. With the active intervention of government agencies like the Animal Husbandry Department (AHD), Maharashtra Agriculture Competitiveness Project (MACP), Mahila Arthik Vikas Mahamandal (MAVIM) and Maharashtra State Rural Livelihood Mission (MSRLM), more than 1.2 lakh farmers have been collectivized in the sector over the past few years.
6. Maharashtra State has 305 main market yards and 603 sub market yards to facilitate marketing of agri-produce. In addition, 3 Terminal Markets are planned to be set up in Mumbai, Nasik and Nagpur. The State has also an established network of computerized Agricultural Produce Market Committees (APMCs), called 'MARKNET' which provides daily arrival and price information to farmers and has built greater efficiency and transparency in the functioning of APMCs by computerizing the system.

7. One of the important and time-tested method of mitigating price risk is through provision of warehousing, warehouse receipts and pledge financing. Maharashtra State Warehousing Corporation (MSWC) has been at the forefront of creating storage capacity in the State, with over 17 lakh MT capacity across the State. In 2017-18, the State had a warehousing capacity of at least 30 lakh MT while the capacity utilization stood at 68 per cent.
8. Maharashtra has about 581 installed cold storage units with an overall capacity of about 8.9 lakh MT. In addition, the State has about 158 pack-houses, which are registered with APEDA. However, these are mostly for specific fruits such as grapes, mango and pomegranate. Review of secondary information reveals that Government of Maharashtra is already undertaking significant measures to address the infrastructure requirement in the State. MSAMB has established about 21 export facility centres, and 20 fruit and vegetable modern market facility centers in the State. Capacity of about 1919 MT in cold storage, 225 MT in pre-cooling and 200 MT in ripening chambers has been created in the State by MSAMB.
9. Maharashtra has a dynamic food processing industry comprising of around 3040 registered small, medium and large food processing units that employ around 2.4 lakh workers, which is 15 per cent of total formal workforce in the state. These are mostly concentrated in 11 out of 36 districts of the State, which include Mumbai, Pune, Kolhapur, Sindhudurg, Satara, Nashik, Jalgaon, Ratnagiri, Thane, Nagpur and Sangli. The Ministry of Food Processing Industries (MoFPI), Government of India is also facilitating development of agri-infrastructure projects for furthering value chain development in the State. It has sanctioned 3 Mega Food Parks in the State; one Mega Food Park has been sanctioned in each of the districts of Aurangabad, Satara and Wardha. Out of these 3 Mega Food Parks, the one in Satara is operational and the other two are under implementation. Moreover, 6 agro-processing Clusters have been sanctioned by MoFPI in the districts of Amravati, Nashik, Nanded, Kolhapur, Osmanabad and Nagpur. Additionally, the state also hosts 6 Food Parks, 6 Industrial Areas and 1 SEZ for food processing.
10. Over the last one decade, the Government of Maharashtra has invested resources through various central and state government schemes, programs and multi-lateral funded projects such as Maharashtra Agricultural Competitiveness Project (MACP), Convergence of Agriculture Initiatives in Maharashtra (CAIM), Japan Fund for Poverty Reduction (JFPR). These efforts have led to institutional collectivization of farmers through Farmer Producer Organizations /Companies, Farmer Groups, Women Self Help Group (SHG) Federations etc. Currently the State has over 2000 Farmer Producer Companies (FPCs) and over 600 women based SHG Federations that are actively engaged in enhancing value accruals to a farmer member base of over 10 lakh farmers.

Challenges and Opportunities for Agribusiness Sector in Maharashtra

11. The share of agriculture and allied activities sector in the total GSVA stood at 15.3 per cent in 2001-2002 but has fallen to 12.2 per cent in 2016-17. This declining trend, together with high dependency of population on agriculture for livelihood, is worrisome and points to low productivity of agriculture. Reduction in average size of agricultural holdings from 4.28 ha. to 1.34 ha., increasing number of marginal and small farmers, dependency on monsoon and weather and low productivity are some of the major concerns of the agriculture sector in the State.

12. Though the share of “allied activities” within the agriculture and allied activities sector is comparatively less, its contribution with reference to livelihood is of immense importance. The increasing consumption of fruits and vegetables, milk and milk products, poultry, meat, fish and flowers due to changing lifestyle indicates substantial growth potential. This potential needs to be tapped to the greater extent for enhancing the income of farmers.
13. Small and marginal farmers dominate Maharashtra's agriculture and commodity downturns significantly impact them as the State's agriculture is diversified and relatively integrated with the global value chains. Commodities like soybean, cotton, sugar (covering 44 per cent of the cropped area in Maharashtra) are strongly influenced by global price movements. Commodities with little footprint outside India have been influenced by trade policies. For example, the price of pulses (pulses cover about 20 percent of the total cropped area in Maharashtra) over the past few years, while influenced by domestic consumption, were largely affected by the inconsistent trade policies of India. These factors have led to periodic farm distress in sectors linked to both domestic and global markets, with broad shifts in the global prices of commodities such as pulses, soybean, sugar and milk leading to farmers in many cases not even being able to cover the cost of production.
14. Women face a number of additional barriers to the transition to High Value Agriculture (HVA) and agribusiness. While India's farmers are increasingly likely to be women, they are less able to transition to HVA than men, and their ownership of agricultural assets has stagnated. Men, in addition to production, also serve as actors in the upper levels of the value chains and play an active role as intermediaries or village-level traders and processors, wholesalers, retailers, or exporters. Unlike men, women are generally concentrated at the lower levels of the value chains. This division of labour is mostly a reflection of social and cultural norms, which discourage women to travel by themselves or to own land. These factors curtail access to resources and services, including credit, training, extension, inputs, and trading and marketing networks for women. Women do not have collateral to apply for loans or the opportunities to participate in extension training because selection for such opportunities is often based on land ownership titles or other formal records. Moreover, there are few or no women service providers in extension, credit, input supply, or marketing. Despite the crucial roles that women play in harvesting and post-harvest processing, there is little or no training on quality control (including hygiene, sanitation) and on higher-value varieties of crops targeted at women. More than 20 lakh poor women have been mobilised into Self Help Groups (SHGs) and federated organizations in the State. In addition, through the Maharashtra State Rural Livelihoods Mission (MSRLM) and Mahila Arthik Vikas Mahamandal (MAVIM), women are trained to provide last mile extension and financial services. These SHGs and federated organizations can serve as an important pillar to substantially enhance inclusion of rural poor women into agribusiness transformation and related entrepreneurship opportunities.
15. As per the comprehensive vulnerability assessment study carried out under the Maharashtra State Adaptation Action Plan on Climate Change (MSAAPCC), the State also faces significant adverse risks from climate change. The results of the MSAAPCC climate modelling for 2030, 2050 and 2070 show that temperature and rainfall are projected to increase across the State, with important regional variations resulting in potentially significant adverse impacts on agriculture performance. Impacts will be

further aggravated by the projected increase in the frequency of extreme climate events (droughts, hailstorms, floods, delays in the onset of monsoons, higher rainfall intensity) already experienced in the State over recent past, as illustrated by the three severe droughts that hit the State over the past five years. Given these uncertain shifts in weather and climatic events, the small and marginal farmers are disproportionately exposed to risk and farm distress.

16. The focus of the Government, at Centre as well as State, has mostly been on enhancing productivity rather than on market-led production; there seems to be a disconnect between what the farmer produces and what the market wants. Going ahead, it will be important to create extension activities around the type of commodities demanded in domestic and international markets. Towards such a goal, it is also very important to reduce distortions and strengthen the linkages in the existing value chains.
17. In response to the above emerging production and market-related challenges and in order to connect production to markets, the Government of India (GoI) and Government of Maharashtra (GoM) have launched a number of programs, policies, and reform initiatives under the overarching vision of “Doubling Farmer’s Income by 2022”. New initiatives to address the production risks include a crop insurance scheme with enhanced coverage and use of technology; and a dedicated long-term irrigation fund with an initial tranche of US\$3 billion. Additionally, to liberalise the regulated agriculture market, the GoI launched and GoM adopted, second-generation marketing reforms, including the move towards integrating the country into a unified national market. Further, 100 per cent Foreign Direct Investment (FDI) is allowed to enhance investments in agribusiness/food processing sectors. The Government of India is targeting doubling of agriculture exports to 4 per cent (US\$ 60 billion) of global agriculture exports by 2022.
18. Further, the Government of Maharashtra has developed a Vision 2030 document for the State which envisages promotion of sustainable agriculture. It also envisages ensuring availability and sustainable management of water in line with Sustainable Development Goals (SDGs). In this context, the State government has proposed various major initiatives for enhancement of crop productivity, improving yield and quality of horticulture and floriculture, reducing cost of cultivation, integrated farming system approach, promotion of group farming, soil and water conservation for moisture security, creation of quality infrastructure for storage and processing to control wastage, post-harvest technology for value addition, promotion of value addition chain, promoting export of agriculture produce, agriculture credit and risk mitigation as part of 2030 vision strategy.
19. Maharashtra Agriculture Competitiveness Project (MACP), a project undertaken by the Government of Maharashtra with the support of the World Bank, aimed at increasing productivity, profitability and market access of farming community. The project was successful in creating 412 Farmer Producer Companies (FPCs) in the State. The project interventions led to upgradation of 81 APMCs, 24 Livestock Markets, 470 Rural Haats and 236 Warehouses. MSRLM has implemented a range of livelihood interventions empowering 2.2 lakh Self Help Groups, 5177 Village Organizations, 220 Cluster Level Federations (CLFs) and has created 7000 micro enterprises. Thus, a wide social capital base has been created under MACP as well as MSRLM wherein small and marginal holders can come together to access the markets and can have better opportunities in new

markets. The Department of Agriculture has also been actively undertaking various interventions to address the current set of challenges. It implemented a scheme called the Public Private Partnership for Integrated Agriculture Development (PPPIAD) with a focus on bringing private sector investments for enhancing agricultural market growth. Maharashtra Village Social Transformation Foundation (MVSTF) is a unique platform which brings together India's leading corporate entities and philanthropic organizations to plug developmental gaps and to establish greater social capital in rural Maharashtra. This program has impacted 1000 villages throughout Maharashtra.

20. Thus, through its various programs and initiatives, the Government of Maharashtra has created social capital, set up farmers' collectives to create market access and has initiated active interaction with the private sector. The next logical step in the narrative is to create a platform wherein all the initiatives undertaken so far can be synergized so as to strengthen agri-businesses and transform the rural landscape of the State.

State Of Maharashtra's Agribusiness Rural Transformation Project

21. The Government of Maharashtra proposes to undertake the project titled "**State of Maharashtra's Agribusiness Rural Transformation Project (SMART)**" to support development of inclusive and competitive value chains focussing on small and marginal farmers and agri-entrepreneurs. This would be achieved by expanding access to new and organised markets for producers and enterprises with complementary investments in technical services and risk management capabilities. The project would support in strengthening the continuing market-driven transition, with an expanded private sector role in the production, processing, and value addition, commercialization of crops, and livestock products thereby expanding the market access and supporting enterprise growth. The project would also extend support for strengthening risk mitigation measures including building the capacity of the State to respond to commodity-price fluctuations and agriculture sector crises; developing access to timely information on markets and productions trends and enhancing access of producers to financing and hedging instruments.

Project Development Objective (PDO)

22. The Project Development Objective (PDO) is to "support the development of inclusive and competitive agriculture value chains, focusing on small holder farmers and agri-entrepreneurs in Maharashtra."
23. The PDO would be achieved by expanding access to new and organised markets for producers and enterprises with complementary investments in technical services and risk management capabilities. The project would support following interventions:
 - a) Enhancing Institutional Capacity to Support Agricultural Transformation
 - b) Expanding Market Access and Supporting Enterprise Growth; and
 - c) Building Risk Mitigation Mechanisms.
24. The Key Performance Indicators (KPIs) for the project are:
 - a) Increase in net price realization at producer level (Percentage)
 - b) Full Time Equivalent jobs generated in beneficiary firms (Number)
 - c) Private sector finance mobilized by the project (Amount(USD), Thousand)
 - d) Farmers reached with agricultural assets or services (CRI, Number, Thousand)Interventions under various components and sub-components of the project have been designed such that that each of them dove-tail into realization of the PDOs.

Objectives for the various components and sub-components of the project:

Component A: Enhancing Institutional Capacity to Support Agricultural Transformation

25. **A.1** Strengthening Institutional Capacity of the Department of Agriculture – This sub-component will support the DoA – using agreed DLIs in shifting from a scheme-based approach to an outcome-based, market -driven approach. Expected results from this sub-component are (a) Institutional realignment and strengthening of Department of Agriculture in identified functional areas towards outcomes; (b) Enhanced staff capacity of DoA to achieve outcomes and provide technical services to farmers; and (c) Enhanced market linkages through improved food quality and safety standards for focus commodities.
- 26 **A.2** Strengthening Institutional Capacity of the Department of Marketing (DoM) - This sub-component will support activities to enhance regulatory effectiveness of the Department of Marketing (DoM) and promote healthy functioning of markets. The expected results from this sub-component are (a) Improved implementation of agricultural market reform measures already undertaken (ii) increased efficiency (as defined by market health indicators) and transparency in the functioning of agriculture markets, and (iii) enhanced access to dispute resolution mechanisms for market participants.
27. **A.3: Strengthening capacity for reform measures and joint actions** - Objective of this sub-component are to strengthen systemic capacity for generating a knowledge base for reform measures; and to institutionalize coordination and joint actions across private and public actors to enhance market-driven growth in focus commodities. The project will finance the technical cell staffing and their capacity building till midterm of the project. At midterm, an evaluation of the technical cell will be undertaken based on which the continuation and financing of this cells for the remaining period of Project implementation will be decided. On successful performance and to ensure greater ownership of such entities by the state, the financing of the cell will be done by GoM beyond the midterm of the Project.
28. **A.3.a:** Establishing a technical cell within the PCMU and partnerships with leading academic and technical support institutions - Objective is to strengthen systemic capacity of GoM for generating a knowledge base for reform measures for undertaking research in the areas of agriculture, market reforms, land reforms, climate, agribusiness etc. This technical cell will undertake evaluation of reform efforts already being implemented; targeted research and recommendations for the ongoing program of reforms; and support for piloting reform efforts to inform scale-up efforts.
29. **A.3.b:** Establishing Agriculture Stewardship Councils (ASCs) – Objective is to institutionalize coordination and joint actions across private and public actors for enhancing market driven growth in selected commodities.
This sub-component will support establishment of functional commodity specific Agriculture Stewardship Councils for about ten commodities identified based on market growth potential. The project will support identification and mobilization of major stakeholders into the ASCs; provision of technical and hand-holding support to members to identify gaps and develop a vision plan listing interventions; and implement

joint actions such as market identification, promotional activities, and workforce skills training.

Component B: Expanding Market Access and Supporting Enterprise Growth

30. The objective of this component is to (i) integrate the producers in priority value chains, to operate competitively with strengthened and reliable linkages with buyers and markets, and (ii) enhance the provision of relevant technical and Business Development Services (BDS) to support enterprise growth in the agribusiness sector. The project will support a range of market access interventions with the focus of enhancing access and sales to more organized domestic and export markets. This would be achieved by (i) providing support to CBOs to profitably access markets; (ii) provision of business development services to foster and accelerate growth of agri-enterprises, with specific focus on MSMEs; (iii) facilitating access to a broad set of financial services and their responsible use by producers; and (iv) facilitating the establishment of a partial credit guarantee to provide third-party credit risk mitigation to participating financial institutions. As part of project preparation, GHG analysis of six value chains has been completed, and each of these will reduce emission intensity with project support.
31. **B.1 Market Access Support** – Objective of this component is to strengthen existing value chains within commodity clusters through creation of support services, mobilization of stakeholders, extension and training activities that facilitate better market access for smallholders.
32. **B.1.(i) Productive Partnerships** – Objective is to create an enabling environment wherein producers/ farmers can come together, produce, aggregate and successfully market the produce as per the requirements of identified organized buyers.
33. **B.1.(ii) Market Access Plans** – Objective of this sub component is to improve the access of producers and entrepreneurs to a range of technical and business development services, technologies and skills training so as to enhance access of farmers to existing markets and enable them to explore opportunities in new markets.
34. **B.1.(iii) Complementary Innovation Investment-** Objective of this sub component is to identify and support innovative ideas and facilitate scale-up of replicable innovations in agri-businesses pertaining to value chains of targeted commodities. The project will support development and partial financing of subprojects that aim to pilot, disseminate and adopt innovative technologies. These technologies will have one or more of the characteristics of (i) adding value to the produce, and (ii) introduce new products, concepts and activities that can translate into better access to lucrative markets and higher economic benefits in the medium term. Preference will be given for proposals that support PP, MAP, Warehouse subprojects.
35. **B.1.(iv) Priority Investments in Public Infrastructure-** This component also will finance civil works, goods, and consulting services for investments in public infrastructure (new or rehabilitated) that complement the sub-project with an aim to improving the efficiency and climate resilience of prioritized value chains. These investments will (i) address Sanitary and Phytosanitary (SPS) challenges that are part of a broader set of competitiveness challenges faced by the state's producers, processors, and exporters, (ii) supply key public goods that are currently missing due to market failures or are beyond the capacity of individual subprojects but are closely linked to

subproject success and viability; and (iii) develop infrastructure that is efficient and usable during extreme climate events, such as flooding.

It may be noted that the infrastructure that will be needed for each of the priority investments, will be determined individually for each location and will emerge from the business and market needs assessment. The process of business and market need assessment, and facility design will be facilitated by a qualified service provider.

36. **B.1.4 (i) Export linkages** – Objective is to create suitable infrastructure for exports and imports of fruits and vegetables per identified requirements and also to create capacity within the CBOs participating in PPs and MAPs to access export markets.
37. **B.1.4 (ii) Livestock Interventions** – Objective of this sub component is to build capacity within the AHD in several areas as revealed by the assessment carried out by the knowledge partner.
38. **B.1.4 (iii) Market Intervention for Cotton – SMART Cotton** Objective is to address value loss in raw cotton due to lack of quality standardization at producer and ginner level and to improve traceability, accessibility and quality assurance mechanism through technology.
39. **B.1.5 Capacity Building Support** - Objective is to strengthen selected CBOs' organizational, financial, marketing, implementation and monitoring capabilities for successfully implementing investments in sub projects through handholding and mentoring support. The project will provide additional “bridge” technical support particularly to women led CBOs as the focus of the project is to enhance their participation in HVA value chains.
40. **B.2 Enterprise Development Support** – The objective of this sub-component is to enhance competitiveness of agri-enterprises in focus commodities and value chains through the provision of technical and Business Development Services (BDS) to identified enterprises. Further the sub-component will emphasize on enhancing outcomes for women-owned enterprises through identification of commodities, clusters and processing activities where women predominate; through training and deployment of women last-mile technical service providers; and through longer periods of intensive handholding and technical support to enable growth of such enterprises.
41. **B.3 Access to Finance**
The objective of this sub-component is to facilitate CBOs and agri-enterprises access to a broad set of financial services and their effective use. The planned interventions include rating of FPCs, setting up of a Partner Financial Institutional Platform with Financial Institutions (FIs) so as to increase acceptability of the rating, financial education and counselling, agriculture value chain financing. The project also envisages to set up partial credit guarantee facility.
42. **B.4 Pilot Program on Urban Food Systems** - Objective of this pilot is to develop more safe, nutritious and climate resilient food system in city of Pune. This would be achieved by engaging citizens, actors in food chains, linking local CBOs to urban food market, creating infra support for safe food deliveries.

43. Component C: Building Risk Mitigation Mechanisms

The objective of this component is strengthening risk mitigation measures including building the capacity of the state to respond to commodity-price fluctuations, developing access and ability of farmers to take considered decisions based on timely market intelligence reports, enhancing access of producers to collateral-based financing at locations close to their production location, and facilitate farmers in benefitting from hedging instruments through their CBOs.

44.C.1 Enhanced Market information and intelligence services - The objective of this sub-component is to support CBOs, farmers, and GoM to plan and implement cropping, sales and procurement decisions based on enhanced market information and intelligence. The project will build on the pilot market intelligence activity of the recently closed Maharashtra Agricultural Competitiveness Project (MACP). The project will finance the market information and intelligence cell staffing and their capacity building till midterm of the Project. At midterm, an evaluation of this cell will be undertaken based on which the continuation and financing of this cells for the remaining period of Project implementation will be decided. On successful performance and to ensure greater ownership of such entities by the state, the financing of the cell will be done by GoM beyond the midterm of the Project.

45. C.2 Strengthening the warehouse receipt systems – The objective of this subcomponent is to enhance the ability of smallholder farmers to store their produce in quality facilities and to monetize stored produce through warehouse receipt financing and sales through virtual platforms and other channels ex-storage. This will be achieved promoting partnerships between CBOs and CMAs for management of new or upgraded existing warehouse facilities of CBOs.

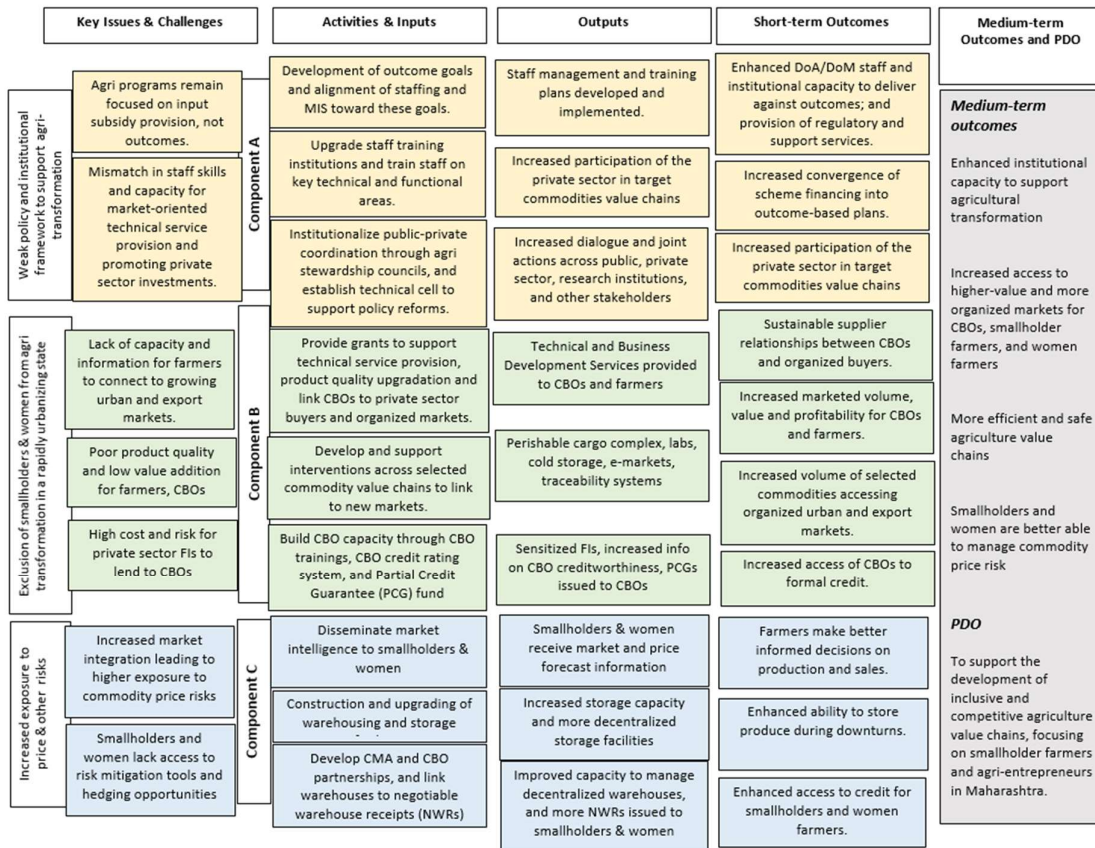
46. C.3 Price Risk Management Support - Objective of this subcomponent is to enhance price and climate risk management by the state and provide a market-based risk management tool to farmers, through CBOs. This would be achieved by setting up a Risk Mitigation Cell (RMC) within the DoA to develop crisis management plans (CMPs) for the major commodities. The project will finance the risk mitigation cell staffing and their capacity building till midterm of the Project. At midterm, an evaluation of this cell will be undertaken based on which the continuation and financing of this cells for the remaining period of Project implementation will be decided. On successful performance and to ensure greater ownership of such entities by the state, the financing of the cell will be done by GoM beyond the midterm of the Project.

47. Component D: Objective of this subcomponent is to ensure effective implementation of the project activities and monitor and evaluate project implementation progress, outputs and outcomes building on implementation experience of earlier Bank-funded projects in this sector.

48. Theory of Change (ToC) for SMART

The ToC is an illustrative tool used to identify and articulate the “missing middle” i.e. the exact assumptions that must prevail for the activities or project interventions to achieve the outcomes. The TOC chart given below outlines the pathways from the planned inputs of the project towards the expected outputs in the medium term and outcomes in the long term. It helps to delineate which activities lead to the exact outputs

and outcomes that the project strives to create. The ToC logically leads to the Results Framework for the project, which has been detailed in the next section.



49. Results Framework

Project Development Objectives(s)

The project development objective is to support the development of inclusive and competitive agriculture value chains, focusing on smallholder farmers and agri-entrepreneurs in Maharashtra.

50. PDO level indicators

Project Development Objective: Support the Development of Inclusive and Competitive Value Chains focusing on Smallholder Farmers and Agri-entrepreneurs in Maharashtra									
Project Development Objective Indicators									
Indicator Name	DLI	Baseline	Cumulative Target Values (unless, indicated otherwise)						
			YR1	YR2	YR3	YR4	YR5	YR6	End Target (Y7)
Increase in net price realization at producer level (Percentage)	<input type="checkbox"/>	0.00	0.00	0.00	11.00	16.50	22.00	27.50	33.00
Full Time Equivalent jobs generated in beneficiary firms (Number)	<input type="checkbox"/>	0	780	2,500	5,000	6,400	7,500	8,800	9,700
Of which, to female beneficiaries (Number)	<input type="checkbox"/>	0	115	370	1,600	2,350	3,200	4,200	4,700
Of which, to SCs and STs (Number)	<input type="checkbox"/>	0	150	500	1,000	1,280	1,500	1,750	1,950
Private sector finance mobilized by the project (Amount(USD), Thousand)	<input type="checkbox"/>	0	13,900	36,000	52,150	54,000	56,000	57,000	58,500
Farmers reached with agricultural assets or services (CRI, Number, Thousand)	<input type="checkbox"/>	0	270	650	1,025	1,370	1,670	1,900	1,900
Farmers reached with agricultural assets or services- Female (CRI, Number, Thousand)	<input type="checkbox"/>	0	108	230	380	500	660	820	820
Of which, SC and ST farmers (Number, Thousand)	<input type="checkbox"/>	0	35	85	130	175	220	245	245

51. Description of PDO level Indicators:

Project Development Objective Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Increase in net price realization at producer level (Percentage)	Measured in real terms by increase in the gross value of marketed output less costs at producer level over Baseline value. Gross value is defined as the product of selling price and output sold to the sub-project. Costs will include costs of cultivation and marketing to the sub-project. The indicator will be a composite indicator measuring the profitability accruing to project beneficiaries from sub-projects relating to 6 commodities viz. cotton, maize, pigeon pea, banana, tomato and goat	Measured in year 3 onwards	Field survey and Project MIS	PIUs aggregated by the PCMU
Full Time Equivalent jobs generated in beneficiary firms (Number)	Measured by number of incremental full time equivalent (FTE) jobs in beneficiary firms, disaggregated by gender and social category. Beneficiary firms refer to the project supported CBOs and project supported enterprises.	Annual	Project MIS	PIUs aggregated by PCMU
Private sector finance mobilized by the project (Amount(USD), Thousand)	This indicator measures the amount of private sector finance mobilized by the project. Private sector finance refers to the amount of debt raised by project beneficiaries as a part of beneficiary contribution towards the sub-projects. The contribution from VSTF has also been included.	Annual	Project MIS	PIUs aggregated by PCMU
Farmers reached with agricultural assets or services (CRI, Number, Thousand)	This indicator measures the number of farmers who were provided with agricultural assets or services as a result of World Bank project support. "Agriculture" or "Agricultural" includes: crops, livestock, capture fisheries, aquaculture, agroforestry, timber, and non-timber forest products. Assets include property, biological assets, and farm and processing equipment. Biological assets may include animal agriculture breeds (e.g., livestock, fisheries) and genetic material of livestock, crops, trees, and shrubs (including fiber and fuel crops). Services include research, extension, training, education, ICTs, inputs (e.g., fertilizers, pesticides, labor), production-related services (e.g., soil testing, animal health/veterinary services), phyto-sanitary and food safety services, agricultural	Annual	Project MIS	PIUs aggregated by PCMU

	marketing support services (e.g., price monitoring, export promotion), access to farm and post-harvest machinery and storage facilities, employment, irrigation and drainage, and finance. Farmers are people engaged in agricultural activities or members of an agriculture-related business (disaggregated by men and women) targeted by the project.			
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52. Intermediate Results Indicators

Project Development Objective: Support the Development of Inclusive and Competitive Value Chains focusing on Smallholder Farmers and Agri-entrepreneurs in Maharashtra									
Intermediate Results Indicators									
Indicator Name	DLI	Baseline	Cumulative Target Values (unless, indicated otherwise)						
			YR1	YR2	YR3	YR4	YR5	YR6	End Target (Y7)
Component A: Enhanced Institutional Capacity to Support Agricultural Transformation									
Progress against outcome goals tracked and reported annually by DoA (Yes/No)	<input type="checkbox"/>	No	No	No	Yes	Yes	Yes	Yes	Yes
Annual ranking of markets in Maharashtra and publication of the same (Yes/No)	<input type="checkbox"/>	No	No	Yes	Yes	Yes	Yes	Yes	Yes
Functional Agriculture Stewardship Councils established (Number)	<input type="checkbox"/>	0	0	0	3	4	5	6	6
Component B: Expanding Market Access and Supporting Enterprise Growth									
Productivity for select commodities (mt/ha) (Number)	<input type="checkbox"/>								
Cotton – Lint (Number)	<input type="checkbox"/>	0.29	0.29	0.29	0.30	0.31	0.33	0.34	0.43
Maize (Number)	<input type="checkbox"/>	2.91	2.91	2.91	3.02	3.14	3.27	3.40	3.58
Pigeon pea (Number)	<input type="checkbox"/>	0.93	0.93	0.93	0.97	1.01	1.05	1.09	1.14
Banana (Number)	<input type="checkbox"/>	52.29	52.29	52.29	54.38	56.56	58.82	61.17	64.37
Tomato (Number)	<input type="checkbox"/>	23.39	23.39	23.39	24.33	25.30	26.31	27.36	28.79
Average goat live weight (kg) (Number)	<input type="checkbox"/>	16.00	16.00	16.00	16.64	17.31	18.00	18.72	19.70
Beneficiaries meeting quality standards set by sub-projects (Percentage)	<input type="checkbox"/>	0	40	40	50	60	60	70	70

Market linkages established with the support of the project (Number)	<input type="checkbox"/>	0	45	75	100	120	120	120	120
Project supported enterprises making incremental investments (Number)	<input type="checkbox"/>	0	0	0	500	900	1,300	1,700	2,000
Of which, female entrepreneurs	<input type="checkbox"/>	0	0	0	300	540	780	1,020	1,200
Of which, SC and ST entrepreneurs	<input type="checkbox"/>	0	0	0	100	180	260	340	400
Volume of credit accessed from FIs by CBOs and enterprises supported by the project (Amount(USD), thousand)	<input type="checkbox"/>	0	9,571	28,571	42,143	43,857	45,714	47,143	48,571
Of which, by female-led CBOs and female entrepreneurs (Amount(USD), Thousand)	<input type="checkbox"/>	0	3,571	10,714	16,286	17,143	18,286	19,286	20,000
Of which, by SC and ST entrepreneurs (Amount(USD), Thousand)	<input type="checkbox"/>	0	0	0	429	714	1,143	1,429	1,714
Component C: Building Risk Mitigation Mechanisms									
Beneficiaries who are aware of market intelligence given by the project (Number(Thousand))	<input type="checkbox"/>	0.00	0.00	0.00	240.00	240.00	360.00	660.00	660.00
Of which, female beneficiaries (Number(Thousand))	<input type="checkbox"/>	0.00	0.00	0.00	48.00	48.00	90.00	198.00	198.00
Of which, SC and ST beneficiaries (Number(Thousand))	<input type="checkbox"/>	0.00	0.00	0.00	31.20	31.20	46.80	85.80	85.80
Warehouse receipts issued to project beneficiaries (Number(Thousand))	<input type="checkbox"/>	0.00	22.52	79.37	142.29	268.81	353.08	437.55	518.99
Of which, to female beneficiaries (Number(Thousand))	<input type="checkbox"/>	0.00	2.25	7.94	14.23	26.88	35.31	43.75	51.90
Of which, to SC and ST beneficiaries (Number(Thousand))	<input type="checkbox"/>	0.00	2.93	10.32	18.50	34.95	45.90	56.88	67.47
Component D: Project Management, Monitoring, and Learning									
Grievances registered related to delivery of project benefits that are actually addressed (Percentage)	<input type="checkbox"/>	0	70	80	80	80	80	80	85

53. Description of Intermediate Results Indicators:

Intermediate Results Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Progress against outcome goals tracked and reported annually by DoA (Yes/No)	This indicator, measures whether the outcome goals defined and accepted by the Department of Agriculture are met by the Department and reported annually. The DLI is linked to meeting the outcome goals as well as reporting the same annually on the agreed upon platform. DoA denotes Department of Agriculture, Government of Maharashtra.	Annual, Midterm and Final Assessment	Project MIS	DoA
Annual ranking of markets in Maharashtra and publication of the same (Yes/No)	DoM will develop ranking of market health indicators. This indicator tracks whether such rankings have been generated and reports thereof are published by DoM. DoM denotes Department of Marketing, Government of Maharashtra.	Annual, Midterm and Final Assessments	Project MIS	DoM
Functional Agriculture Stewardship Councils established (Number)	This indicator measures the number of functional Agriculture Stewardship Councils established. A functional Agriculture Stewardship Council is defined as one contributing to one or more policy recommendations based on a Vision Document and Institutional Development Plan.	Annual, Midterm and Final Assessment	Project MIS	VSTF PIU
Productivity for select commodities (mt/ha) (Number)	This indicator measures increment in the productivity of select five agricultural commodities (cotton-lint, maize, pigeon pea, banana, tomato). Baseline productivity is measured across all districts. From year 1 onwards, the productivity will be measured in the project districts.	Annual, Midterm and Final assessment	Annual household survey	Survey agency
Average goat live weight (kg) (Number)	This indicator measures the live weight of an average goat (as a commodity) at 6 months (measured in kilograms). Baseline average live weight is measured across all districts. From year 1 onwards, the average live weight of goat (at 6 months) will be measured in the project districts.	Annual, Midterm and Final assessment	Annual household survey	Survey agency
Beneficiaries meeting quality standards set by sub-projects (Percentage)	This indicator measures the percentage of beneficiaries meeting the standards set by the sub-project. Each sub-project is expected to have a set of quality	Annual, Midterm and Final assessment	Annual household survey	Survey agency

Intermediate Results Indicators				
Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
	standards that will be made known to the potential beneficiaries of the project.			
Market linkages established with the support of the project (Number)	This indicator measures the number of unique market linkages that will be established with the support of the project.	Annual, Midterm and Final assessment	Project MIS	PIUs aggregated by PCMU
Project supported enterprises making incremental investments (Number)	Individual entrepreneurs aiding the development of the project Value Chains will be supported by the project. Preference would be given to those enterprises which support the overall objectives of the sub-project. Enterprises are those which support sub project objectives in the given geography. This is further segregated by women entrepreneurs and by social category entrepreneurs.	Annual, Midterm and Final assessment	Project MIS	PIUs aggregated by PCMU
Volume of credit accessed from FIs by CBOs and enterprises supported by the project (Amount(USD), thousand)	This indicator measures the volume of credit accessed by project supported CBOs and Enterprises from Financial Institutions (FIs).	Annual	Project MIS	PIUs aggregated by PCMU
Beneficiaries who are aware of market intelligence given by the project (Number(Thousand))	Project beneficiaries will be given market information such as price forecasts which are helpful in taking decisions on storing or selling the produce. This indicator measures whether the project beneficiaries are aware about the market intelligence generated by the project.	Midterm, Year 5, Year 6, Year 7	Household survey	Survey Agency
Warehouse receipts issued to project beneficiaries (Number(Thousand))	This indicator measures the number of beneficiaries to whom warehouse receipts (WRs) are issued. WRs will include the WRs issued by the CMAs and are acceptable to bankers linked to the CMAs.	Annual, Midterm and Final Assessment	Project MIS	PIUs aggregated by PCMU
Grievances registered related to delivery of project benefits that are actually addressed (Percentage)	This indicator measures the transparency and accountability mechanisms established by the project so that the target beneficiaries have trust in the processes and are willing to participate, and feel that their grievances are attended to promptly. Thus, the project monitoring system should provide information on the number of complaints received against the number actually resolved.	Annual, Midterm and Final Assessment	Project MIS	PCMU

54. Output Indicators:

S.No.	Output Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y5	Y6	End target
Component A: Enhancing Institutional Capacity for Agribusiness Reforms										
A1	Report on Capability Assessment of DoA submitted (Y/N)	<input checked="" type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
	Report on Capability Assessment of VANAMATI and RAMETI submitted (Y/N)	<input checked="" type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
	Activities scheduled by DoA as per the recommendations of the Assessment Report (Y/N)	<input checked="" type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
	Report on Capability Assessment of DoM submitted to DoM (Y/N)	<input type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
	Activities scheduled by DoM as per the recommendations of the Assessment Report (Y/N)	<input type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
A2	Workshops on market reforms and regulations and alternate market channels (number)	<input type="checkbox"/>	0	30	60	90	120	150	150	150
	Setting up of Call center for dissemination of market information (Y/N)	<input type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
	Trainings conducted for APMC staff (number)	<input type="checkbox"/>	0	4	16	24	24	24	24	24
	Officers trained on dispute resolutions (number)	<input type="checkbox"/>	0	150	450	750	900	900	900	900
	Delegation of powers for dispute resolutions to field officers(Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
A3.a	Research studies initiated to evaluate reform efforts (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
A3.b	Establishment of functioning Agriculture Stewardship Councils (number)	<input type="checkbox"/>	0	0	0	3	4	5	6	6

S.No.	Output Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
	CBOs members and non-CBO members of the ASCs (number)	<input type="checkbox"/>	0	0	0	90	120	150	180	180
Component B: Supporting Enterprise Growth and Expanding Market Access										
B1/ B1.a/ B1.b/ B1.c	PCNs submitted for PPs (number)	<input type="checkbox"/>	0	135	405	540	540	540	540	540
	FPPs submitted for PPs (number)	<input type="checkbox"/>	0	45	135	180	180	180	180	180
	PP Grant Agreements signed (number)	<input type="checkbox"/>	0	30	90	120	120	120	120	120
	PCNs submitted for MAPs (number)	<input type="checkbox"/>	0	135	405	540	540	540	540	540
	FPPs submitted for MAPs (number)	<input type="checkbox"/>	0	45	135	180	180	180	180	180
	MAP Grant Agreements signed (number)	<input type="checkbox"/>	0	30	90	130	130	130	130	130
	Farmers trained in agriculture and horticulture practices through the Value Chain Development School (number)	<input type="checkbox"/>	0	7680	26070	51660	77250	95640	103320	103320
B.1.d (i)	Study report on operational integrated facility required for export and submitted to MSAMB. (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
B.1.d (ii)	Report of Knowledge Partner on interventions at AHD (Y/N)	<input type="checkbox"/>	N	N	N	Y	Y	Y	Y	Y
	Creation of Livestock Master Plan i.e LMP (Y/N)	<input type="checkbox"/>	N	N	N	Y	Y	Y	Y	Y
	In-service training for AHD staff on GAHP	<input type="checkbox"/>	0	0	125	250	375	500	500	500
B.1.d (iii)	No. of ginners empaneled with SMARTCOTTON	<input type="checkbox"/>	0	20	30	40	50	60	60	60
	No. of bales processed through empaneled ginners	<input type="checkbox"/>	0	50000	120000	255500	516000	800000	900000	1000000
	No. of smart cotton bales sold on e-market place	<input type="checkbox"/>		30000	84000	204400	464400	720000	900000	1000000
	No of ginners registered for selling self certified bales on e-market place	<input type="checkbox"/>		40	60	80	100	120	120	120

S.No.	Output Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
	Percentage of the produced bales sold by registered ginners on e-market place (percentage)			20	30	40	50	50	50	50
	No. of farmers selling on platform	<input type="checkbox"/>	0	17500	42000	91000	184000	280000	280000	350000
	No. of ginners selling on platform	<input type="checkbox"/>	0	40	60	80	100	120	120	120
	No. of buyers buying on platform	<input type="checkbox"/>	0	10	15	20	25	30	30	30
	Price differential = (Price for rated bale on platform) less (Price of rated bale elsewhere) (INR)	<input type="checkbox"/>	0	250	500	750	1000	1500	1500	1500
B1.e	CLF and CMRC members reached through Bridge Technical Support (Training and Exposure Visits)	<input type="checkbox"/>	0	500	1000	1525	1525	1525	1525	1525
B2	Entrepreneurs trained (number)	<input type="checkbox"/>	0	0	400	800	1200	1600	2000	2000
B.3	Tie-ups formalized with Banks / FIs on Partner Financial Institution platform (number)	<input type="checkbox"/>	0	5	7	10	10	10	10	10
	CBOs rated by agency (number)	<input type="checkbox"/>	0	100	200	300	500	600	600	600
	Feasibility study report on evaluation of the option of setting up PCG/FLDG (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
	Development of IT enabled / Cloud tools for digitization of CBOs records - MIS system (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
B4	Farmers certified with GAP/organic certification under urban food pilot intervention (number)	<input type="checkbox"/>	0	250	500	1000	1000	1000	1000	1000
	Weekly markets upgraded under the urban food pilot intervention (number)	<input type="checkbox"/>	0	13	28	28	28	28	28	28
Component C: Building Risk Mitigation Mechanisms										
C1	Beneficiaries reached with price forecast (number)	<input type="checkbox"/>	0	402500	1032500	1200000	1200000	1200000	1200000	1200000
C2	MoUs between CMAs and PACS(number)	<input type="checkbox"/>	0	10	10	70	133	201	201	201

S.No.	Output Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
	Storage capacity operationalized (MT) by PACS(number)	<input type="checkbox"/>	0	13650	51150	91650	125650	125650	125650	125650
	New warehousing capacity created (MT)	<input type="checkbox"/>	0	0	15000	33000	33000	33000	33000	33000
	Farmers using the storage capacities created by PACS (non-cumulative, number)		0	4095	16028	30735	45518	51800	58083	58083
	WR issued to farmers using the storage capacity created by PACs (non-cumulative, number)	<input type="checkbox"/>	0	4095	16028	30735	45518	51800	58083	58083
	Percentage of farmers linked to market of the total number of farmers using the storage capacities created by PACS (percentage)		0	10	15	25	40	50	50	50
	MoUs entered between CMAs and CLFs (number)	<input type="checkbox"/>		12	30	45	55	55	55	55
	Additional storage capacity newly created (MT) by CLFs (number)	<input type="checkbox"/>	0	4500	11250	15000	17500	17500	17500	17500
	Farmers using the storage capacities created by CLFs (non-cumulative, number)	<input type="checkbox"/>	0	0	6750	18375	35000	39375	43750	43750
	WR issued to farmers using the storage capacity created by CLFs (non-cumulative, number)	<input type="checkbox"/>	0	0	6750	18375	35000	39375	43750	43750
	Warehouses of CBOs such as PACS, CLFs, FPOs accredited by WDRA (number)	<input type="checkbox"/>	0	0	0	0	100	200	300	300
C3	Advisories and reports sent to Government by Risk Mitigation Cell (number)	<input type="checkbox"/>	0	2	4	6	8	10	12	12
	Study report on constraints and development of strategy for promoting exchange traded instruments for price risk mitigation by CBOs and State Agencies (Y/N)	<input type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y

S.No.	Output Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y5	Y6	End target
Component D: Project Management, Monitoring, and Learning										
Climate Indicators										
	Land area (ha) brought under Climate Smart Agriculture technologies promoted by project	<input type="checkbox"/>	0	5000	15000	25000	40000	55000	70000	70000
	Climate SMART Technologies adopted by Producers (number)	<input type="checkbox"/>	0	1	1	1	2	2	3	3

55.Outcome Indicators

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
Component A: Enhancing Institutional Capacity for Agribusiness Reforms										
1	Progress against outcome goals tracked and reported annually by DoA (Y/N)	<input checked="" type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
2	Compiling and disseminating information on market regulations measured through number of publications released(Y/N)	<input type="checkbox"/>	0	1	2	3	4	5	5	5
3	Annual ranking of markets in Maharashtra and publication of the same (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
4	Enhanced dispute resolution capacity through setting up of online reporting and tracking system for disputes (Y/N)	<input type="checkbox"/>	N	N	Y	Y	Y	Y	Y	Y
5	Strengthened systemic capacity for generating a knowledge base for reform measured through publication of policy studies based on market data (Y/N)	<input type="checkbox"/>	N	Y	Y	Y	Y	Y	Y	Y
6	Functional Agriculture Stewardship Councils established (number)	<input type="checkbox"/>	0	0	0	3	4	5	6	6
Component B: Supporting Enterprise Growth and Expanding Market Access										

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
7	Enhanced market access measured through volume sold under PP, MAP, IP by beneficiaries as percentage of total volume produced by beneficiaries (share)	<input type="checkbox"/>	0		--	30	--	--	40	40
8	Productivity for 11 select commodities (MT/ha)									
i	Cotton - lint		0.29	0.29	0.29	0.30	0.31	0.33	0.34	0.430
ii	Maize		2.91	2.91	2.91	3.02	3.14	3.27	3.40	3.58
iii	Pigeon pea		0.93	0.93	0.93	0.97	1.01	1.05	1.09	1.14
iv	Banana		52.29	52.29	52.29	54.38	56.56	58.82	61.17	64.37
v	Tomato		23.39	23.39	23.39	24.33	25.30	26.31	27.36	28.79
vi	Goat (live weight in kg of an animal at 6 months)		16.00	16.00	16.00	16.64	17.31	18.00	18.72	19.70
vii	Soyabean		1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
viii	Pomegranate		11.72	11.72	11.72	12.19	12.68	13.18	13.71	14.26
ix	Grapes		22.42	22.42	22.42	22.76	23.10	23.44	23.80	24.15
x	Onion		14.64	14.64	14.64	14.86	15.08	15.31	15.54	15.77
xi	Okra		9.69	9.69	9.69	10.08	10.48	10.90	11.34	11.79
9	Percentage beneficiaries meeting quality standards set by sub-projects (percentage)		0	40	40	50	60	60	70	70
10	No. of market linkages established with the support of the project		0	45	75	100	120	120	120	120

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
11	Strengthened export linkages measured through MAPs targeting export markets (percentage of all MAPs operationalized in the preceding 2 years and the current year)	<input type="checkbox"/>	0	--	--	15	--	--	20	20
12	SMART cotton price comparator defined as Price accruing to farmer with SMART Cotton intervention compared to Price accruing to farmer without SMART Cotton intervention (ratio)	<input type="checkbox"/>	0	--	--	1.05	--	--	1.08	1.08
13	Establishment of independent institutional mechanism for SMART cotton whose standards are adopted by:	<input type="checkbox"/>	0	Y	Y	Y	Y	Y	Y	Y
	i. Farmers	<input type="checkbox"/>	0	17500	42000	91000	184000	280000	280000	350000
	ii. Ginners	<input type="checkbox"/>	0	16	24	32	40	48	48	60
	iii. Spinners	<input type="checkbox"/>	0	8	12	16	20	24	24	30
14	Number of project supported enterprises making incremental investments		0	0	0	500	900	1300	1700	2000
	<i>Of which women entrepreneurs</i>		0	0	0	300	540	780	1020	1200
	<i>Of which social category entrepreneurs</i>		0	0	0	100	180	260	340	400

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
15	Volume of credit (Rs. crores) accessed from FIs by CBOs and Enterprises supported by the project		0	67	200	295	307	320	330	340
	<i>Of which Volume of Credit accessed by women led CBOs and women entrepreneurs</i>		0	25	75	114	120	128	135	140
	<i>Of which Volume of Credit accessed by entrepreneurs belonging to social category</i>		0	0	0	3	5	8	10	12
16	Enhanced access to finance as measured by CBOs accessing credit from Partner Financial Institutions(number)	<input type="checkbox"/>	0	0	20	70	150	250	270	300
17	Increased awareness across the value chain about safe food measured through number of participants reached through safe food value chain interventions (number)	<input type="checkbox"/>	0	0	30000	60000	100000	150000	200000	200000
	Of which female beneficiaries (percentage)	<input type="checkbox"/>	0	0	15	20	20	25	30	30
Component C: Building Risk Mitigation Mechanisms										
18	Number of beneficiaries who are aware of market intelligence given by the project		0			240000		360000	660000	660000

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
	<i>Of which, female beneficiaries</i>					48000		90000	198000	198000
	<i>Of which social category beneficiaries</i>					31200		46800	85800	85800
19	WRs issued to project beneficiaries		0	22520	79368	142288	268811	353083	437545	518987
	<i>Of which, female beneficiaries</i>			2252	7937	14229	26881	35308	43754	51899
	<i>Of which social category beneficiaries</i>			2928	10318	18497	34945	45901	56881	67468
20	Farmers getting pledge finance using NWR as a percentage of the total number of farmers getting WRs (percentage)	<input type="checkbox"/>	0	15	15	20	25	30	30	30
21	Integration of the project supported warehouse facilities with the state warehousing grid through IT infrastructure (Y/N)	<input type="checkbox"/>	N	N	N	Y	Y	Y	Y	Y
Component D: Project Management, Monitoring, and Learning										
22	Grievances registered related to delivery of project benefits that are actually addressed (percentage)	<input type="checkbox"/>	0	70	80	80	80	80	85	85

S. No.	Outcome Indicator Name	DLI	Baseline	Target Values (Cumulative, unless indicated otherwise)						
				Y1	Y2	Y3	Y4	Y 5	Y6	End target
Climate Indicators										
23	GHG emissions reduced in selected value chains (percent)	<input type="checkbox"/>	0	0	2	4	6	8	10	10
24	GHG Reduction Impact (tCO ₂ -e per year)									
i.	Cotton	<input type="checkbox"/>	2156869	2156869	2113732	2070594	2027457	1984319	1941182	1941182
ii.	Turmeric	<input type="checkbox"/>	560584672	560584672	549372979	538161285	526949592	515737898	504526205	504526205
iii.	Soybean	<input type="checkbox"/>	516958	516958	506619	496280	485940	475601	465262	465262
iv.	Okra	<input type="checkbox"/>	701	701	689	673	659	645	631	631
v.	Banana	<input type="checkbox"/>	36765	36765	36030	35294	34559	33824	33088	33088
vi.	Goat Rearing	<input type="checkbox"/>	1059	1059	1038	1017	995	974	953	953
25	KwH of coal-based electricity replaced through renewable energy sources (solar) in select infrastructure supported by project (percent):									
i	New Infrastructure		0	0	10	20	30	40	50	50
ii	Existing Infrastructure		0	0	5	10	15	20	25	25

56. Description of Output Indicators:

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
Component A: Enhancing Institutional Capacity for Agribusiness Reforms					
A.1	Report on Capability Assessment of DoA submitted (Y/N)	This indicator is a Yes/ No indicator. It measures whether the report on Capacity Assessment of the DoA has been readied and submitted to the DoA.	Annual	MIS	DoA
	Report on Capability Assessment of VANAMATI and RAMETI submitted (Y/N)	This indicator is a Yes/ No indicator. It measures whether the report on Capacity Assessment of VANAMATI and RAMETI has been readied and submitted to the DoA.	Annual	MIS	DoA
	Activities scheduled by DoA as per the recommendations of the Assessment Report (Y/N)	The functional review of the DoA will assess enhancements needed against identified core thematic areas. This indicator measures whether the activities scheduled by the DoA after carrying out the functional review are in line with the major recommendations of the report.	Annual	MIS	DoA
	Report on Capability Assessment of DoM submitted (Y/N)	This indicator is a Yes/ No indicator. It measures whether the report on Capacity Assessment of the DoA has been readied and submitted to the DoA.	Annual	MIS	DoM
	Activities scheduled by DoM as per the recommendations of the Assessment Report (Y/N)	The functional review of the DoM will assess enhancements needed against identified core thematic areas. This indicator measures whether the activities scheduled by the DoM after carrying out the functional review reflect the major recommendations of the report.	Annual	MIS	DoM
A.2	Workshops on market reforms and regulations and alternate market channels (number)	This indicator measures the number of workshops held on market reforms and regulations.	Annual	MIS	DoM
	Setting up of Call center for dissemination of market information (Y/N)	It is envisaged that DoM will compile and disseminate information on market regulations through various methods, including setting up of a call centre. This indicator measures whether the call center has been established at the DoM for dissemination of market information.	Annual	MIS	DoM

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	Trainings conducted for APMC staff (number)	For enhanced regulatory effectiveness, the DoM will conduct training to employees of Agricultural Produce Marketing Committee (APMC) markets on roles and responsibilities including relevant laws, reforms, technical functions, etc. This indicator measures the number of trainings conducted for APMC staff.	Annual	MIS	DoM
	Officers trained on dispute resolutions (number)	Strengthening of the Dispute resolution mechanism is identified as a core technical area for improvement. This indicator measures the number of officers trained in dispute resolutions	Annual	MIS	DoM
	Delegation of powers for dispute resolutions to field officers(Y/N)	For quicker dispute resolution, decentralizing powers for dispute resolution will be given to field officers and they will be trained on undertaking effective dispute resolution. This indicator measures whether the delegation of power to field officers has taken place.	Midterm	Government Records such as orders	DoM
A.3.a	Research studies initiated to evaluate reform efforts (Y/N)	The DoM will establish a Technical Cell to undertake evaluation of reform efforts already being implemented. This indicator measures whether the Technical Cell has initiated research studies to evaluate reform efforts.	Annual	MIS	DoM
A.3.b	Establishment of functioning Agriculture Stewardship Councils (number)	This indicator measures the number of functioning councils that will be set-up, defined as having a registration certificate under a legal structure	Annual	MIS	VSTF
	CBOs members and non-CBO members of the ASCs (number)	This indicator measures the number of institutional memberships under ASCs; where non-CBOs include private sector enterprises, civil society organization, research institutes and training and extension service providers.	Annual	MIS	VSTF
Component B: Supporting Enterprise Growth and Expanding Market Access					
B.1/ B.1.a/ B.1.b/ B.1.c	PCNs submitted for PPs (number)	This indicator measures the number of Project Concept Notes submitted by CBOs and Buyer Partners of PPs to the PCMU for approval.	Annual	MIS	PCMU
	FPPs submitted for PPs (number)	This indicator measures the number of Full Project Proposals submitted by CBOs and Buyer Partners of PPs to the PCMU for approval.	Annual	MIS	PCMU

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	PP Grant Agreements signed (number)	This indicator measures the number of Grant Agreements signed with the Partners of the Productive Partnership sub-project.	Annual	MIS	PCMU
	PCNs submitted for MAPs (number)	This indicator measures the number of Project Concept Notes submitted by CBOs, Associations, Federations and eligible Farmer Groups to the PCMU for approval under MAPs.	Annual	MIS	PCMU
	FPPs submitted for MAPs (number)	This indicator measures the number of Full Project Proposals submitted by CBOs, Associations, Federations and eligible Farmer Groups to the PCMU for approval under MAPs.	Annual	MIS	PCMU
	MAP Grant Agreements signed (number)	This indicator measures the number of Grant Agreements signed with the stakeholders of the Market Access Plan sub-project.	Annual	MIS	PCMU
	Farmers trained in agriculture and horticulture practices through the Value Chain Development School (number)	This indicator measures the number of all farmers who were trained in market led demos organized under Value Chain Development Schools.	Annual	MIS	PIUs
B.1.d(i) JNPT	Study report on operational integrated facility required for export and import at JNPT submitted to MSAMB. (Y/N)	MSAMB will engage a technical consultant to carry out a study with the “Prioritizing SPS Investments for Market Access” (P-IMA) tool to identify what kind of facilities are required for exit level infrastructure in state and at JNPT in particular and its prioritization with given resources. This indicator, which is a Yes/ No indicator tracks whether the report of the said study has been submitted to MSAMB.	Annual	MIS	MSAMB
B.1.d (ii) Knowledge Partner	Report of Knowledge Partner on interventions at AHD (Y/N)	The Knowledge Partner will facilitate the AHD to carry out broad-based reforms ranging from capacity building within the Department to facilitating nutritious safe food value chains. This indicator, which is a Yes/ No indicator tracks whether the report of the Knowledge Partner has been submitted to AHD.	Annual	MIS	AHD

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	Creation of Livestock Master Plan i.e LMP (Y/N)	The LMP will provide a sector-wide strategy for the next 10 -15 years to guide the Animal Husbandry Department (AHD) on sectors with further development potential, options to address risks like climate change and provide investment options including the scaling up of project models and effective engagement with the private sector. This indicator, which is a Yes/ No indicator, measures whether such a LMP is created within the project period.	Annual	MIS	AHD
	In-service training for AHD staff on GAHP	Based on the report of Knowledge Partner, in-service training will be conducted for AHD staff on GAHP. This indicator measures the number of staff trained under this initiative.	Annual	MIS	AHD
	No. of ginners empaneled with SMARTCOTTON	This indicator measures the number of ginners empaneled on SMART Cotton Online e- Market platform. Empanelment refers to entering an Agreement with the Ginning Press Factory on conditions of the ginning and pressing	Annual	MIS	Mahacot
	Bales processed through empaneled ginners (number)	This indicator measure the no. of bales processed by empaneled ginners	Annual	MIS	Mahacot
	No. of SMART cotton bales sold on e-market place	No. of Smart cotton bales sold on e-market place processed by the empaneled ginners.	Annual	MIS	Mahacot
	No of ginners registered for selling self certified bales on e-market place	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of ginners registered for selling self certified bales on e-market place. Self certification is based on the overall quality of the bales offered by the ginners at the time of selling the bales on e market place	Annual	MIS	Mahacot

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	Bales sold out of total produced bales by registered ginners on e-market place (percentage)	This indicator measures the percentage of the bales sold by the registered ginners on the e-market place out of the total produced bales	Annual	MIS	Mahacot
	No. of farmers selling on platform	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of farmers selling cotton to empaneled ginners on the platform.	Annual	MIS	Mahacot
	No. of ginners selling on platform	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of empaneled ginners selling bales on the platform.	Annual	MIS	Mahacot
	No. of buyers buying on platform	This indicator measures the number of spinners buying bales on the platform	Annual	MIS	Mahacot
	Price differential = (Price for rated bale on platform) less (Price of rated bale elsewhere) (INR)	The price for rated bales on the online platform will be compared to the price for the rated bales on any other market through a simple ratio. This indicator measures through the ratio the premium/discount prevailing for the rated bale on the SMART online platform as compared to the price it may get elsewhere.	Annual	MIS	Mahacot
B.1.e	CLF and CMRC members reached through Bridge Technical Support (Training and Exposure Visits)	This indicator measures the number of CLF and CMRC members participating in the Bridge Technical Support (Training and Exposure Visit) conducted by MSRLM.	Annual	MIS	MSRLM
B.2	Entrepreneurs trained (number)	This indicator measures the number of entrepreneurs participating in the Training and Workshops conducted by MSRLM on packaging solutions, product quality, standardization and certification, traceability, licenses, brand image building and brand promotion etc.	Annual	MIS	MSRLM

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
B.3	Tie-ups formalized with Banks / FIs on Partner Financial Institution platform (number)	This indicator measures the number of financial institutes, banks, who have signed MOU with SMART as a partner financial institute.	Annual	MIS	PCMU
	CBOs rated by agency (number)	This indicator measures the number of CBOs rated using the rating tool developed under the SMART project for the same.	Annual	MIS	PCMU
	Feasibility study report on evaluation of the option of setting up PCG/FLDG (Y/N)	The project is expected to contribute to an existing or a new PCGF, which will in turn provide third-party credit risk mitigation to lenders with the objective of increasing access to credit for CBOs and agri-enterprises. A feasibility study will be set up to assess option of PCGF. This indicator, which is a Yes/ No indicator tracks whether the report of the said study has been submitted to PCMU.	Annual	MIS	PCMU
	Development of IT enabled / Cloud tools for digitization of CBOs records - MIS system (Y/N)	The project will create digital records of financial transactions of CBOs through an IT based system. This indicator, which is a Yes/ No indicator, tracks whether such an IT based system has been established and is operational in the Department.	Annual	MIS	PCMU, DoA
B.4	Farmers certified with GAP/organic under the urban pilot intervention (number)	This indicator measures the number of farmers who gets GAP or Organic certification from appropriate/authorized third-party agencies.	Annual	MIS	DoA
	Weekly markets upgraded under the urban food pilot intervention (number)	This indicator measures the number of weekly markets upgraded with facilities as per designs and sanctioned plans as reflected in the utilization certificates issued for the same.	Annual	MIS	PMC
Component C: Building Risk Mitigation Mechanisms					
C1	Beneficiaries reached with price forecast (number)	This indicator measures the number of beneficiaries receiving minimally a pre-sowing and a pre-harvesting price forecast.	Annual	MIS	DoA

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
C.2	MoUs between CMAs and PACS(number)	This indicator measures the number of MoUs signed between PACS and CMA for operating the renovated PACS warehouses. A pilot of 10 such partnerships will be implemented in the first year of the project. The targets set for third year onwards are to be treated as indicative and may be modified depending on the results of the pilot partnership implemented.	Annual	MIS	MCDC
	Storage capacity operationalized (MT) by PACS(number)	This indicator measures warehousing capacity operationalized by renovating the existing warehouses of PACS (MT)	Annual	MIS	MCDC
	New warehousing capacity created (MT)	This indicator measures newly created warehousing capacity created by MCDC with each warehouses of 1000 MT capacity. (MT)	Annual	MIS	MCDC
	Farmers using the storage capacities created by PACS (number)	This indicator measures the number of farmers who are storing their produce in the warehouses operationalized and newly created under this component.	Annual	MIS	MCDC
	WR issued to farmers using the storage capacity created by PACs (number)	This indicator measures the number of WRs issued for the produce stored in the warehouses operationalized and newly created under this component.	Annual	MIS	MCDC
	Percentage of farmers linked to market of the total number of farmers using the storage capacities created by PACS (percentage)	This indicator measures the percentage of farmers who could sell their produce through/with help of CMA to total number of farmers using warehouses operationalized under this component.	Annual	MIS	MCDC
	MoUs entered between CMAs and CLFs (number)	This indicator measures the number of MoUs signed between CLFs /FPOs and CMA for operating the newly created warehouses by CLFs/FPOs.	Annual	MIS	MSRLM
	Additional storage capacity newly created (MT) by CLFs	This indicator measures newly created warehousing capacity, measured in Metric Tonnes for CLFs/ FPOs.	Annual	MIS	MSRLM

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	(number)				
	Farmers using the storage capacities created by CLFs (number)	This indicator measures the number of farmers who are storing their produce in the warehouses under this component.	Annual	MIS	MSRLM
	WR issued to farmers using the storage capacity created by CLFs (number)	This indicator measures the number of WRs issued for the produce stored in the warehouses under this component.	Annual	MIS	MSRLM
	Warehouses of CBOs such as PACS, CLFs, FPOs accredited by WDRA (number)	This indicator measures the number of warehouses that receive due accreditation from WDRA.	Annual	MIS	MSWC
	Advisories and reports sent to Government by RMC (number)	This indicator measures the number of reports, advisories sent to government for broader purpose of price risk mitigation.	Annual	MIS	DoA
C3	Study report on constraints and development of strategy for promoting exchange traded instruments for price risk mitigation by CBOs and State Agencies (Y/N)	This indicator is a Yes/ No indicator. It measures whether the study report on constraints and development of strategy for promoting exchange traded instruments for price risk mitigation by CBOs has been readied and submitted to the DoA.	Annual	MIS	DoA
Component D: Project Management, Monitoring and Learning					

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
D	Grievances registered related to delivery of project benefits that are actually addressed (percentage)	This Corporate Results Indicator measures the transparency and accountability mechanisms established by the project so that the target beneficiaries have trust in the processes and are willing to participate, and feel that their grievances are attended to promptly. Thus the project monitoring system should provide information on the number of complaints received against the number actually resolved.	Annual, Midterm and Final Assessment	Project MIS	PCMU
Climate Indicators					
D	Land area (ha) brought under CSA technologies promoted by project	<p>This indicator measures the land area (ha) brought under the best fit CSA/agri-value chain technologies:</p> <ol style="list-style-type: none"> 1. Climate-resilient agricultural value chain infrastructure (drying, processing and storage facilities), viz., promotion of solar dryers, solar boilers, solar grain silo, etc. 2. Promotion of Organic Farming through the demos and support for organic certification leading into agrochemical use reduction and related reduction in GHG emissions. 3. Good Agricultural Practices (GAP) for Climate-friendly agribusiness policies and standards (PIU-Agriculture). 4. Good Animal Husbandry (GAHP) Practices, viz., Feed & Fodder and Manure Management (PIU-AHD). 5. Crop Stubble Management through promotion of Composting, Conversion into Value Added Products, i.e., could be composite board making, crop residue fuel briquettes, etc. 6. IPM for emission reduction of GHGs, viz., nitrous oxide (N₂O), carbon dioxide (CO₂), etc. 7. INM for Precision Agriculture and GHGs emission reduction 8. Energy Efficiency in Warehouses, Processing Units viz., LED, Solar and use of humidifiers and dehumidifiers for the warehouse temperature and humidity regulations. 9. Introduction of Climate Resilient Varieties of Seeds. 10. Climate risk management through information and communication technologies (ICT). 	Annual, Midterm and Final Assessment	Project MIS, Household and Processor level survey (Surveys in producer fields & farms, checking farm records, visiting primary processing centres, primary storage structures and climate risk management ICT advisories disseminated to the producers)	DIUs, RIUs, Survey Agency and PCMU

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
D	Climate SMART Technologies adopted by Producers (number)	This indicator measures the number of CSA technologies adopted by producers. See description of Output Indicator 26 for list of CSA technologies proposed to be adopted under the project.	Annual, Midterm and Final Assessment	Project MIS, Household and Processor level survey (Surveys in producer fields & farms, checking farm records, visiting primary processing centres, primary storage structures and climate risk management ICT advisories disseminated to the producers)	DIUs, RIUs, Survey Agency and PCMU

57. Description of Outcome Indicators:

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
Component A: Enhancing Institutional Capacity for Agribusiness Reforms					
1	Progress against outcome goals tracked and reported annually by DoA (Y/N)	This indicator, which is a Yes/No indicator, measures whether the outcome goals defined and accepted by the Department of Agriculture are met by the Department and reported annually. The DLI is linked to meeting the outcome goals as well as reporting the same annually on the agreed upon platform.	Annual	Project MIS	DoA
2	Compiling and disseminating information on market regulations measured through number of publications released(Y/N)	DoM would like to enhance regulatory effectiveness through compiling and disseminating information on market regulations. This will be done through booklets, web-sites, a call-center, advertisements and workshops. This indicator measures the number of publications on market regulations released by the Department	Annual	MIS	DoM
3	Annual ranking of markets in Maharashtra and publication of the same (Y/N)	DoM will develop ranking of market health indicators. This indicator, which is a Yes/ No indicator, tracks whether such rankings have been generated and reports thereof are published by DoM	Annual, Midterm and Final Assessment	Project MIS	DoM
4	Enhanced dispute resolution capacity through setting up of online reporting and tracking system for disputes (Y/N)	The DoM has identified establishment of a robust disputes resolution system as one of the core technical areas to be addressed through project intervention. One of the initiatives in this area is development of Online and Call Center based system for reporting disputes. This indicator, which is a Yes/ No indicator, tracks whether such an online system has been established and is operational in the Department	Annual	MIS	DoM

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
5	Strengthened systemic capacity for generating a knowledge base for reform measured through publication of policy studies based on market data (Y/N)	The DoM wishes to undertake market data-based research studies, the findings of which will inform policy making of the Department. This indicator, which is a Yes/ No indicator, tracks whether such studies are being published by the DoM.	Annual	MIS	DoM
6	Establishment of functioning Agriculture Stewardship Councils (number)	This indicator measures the number of functional Agriculture Stewardship Councils established. A functional Agriculture Stewardship Council is defined as one contributing to one or more policy recommendations based on a Vision Document and Institutional Development Plan	Annual, Midterm and Final Assessment	Project MIS	VSTF
Component B: Supporting Enterprise Growth and Expanding Market Access					
7	Enhanced market access measured through volume sold under PP, MAP, IP by beneficiaries as percentage of total volume produced by beneficiaries (share)	Volume sold under PPs and MAPs is defined as the volume sold to the buyer under the PP or to the new markets under the MAP. The beneficiary is any individual member or non-member of the CBO who has access to the assets or services provided under the PP and MAP.	Mid-term and final review	MIS and field surveys (midterm and endline)	PIUs and Survey agency
8	Productivity for 11 select commodities	This indicator measures increment in the productivity of select 11 commodities i.e. Cotton- lint, maize, pigeon pea, banana, tomato, goat meat, soybean, pomegranates, grapes, onion and okra. Baseline productivity is measured across all districts. From Y1 onwards, the productivity will be measured in the project districts.	Annual, Midterm and Final Assessment	Annual household survey	Survey Agency
9	Percentage beneficiaries meeting standards set by sub-projects (percentage)	Each sub-project is expected to have a set of quality standards that will be made known to the potential beneficiaries of the project. This indicator measures the percentage of beneficiaries meeting the standards set by the sub-project.	Annual, Midterm and Final Assessment	Annual household survey	Survey Agency

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
10	No. of market linkages established with the support of the project	This indicator measures the number of unique market linkages that will be established with the support of the project.	Annual, Midterm and Final Assessment	Project MIS	PIUs aggregated by PCMU
11	Strengthened export linkages measured through MAPs targeting export markets (percentage of all MAPs operationalized in the preceding 2 years and the current year)	This indicator measures the percentage of all MAPs that target export markets.	Mid-term and final review	MIS	MSAMB
12	SMART cotton price comparator defined as Price accruing to farmer with SMART Cotton intervention compared to Price accruing to farmer without SMART Cotton intervention (ratio)	This indicator calculates the difference between price accruing to farmer with SMART cotton intervention in the immediate three years preceding the survey. It also calculates the difference between price accruing to farmer without SMART cotton intervention in the three years immediately preceding the survey. It finally calculates the ratio of the differential between price accruing to farmer with SMART Cotton intervention and Price accruing to farmer without SMART Cotton intervention.	Mid-term and final review	Project MIS and field surveys (midterm and endline)	Mahacot and Survey agency
13	Establishment of independent institutional mechanism for SMART cotton whose standards are adopted by:	This indicator has two components. The first component of the indicator tracks, through a Yes/No Indicator, whether an independent institutional mechanism was set up for SMART cotton. The second component of the indicator tracks how many farmers, ginners and spinners adopted the standards recommended by the institutional mechanism.	Annual, from Y3	Project MIS	Mahacot and Survey agency
	i. Farmers	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of farmers selling cotton to empaneled ginners on the platform.			

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
	ii. Ginners	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of empanelled ginners selling bales on the platform.			
	iii. Spinners	The SMART Cotton Online e-Market place will bring ginners and spinners on the SMART Cotton Online e- Market platform. This indicator measures the number of spinners buying bales on the platform from ginners.			
14	Number of project supported enterprises making incremental investments	Individual entrepreneurs aiding the development of the project Value Chains will be supported by the project. Preference would be given to those enterprises which support the overall objectives of the sub-project. Enterprises are those which support sub project objectives in the given geography.	Annual, Midterm and Final Assessment	Project MIS	PIUs aggregated by PCMU
15	Volume of credit (Rs. crores) accessed from FIs by CBOs and Enterprises supported by the project	This indicator measures the volume of credit accessed by project supported CBOs and Enterprises from Financial Institutions.	Annual	Project MIS	PIUs aggregated by PCMU
16	Enhanced access to finance as measured by CBOs accessing credit from Partner Financial Institutions(number)	The project envisages facilitating CBOs and agri-enterprises to access a broad set of financial services. This indicator measures the number of CBOs which have received credit from Partner Financial Institutions (PFIs)	Annual	MIS	PCMU, DoA
17	Increased awareness across the value chain about safe food measured through number of participants reached through awareness campaign for citizen engagement (number)	This indicator measures total number of participants including citizens, food vendors, other stakeholders across the food chain participating in awareness campaign for citizen engagement.	Annual	MIS	PMC
	Of which female beneficiaries (percentage)	This measures the ratio of the female participants in the total participants in the safe food value chain. (Percentage)	Annual	MIS	PMC
Component C: Building Risk Mitigation Mechanisms					

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
18	Number of beneficiaries who are aware of market intelligence given by the project	Project beneficiaries will be given market information such as price forecasts which are helpful in taking decisions on storing or selling the produce. This indicator measures whether the project beneficiaries are aware about the market intelligence generated by the project.	Midterm, Y5, Y6, Y7	Household survey	Survey Agency
19	WRs issued to project beneficiaries	This indicator measures the number of beneficiaries to whom Warehouse Receipts are issued. WRs will include the WRs issued by the CMAs and acceptable to bankers linked to the CMAs.	Annual, Midterm and Final Assessment	Project MIS	PIUs aggregated by PCMU
20	Farmers getting pledge finance using NWR as a percentage of the total number of farmers getting WRs (percentage)	This indicator measures the ratio of no of farmers availing pledge finance through CMA and MSWC operated warehouses to total number of farmers to whom WRs are issued,	Annual	MIS	MCDC, MSRLM, MSWC
22	Integration of the project supported warehouse facilities with the state warehousing grid through IT infrastructure (Y/N)	The project will support integration of project supported warehouse facilities with the state warehousing grid through IT infrastructure. This indicator, which is a Yes/ No indicator, tracks whether such an IT based system has been established and is operational.	Annual	MIS	MSWC
Component D: Project Management, Monitoring and Learning					
23	Grievances registered related to delivery of project benefits that are actually addressed (percentage)	This Corporate Results Indicator measures the transparency and accountability mechanisms established by the project so that the target beneficiaries have trust in the processes and are willing to participate, and feel that their grievances are attended to promptly. Thus the project monitoring system should provide information on the number of complaints received against the number actually resolved.	Annual, Midterm and Final Assessment	Project MIS	PCMU
Climate Indicators					

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
24	GHG emissions reduced in selected value chains (percent)	This indicator measures, through a difference-in-difference methodology, the reduction in GHG emissions achieved in selected Agriculture and AHD value chains.	Annual, Midterm and Final Assessment	Project MIS, Household and Processor level survey (Surveys in producer fields & farms, checking farm records, visiting primary processing centres, primary storage structures and climate risk management ICT advisories disseminated to the producers)	DIUs, RIUs, Survey Agency and PCMU
25	GHG Reduction Impact (tCO ₂ -e per year)	This indicator measures the amount of GHG emissions reduced in tCO ₂ -e per year in the selected value chains under project.	Annual, Midterm and Final Assessment	Project MIS, Household and Processor level survey (Surveys in producer fields & farms, checking farm records, visiting primary processing centres, primary storage structures and climate risk management ICT advisories disseminated to the producers)	DIUs, RIUs, Survey Agency and PCMU

S.No.	Indicator Name	Description	Frequency	Data Source / Methodology	Responsibility for Data Collection
26	KwH of coal-based electricity replaced through renewable energy sources (solar) in select infrastructure supported by project (percent):	This indicator measures the coal-based electricity in KwH replaced by the renewable energy sources (solar) in the project's selected infrastructure	Annual, Midterm and Final Assessment	Project MIS, Household and Processor level survey (Surveys in producer fields & farms, checking farm records, visiting primary processing centres, primary storage structures and climate risk management ICT advisories disseminated to the producers)	DIUs, RIUs, Survey Agency and PCMU

58. Summary of Project Components and Sub Components

The proposed project costs are as follows: This cost is only illustrative, and excludes beneficiary cost.

	SMART COMPONENTS AND SUB-COMPONENTS	US\$ Allocation (mn)	INR Allocation (Crores)
A	Enhancing Institutional Capacity to Support Agricultural Transformation	40.4	282.6
A1	Enhancing institutional capacity of the Department of Agriculture	27.5	192.5
A2	Enhancing Institutional Capacity of the Department of Marketing	3.2	22.2
A3	Strengthening capacity for reform measures and joint actions	9.7	67.9
A3.1	Technical support for reforms unit	1.0	6.7
A3.2	Stewardship Council	8.7	61.2
B	Expanding Market Access and Supporting Enterprise Growth	201.6	1411.4
B1	Market Access Support	37.8	264.7
b1.1	Productive Partnership Subprojects	46.3	324.0
b1.2	Market Access Plans Subprojects	51.6	361.0
b1.3	Complementary Innovation Investment Subprojects	6.4	45.0
b1.4	Priority investments in public infrastructure	36.2	253.2
b1.5	Capacity Building Support	4.2	29.5
B2	Enterprise Development Support	3.3	23.1
B3	Access to Finance	13.0	90.7
B4	Pilot Program on Urban Food Systems	2.9	20.2
C	Building Risk Mitigation Mechanisms	18.5	129.5
C1	Enhanced market information and intelligence services	3.0	21.1
C2	Strengthening the warehouse receipts systems	12.4	86.7
C3	Price Risk Management Support	3.1	21.7
D	Project Management, Monitoring and Learning	32.0	223.9
	Sub Total	292.5	2047.3
	Contingencies	7.5	52.7
	TOTAL PROJECT COSTS (A + B + C + D + Contingencies)	300.0	2100.0

59. The total estimated cost of the Project is Rs. 2100 crores¹ (US\$ 300 million), of which World Bank contribution would be around approximately 70 per cent i.e. Rs. 1470 crores (US\$ 210 million), Maharashtra State Government's contribution would be approximately 27 per cent i.e. Rs 560 crores (US\$ 80 million) and the remaining 3 per cent i.e. Rs. 70 crores (US\$ 10 million) would be from private sector funding, through VSTF.

60. Based on the pilot sub project proposals developed during the project preparation phase, following assumptions are made for project design of components B1 and C2. The project will fund about 525 sub-projects, of which about 300 sub-projects are from sub-

¹ USD to INR conversion rate assumed at \$ 1 = Rs 70, however this is subject to change.

component B1 and about 225 sub-projects from sub-component C2 of the project. Sub-component B1 includes about 120 subprojects for Productive Partnerships (PPs), about 130 sub-projects for Market Access Plans (MAPs) and about 50 sub-projects for Complementary Innovations Investments (CIIs). Sub-component C2 includes about 225 subprojects for warehouse receipts development and will be implemented by MCDC, MSRLM, MAVIM and other entities.

61. Total number of CBOs covered under the project would be about 1425. Under component B1, four CBOs per sub-project are assumed. Total sub projects would be about 300. Accordingly it is expected that total number of CBOs will be about 1200. In case of warehouse sub project proposals, one CBO is assumed for each subproject. Total warehouse sub project proposals would be about 225.
62. Under sub-component B1, average business plan size is considered to be about Rs 4.50 crore (USD 643,000) while average grant size is about Rs 2.70 crore (USD 386,000) while average grant size per CBO is Rs 0.68 crore (USD 96,000). Under sub-component C2 average business plan size is about Rs. 0.70 crore (USD 100,000) while average grant size is about Rs 0.42 crore (USD 60,000), while average grant size per CBO is Rs 0.42 crore (USD 60,000).
63. Government of Maharashtra will pre-finance the Project activities by making budgetary provision under the SMART account heads opened at the level of Government of Maharashtra. After the funds have been drawn by the Drawing and Disbursing officer at the level of PCMU SMART, a three-level fund flow arrangement has been proposed that includes PCMU at first level, PIUs at second level and Regional Joint Director of Agriculture and District Implementing Units at third level.
64. Based on learnings of other World Bank funded Projects, a ‘Central Pool-Zero Balance Bank Account has been adopted, wherein the funds allocated to a particular accounting center/spending unit, do not get blocked at their level. This will enable better control, flexibility in fund management and timely availability of funds.
65. The Project adopts the Public Financial Management System (PFMS) wherein transfer and payment of funds will be tracked even at the lowest level of implementation. The fund flow arrangement of the project has been spelt out in detail in Financial Management chapter.
66. The key responsibilities of the implementing agencies are given below: In the event reference to any activity is missed here, readers to advised to refer to relevant section in the PIP for a more detailed list. The individual PIP sections will supersede this table.

Component and Sub components	Key Activities	Responsible Implementing Unit
Component A: Enhancing Institutional Capacity to Support Agricultural Transformation		
A1: Enhancing institutional capacity of the Department of Agriculture	Functional review of DoA and DoM.	Department of Agriculture
	Institutional realignment and strengthening towards outcomes	
	Enhanced staff capacity of DOA	
A2: Enhancing Institutional Capacity of the Department of Marketing	Training and Capacity building of DoM and APMC staff Publication of market health report Activities related to enhancing regulatory	Department of Marketing

	effectiveness and ease of doing business. (Trainings, Workshops, Help desk, dispute resolution mechanism etc.)	
A3: Strengthening capacity for reform measures and joint actions, <i>of which</i> :		
A3.1 Technical support for reforms unit	Hiring of Experts for Technical Cell, Institute tieups, Research and Evaluation Studies, Study tours.	PCMU
A3.2: Agriculture Stewardship Council	Hiring of lead staff for ASC, Commodity Vision Plan,	VSTF
	Financial Support to Institutional Development Plan	
	International Collaborations, Events, Workshops, Seminars, trade fairs, Publications, Policy papers etc.	
Component B: Expanding Market Access and Supporting Enterprise Growth		
B1: Market Access Support	Outreach activities to mobilize buyers and CBOs for sub projects	VSTF and other concerned PIUs
	Capacity building of CBOs for effective investments in sub projects	PCMU and / or PIUs as relevant
	Extension activities including Value Chain Development School	PIU-Agri and AHD
	Tieup with International & National Research Institutes	PCMU and / or PIUs as relevant
B1.1: Productive Partnerships B1.2: MAPs B1.3: Innovations	Call for Proposals, evaluation and approval to PCN and FPP	PCMU
	Receiving PCN, scrutiny of PCN & FPPs, coordination and monitoring	RIU
	Signing of Grant Agreement and implementation of Sub Projects	PIUs
	Handholding of CBOs, coordination with district offices of other PIUs, support in implementation and monitoring of subprojects	DIU
B1.4 - Priority Investments in Public Infrastructures	a) SMART Cotton	
	Mobilization and training of CBOs	Agri, Mahacot, VSTF, MSRLM, MAVIM
	Cotton Extension Activities including VCDS, training, FFS etc	PIU Agri
	Traceability and Blockchain system for SMART cotton, E-market platform, testing labs, traceability and block chain system	Mahacot
	b) Export Infrastructure	
	STDF / PIMA Study	MSAMB
	Export Infra /other locations per study recommendations	MSAMB
	c) Livestock	
	Engagement of Knowledge Partners like FAO, NRC Meat, MAFSU	AHD
	Training and Capacity building of AHD staff	AHD
Traceability and Blockchain system for livestock	AHD	
B1.5 - Capacity Building Support	Developing modules for ToT, developing Training material, training of CBOs	relevant PIUs (Agri, MSRLM, MAVIM, VSTF, MCDC)
	Bridge Technical Support to CLF / CMRCs	MSRLM, MAVIM
	Social & Environment Safeguards Trainings, Leadership & Governance, other aspects	PCMU, RIUs, VANAMATI, RAMETI

B2: Enterprise Development Support	BDS & Technical Support to Enterprises	MSRLM
	Hiring of Service Provider for BDS Support	MSRLM
	Training and Capacity Building of Enterprises	MSRLM
B3: Urban Food Systems	Upgradation of Slaughter House	PMC
	Training of Food Handlers, Butchers, on Food Safety	PMC, AHD
	Training for GAP & Traceability, Food Safety for FPOs related to urban markets	MSAMB
	IEC campaign on Safe food	PMC
	Development/Upgradation of farmers weekly market	PMC
	Traceability, MRL testing etc.	Agri
B4: Access to Finance	Capacity Building of A2F Stakeholders and CBOs	PCMU
	Rating of FPCs	PCMU
	IT / Cloud based digital tools for CBOs records	PCMU
	Partial Credit Guarantee Fund	PCMU
	Platform for Financial Institutions	PCMU
	Pilots on new and financial innovative financial products for CBOs	PCMU
C: Building Risk Mitigation Mechanisms		
C1. Enhanced market information and intelligence services	Price Studies	DoA
	Consultancy and Advisory	
	Technical Experts	
	Meetings, workshops	
	Publications and Webinars	
C2. Strengthening the warehouse receipts systems	Warehouse upgradation and renovations and new constructions	MCDC, MSRLM, MAVIM and others
	Construction of Silos	MSWC
	IT support system of eNWR, feasibility studies, WRDA registration for CBOs	MSWC
C3. Price Risk Management Support	Price Risk Management Study	DoA
	IoT based pilot program, Dispute Resolution Mechanism wrt Prices	MCDC
	Setting up of Risk Management Cell and developing Crisis Management Plans	DoA
Component D: Project Management, Monitoring and Learning		
Project Coordination	Coordination and oversight.	PCMU
M, E and L	M&E and MIS for the project	PCMU in coordination with partners
	Safeguards	PCMU and RIUs

67. The Objectives, Output and Outcome Monitoring Indicators, Policy and Regulatory Environment and Proposed / Completed Reforms, Selection Criteria, Activities to be Financed, Estimated Cost, Institutional and Implementation Arrangements, Funds Flow, Fiduciary and Safeguards Arrangements, Governance Risks & Mitigation Measures, and Sustainability are described in detail under the respective chapters. All procurable items/activities in the project including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured by adhering to the World Bank Procurement Regulations and project procurement guidelines

Component A: Enhancing Institutional Capacity to Support Agricultural Transformation

68. Agriculture being a State subject; both production and marketing are primarily viewed as the responsibilities of the state machinery. The Department of Agriculture therefore can no longer function as a bunch of different directorates looking after various functions separately in silos. A holistic approach needs to be taken beginning with mapping of all available resources on one platform, identification of suitable cropping system for each village to begin with and eventually for each land parcel based on potential and market availability. To achieve this, department handling soil and water conservation is creating a Geographic Information System (GIS) based platform where each land parcel (survey number) is being mapped. Attributes like quality of soil, nutrient content, ownership, availability of irrigation etc. would be attached to it. Information about productivity, weather parameters etc. would also be linked. Infrastructure and facilities like water conservation structures, farm ponds, dug wells and bore wells, post-harvest facilities, markets, processing units, research and extension centers and other community resources shall also be mapped. This would help in identification of potential farming system or suitability of a specific crop for a particular village or a plot. This information would further help in identification of existing and potential clusters of commodities.
69. A continuum of planning, implementation, review and monitoring is built by various functions carried out by different directorates of the department. It is only to emphasize that aiding production planning and support in marketing would help the farmers take a more rational decision vis-à-vis both production plans and market access.
70. Objective of this component is to strengthen institutional capabilities of the nodal government departments and agencies of the GoM towards more effectively supporting agricultural transformation in the state. Two key focus departments identified by the GoM as part of this component are i) Department of Agriculture (DOA) to enhance the capacity to move from a scheme-implementation led approach to a longer-term market-driven approach that focuses on technical and capacity building support to farmers and agribusinesses so as to sustainably enhance farmer incomes; and ii) Department of Marketing (DoM) for better implementation of market reforms to enable more returns to farmers. This will include strengthening core functional areas within the DOA and DoM needed to be able to support achievement of goals; and aligning staff capacity and incentives accordingly. Strengthening systemic capacity of DoM for reform measures and establishment of Stewardship Councils to bring public and private sector on one platform to enhance market driven growth.

A.1 Enhancing Institutional Capacity of Department of Agriculture **Background -**

71. Since the establishment of the Department of Agriculture in 1883, focus was to achieve higher productivity. The era of Green Revolution began in 1965-66, with the development of high yielding hybrid varieties. During the Green Revolution period several schemes were launched to boost growth of agriculture sector. Five year plans following this period specially emphasized development of agriculture. Training and Visit Scheme was launched in 1981-82 to provide guidance to the farmers for proper and judicious use of inputs. All these efforts led to self-sufficiency in production of Foodgrains.

72. Farmer is the focal point for the Agriculture department. The department is organized such that a single mechanism is working to facilitate the farmer for the adoption of advanced technology and sustainable use of available resources. To assure higher net income to the farmers through the efficient and sustainable use of available resources is important and therefore, to achieve this goal, commercial agriculture is being promoted. Various schemes such as Soil Health Card, Farm Ponds, Watershed Development, Integrated Nutrient and Pest Management, Micro Irrigation, Horticulture Development, Mechanization, Good Agricultural Practices, High Tech Agriculture, Group Farming and Post-Harvest Facilities including Food Processing etc. are now implemented to increase agricultural production, exports and agro processing with a view to take advantage of liberalized economy and global trade.
73. This sub-component will support the Department of the Agriculture (DoA) – using agreed DLIs (Disbursement Linked Indicators) - in shifting from a scheme-oriented approach to an outcome-based, market -driven approach. The staff of DoA ranging from village-level agricultural extension workers to supervisory staff at block, district and state levels; implements more than 100 different state and national agricultural support schemes; and its average annual budget over the past three years was Rs 6000 crore (US\$ 850 million). With increasing diversification into higher-value crops and integration into global value chains in the state, the DoA has identified the need to move from a scheme-implementation led approach to a longer-term, market-driven approach that focuses on technical and capacity building support to farmers and agribusinesses, so as to sustainably enhance farmer incomes and private investment into the agricultural sector.

74. Current organizational design and staffing of the DOA.

The Department of Agriculture (DOA) is the lead department tasked with development of the agricultural sector in the state. In this regard, it undertakes various functions to regulate quality of inputs and implements various central and state government support schemes for the sector. The Department currently has following directorates: i) Horticulture; ii) Extension and Training; iii) Soil Conservation; iv) Inputs and Quality Control; v) Food Processing and vi) ATMA (Agriculture Technology Management Agency). Associated institutions include the nodal staff training institutions of Vasantrao Naik State Extension Management Institute (VANAMATI) and seven Regional Agricultural Management and Extension Training Institutes (RAMETIs); the State Horticultural and Medicinal Plants Board; and the Maharashtra State Seeds Corporation Ltd. (MAHABEEJ). Table 1 lists the existing staff strength of the DOA.

75. Table 1: DOA Staffing

Cadre	Strength
Director of Agriculture	5
Joint Director of Agriculture	15
Superintending Agriculture Officer	49
Deputy Director of Agriculture	202
Technical Officer / Taluka Agriculture Officer	809
Agricultural Officer	1667
Agricultural Supervisor	2762
Agricultural Assistant	11599
Admin and Support Staff	10447
Total	27555

State Level	<ul style="list-style-type: none"> • Commissioner, Agriculture, Maharashtra State • Director of Agriculture (6)
Division Level	<ul style="list-style-type: none"> • Divisional Joint Director of Agriculture (8)
District Level	<ul style="list-style-type: none"> • District Superintending Agriculture officer (34) • Project Director (ATMA)
Sub Division Level	<ul style="list-style-type: none"> • Sub Divisional Agriculture Officer (90)
Taluka Level	<ul style="list-style-type: none"> • Taluka Agriculture Officer (351)
Circle Level	<ul style="list-style-type: none"> • Circle Agriculture Officer (885)
Village Level	<ul style="list-style-type: none"> • Agriculture Supervisor (1770) • Agriculture Assistant (10620)

76. Every agriculture assistant working at village level has a jurisdiction of three to four villages with number of farmers limited to 800 to 900 which facilitates better interaction for transfer of technology. Agriculture Assistants at village level undertake soil conservation work, horticulture plantation and various extension schemes. They are supervised by Circle Agriculture Officer at circle level. Administrative control, liaison with other departments, monitoring and training programs etc. are facilitated by Taluka Agriculture Officer at taluka level, Sub Divisional Agriculture Officer at sub division level, District Superintending Agriculture Officer at district level and Divisional Joint Director at division level. In addition, Agriculture Officer at Panchayat Samiti level, working under Agriculture Development Officer, Zilla Parishad at district level also implement various agro-inputs related schemes.

77. All the schemes implemented in the field are supervised technically and administratively by respective directorates at state level in the Commissionerate of Agriculture. Additionally, Statistics, Monitoring and Evaluation and Planning and Budget, Establishment and Accounts related matters are handled by independent sections.

78. Proposed activities under SMART project

Dept. of Agriculture - Core functional areas to be strengthened.

Based on a review of existing directorates within the DOA, and core technical areas that need to be strengthened to support farmers and agribusinesses to transition to market-driven agricultural production, the need for building functional capacity in eleven technical areas was identified. Following are the Directorates and their functional areas identified for enhancing capacity of the department through research and technical support from the project. Key functional areas identified are market intelligence and crop

advisories; quality control, phytosanitary standards and food safety; food processing; planning, research and development; soil and water conservation; climate change mitigation and adaptation measures; and market promotion. Additional cross-cutting areas identified for strengthening include scheme implementation and monitoring; financial and administrative management; institutional coordination across departments; Human Resource management; and monitoring and evaluation systems.

Sr. No.	Directorate	Identified Core Functional Area
1	Inputs and Quality control	i) Availability of quality seeds, fertilizers and pesticides
		ii) Pesticides Residue Testing Services
2	Soil and Water Conservation	iii) Use of ICT for management of basic natural resources, viz. soil and water
3	Food Processing	iv) Promote agribusiness and agro-processing
		v) Traceability – GAP and Phytosanitary Certification
4	Extension and Training	vi) Extension services
		vii) Farmers Training
		viii) Market intelligence
5	Horticulture	ix) Cluster Development
6	Agricultural Technology and Management Agency (ATMA)	x) Nurturing Farmer Producer Organizations – capacity building and handholding
		xi) Promote entrepreneurship to engage farmers in post-harvest and value addition activities

79. Capacity Building Interventions -

The SMART project will support the following capacity-building interventions to strengthen planning and implementation capacity of the DoA along the functional areas listed above:

- a) **Functional review of DOA:** A functional review is a technique that allows public sector organizations to analyze the functions they perform, to assess their relevance and to draw recommendations for organizational change that facilitates more efficient and effective delivery. The functional review will assess existing capacity along the core functional areas identified and inform capacity building interventions. An appropriate Technical Service Organization shall be identified and hired to conduct the functional review. The functional review will seek to improve efficiency in execution of core functions; map existing resources and schemes being implemented; and develop service standards for core functions to be performed by the DoA. The review will also cover the nodal staff training institutions - VANAMATI and RAMETIs. Based on the functional review, budgetary allocations will be determined to strengthen the core skills and capacity of project staff within DoA. Accordingly, subject relevant workshops, trainings, seminars will be conducted.

- b) **Planning and goal setting:** The department is currently in process of bringing in some structural reforms. The functional review will feed into a planning and goal setting exercise by the DoA to develop departmental goals and operational plans over a three-year period. This would help the department reorganize its functionaries as per the goals to bring in desired results in the identified functional areas. This could include (i) identifying focus commodities and measurable outcomes – such as

increased production meeting specified market standards, new market linkages, and availability of quality inputs; and (ii) setting measurable indicators in each of the core functional areas and corresponding Directorates – such as, for example, number of farmers adopting enhanced package of practices (extension services); number of farmers accessing market intelligence services (crop advisories and market intelligence); number of farmers and processors trained in safe food handling and processing (food safety) etc.

- c) **Developing effective MIS systems:** Based on the above, the DoA will identify core outcome and performance indicators that need to be tracked, and develop an IT-based MIS system for timely and accurate tracking and reporting of such indicators, and use of relevant MIS data and reports in supporting decision-making.
- d) **Strengthening institutional capacity in core functional areas:** The DoA will seek to strengthen technical capacity in identified core functional and cross-cutting areas through (i) training and capacity building (covered in more detail below); hiring additional technical staff and consultants based on gaps identified in the functional review; and forming partnerships with national and global technical institutions in selected areas to bring in best practice and global technical and market standards across the core functional areas.
- e) **Enhancing capacity of staff along core functional areas:** Building capacity of the substantial number of DOA staff through strengthening training functions is critical to enhancing outcomes. Strengthening institutional capacity, curriculum, training delivery and assessment and certification functions at the nodal staff training institutions of VANAMATI and RAMETIs for continuous agriculture education will be a critical intervention in this regard. Interventions will include supporting partnerships with technical support institutions to strengthen training capacity across the core functional areas. DoA will develop a training plan and calendar for all staff over a five-year period.
- f) **Strengthening core administrative aspects of DOA:** As part of capacity building efforts, the DOA will strengthen financial management and human resource management. This will include mapping of existing resources and schemes against functional areas; reviewing and amending job roles and responsibilities of all staff against the core functional areas; adopting performance management and incentive systems for staff aligned to goals; reviewing and enhancing budgeting and expenditure monitoring systems; and developing windows for secondment / hiring of technical consultants with the DoA as per needs identified. An appropriate technical service provider (TSP) may be hired by the DoA to assist in strengthening these functions.
- g) **Restructuring of ATMA -** The report on Doubling Farmers' Income has recommended that the state governments put in place systems at state and district levels to focus on increasing net income of farmers, promote risk mitigation measures such as crop insurance, access to credit, promotion of activities to increase off-farm income and adopt welfare measures to reduce distress. (the Department of Agriculture, Cooperation and Farmers' Welfare (DAC&FW) has so advised vide its letter, dated, 22.3.2017 and has issued Guidelines to this effect, which DoA shall follow). Constitution of a District Level Review and Monitoring Committee to

monitor these objectives is suggested by the DFI Report. Maharashtra already has established ATMA in each district which is well functioning and represented by all the stakeholders in the district. What is needed is reorientation of the functioning and strengthening of ATMA machinery with required human resources, infrastructure and capacity building.

80. Disbursement Linked Indicators (DLIs) and Budget.

Financing mechanism of the Disbursement Linked Indicator (DLI) would be used for this component. Rather than financing pre-agreed project activities, the DLI releases money against agreed output and outcome indicators, providing flexibility to the GoM to use financing for various capacity-building interventions listed above.

Table 2: DLIs and proposed linked disbursements

Sr. No.	DLI / DLR	Budget USD	INR (Rs. Lakh)
DLI 1:	Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes.	8500000	5950.00
DLR 1.1	Staff management plan developed and instituted.	1000000	700.00
DLR 1.2	IT-based MIS system implemented	1000000	700.00
DLR 1.3	Staff performance appraisals against outcome goals of department being conducted annually.	6500000	4550.00
DLI 2	Enhanced staff capacity of DOA to achieve outcomes.	8000000	5600.00
DLR 2.1	Staff training management plan developed.	1000000	700.00
DLR 2.2	Staff trained using upgraded modules.	7000000	4900.00
DLI 3	Enhanced market linkages, food quality and safety standards for focus geographies and commodities.	11000000	7700.00
DLR 3.1	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.	5000000	3500.00
DLR 3.2	Increase in area under IndGAP or similar acceptable standards.	6000000	4200.00
	Total	27500000	19250.00

State of Maharashtra's Agribusiness and Rural Transformation (SMART) Project								
DLIs are with respect to Sub - Component A1 - only relevant for Dept of Agriculture								
DLI Definition	DLI Description	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27
Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes	Staff management plan developed and instituted	X	X					
	IT-based MIS system implemented	X						
	Staff performance appraisals against outcome goals of department being conducted annually			X				
Enhanced staff capacity of DOA to achieve outcomes	Staff training management plan developed	X						
	Staff trained using upgraded modules		X	X	X	X	X	X

Enhanced market linkages, food quality and safety standards for focus geographies and commodities	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed	X	X	X	X	X	X
	Increase in area under IndGAP or similar standards	X	X	X	X	X	X

The Disbursement Linked Indicator financing Matrix and Verification Protocols are detailed in the Annexure I.

81. The department has identified initiatives for which the funding available under DLI would be utilized. Implementation of some of these initiatives are proposed to be continued after the end of the project by way of mainstreaming into the department as a state scheme. An illustrative list of activities is given below. The DoA shall decide on implementation of these and/or additional activities based on the suggestions of the functional review.

- a) Hiring of technical staff and consultants in functional areas.
- b) Agency for Functional Review of the department.
- c) Hiring of HR agency to develop HR Management functions, digitization of personnel records, HR help desk.
- d) Agency to develop / customize MIS.
- e) IT systems and hardware at district and block level.
- f) Workshops, consultations with staff and stakeholders.
- g) Hiring of core technical staff at training institutions VANAMATI and RAMETIs.
- h) Technical Support Organizations / Partnerships (including development of curriculum and training materials).
- i) Technical consultant for review of testing facilities and development of MRL target plan (extension + testing strategy)
- j) IT-based data management and reporting system for food testing results.
- k) Strengthening pesticide residue testing / food testing facilities.
- l) Support for testing of samples (Domestic 4,000; export 10,000).
- m) Cluster planning and coordination.

A.2 Enhancing Institutional Capacity of the Department of Marketing

82. Current organizational design of the Department of Marketing (DoM).

Mission of the DoM is the development of a globally competitive and organized marketing network with well-equipped infrastructural facilities so as to enable the farmers to get remunerative prices for their agricultural produce and make available quality agricultural goods to consumers.

83. Office of the Director of Marketing (DoM) is responsible for regulation of the marketing activities of agricultural products in Maharashtra. DoM mainly supervises overall transactions and activities of Agriculture Produce Market Committees (APMC's) in the state in order to provide farmer fair price of the produce sold through the APMCs. Also, it enables department/government to regulate the prices of produce in markets of agricultural products so that products are made available to consumers at reasonable price. The DoM also controls the working of various co-operative societies viz.,

Marketing, Consumer, Agro-Processing Society, Sale-Purchase society, Cotton Ginning and Pressing Society etc. registered under the Maharashtra Co-op. Soc. Act.1960. Implementation of need-based market reforms and monitoring of alternate marketing channels also falls in the purview of the department.

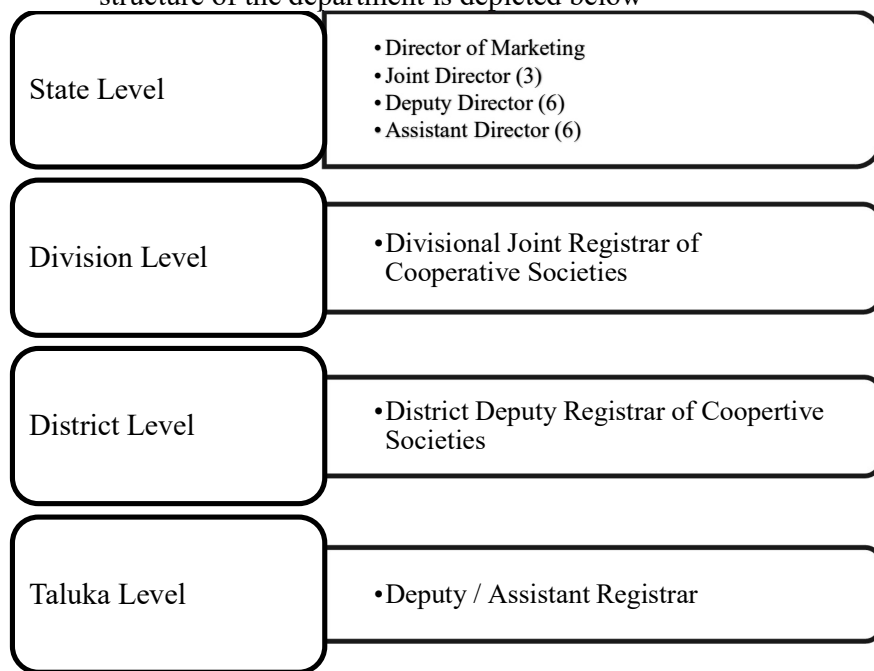
84. Objectives of the department -

- a) To administer the Maharashtra Agricultural Produce Marketing (Regulation) Act, 1963 and the Maharashtra Agricultural Produce Marketing (Regulation) Rules, 1967.
- b) To guide Agricultural Produce Market Committees to provide various facilities for marketing in the principal markets as well as in the sub-market yards.
- c) Agricultural information system has been introduced on recommendation of the Royal Commission on Agriculture in the year 1935. Under that information center, the information of prices of selected regulated commodities in the market is collected and stored for analysis and informative purposes.
- d) To introduce various reforms in the field of agricultural marketing as it is beneficial for improving the standards of marketing services and facilities.
- e) To give direct Marketing License to various companies, to encourage private sector investment in the field of Agricultural Marketing that leads to private markets development.
- f) To establish farmers market in the area of agricultural produce market committee so as to help farmers for directly selling their agricultural produce to consumers.

85. Description of the Organization

Department of Marketing is a part of Department of Cooperation, Marketing and Textiles. Director of Marketing, Maharashtra State heads this Department, assisted by three Joint Directors.

86. The Directorate of Marketing has dedicated staff at State level only, with 16 officers and support staff. The functions of the department are delegated to the offices of the Department of Cooperation at Division, District and Taluka level. Organization structure of the department is depicted below –



87. SMART interventions

Core functional areas to be strengthened.

Based on a review of existing functions within the DoM, and core technical areas that need to be strengthened to support the agriculture marketing reforms, to enable ease of doing business and to establish a robust disputes resolution system, following technical areas are identified:

- a) Enhanced Regulatory Effectiveness
- b) Monitoring and Reporting on Market Functioning
- c) Dispute Resolution

Additional cross-cutting areas identified include -

- a) Financial and administrative management;
- b) HR management; and
- c) Monitoring and evaluation systems.

88. Capacity Building Interventions.

The SMART project will support the following capacity building interventions to strengthen planning and implementation capacity of the DoM along the functional areas listed above:

- a) **Functional review of DoM:** The functional review of DoM will assess existing capacity along the core functional areas identified and inform capacity building interventions. An appropriate Technical Service Organization shall be identified and hired to conduct the functional review. The functional review will seek to improve efficiency in execution of core functions; map existing resources and schemes being implemented; and develop service standards for core functions to be performed by the DoM.
- b) **Planning and goal setting:** The functional review will feed into a planning and goal setting exercise by the DoM to develop departmental goals and operational plans over a five-year period. Based on the defined goals, project specific skill development workshops, trainings and exposure visits will be conducted for the department staff.
- c) **Outreach Activities:** The DoM shall conduct activities supportive for enhanced regulatory effectiveness and promote healthy functioning of markets. This includes (i) compiling and disseminating information on market regulations through booklets, web-sites, a call-center, advertisements and workshops; and (ii) Training to employees of Agricultural Produce Marketing Committee (APMC) markets on roles and responsibilities including relevant laws, reforms, technical functions, training of assayers, facilitating access to market services for women farmers, and on dispute-resolution.
- d) **Publishing annual ranking of markets:** Based on the above, the DoM will operationalize a system for tracking and reporting on key market health indicators and publish annual ranking of markets across the state. Identified market health indicators include number of licensed buyers, traded volumes, waste management facilities, market turnover, employee ratio, quality of storage and holding facilities and time taken for farmers to complete a transaction among others.
- e) **Enhancing capacity of staff along core functional areas:** Building capacity of the substantial number of DoM staff and APMC staff and management through

strengthening training functions is critical to enhancing outcomes. Strengthening institutional capacity, curriculum, training delivery and assessment and certification functions with the help of various training institutions will be a critical intervention in this regard.

- f) **Strengthening core administrative aspects of DoM:** As part of enhancing Ease of Doing Business (EODB), DoM will strengthen its IT based platform to improve service delivery standards in licensing and compliance requirements. The DoM shall act to enhance EODB parameters for private markets through reviewing and improving service delivery standards in licensing and compliance requirements.

- g) **Dispute Resolution:** For effective dispute resolution, appropriate delegation of powers to field offices supported by a tracking mechanism for ease of monitoring and supervision is targeted through (i) conducting outreach activities to increase awareness on rights and responsibilities under the state APMC act; (ii) developing an online and call-center based system for reporting disputes (iii) decentralizing powers for dispute resolution to field officers and training them on undertaking effective dispute resolution and (iv) periodic tracking and reporting of dispute resolution cases across markets. For this, DoM shall collaborate with Mumbai Centre for International Arbitration (MCIA) or similar agency.

89. **Activity list and budget** – Following activities are to be undertaken among others to support the reforms agenda of DoM under the project. It is also envisaged that most of these activities continue to be implemented by the department beyond project period funded through state budget.

Output / Main Activity / Sub-Activity / Item	PY1	PY2	PY3	PY4	PY5	PY6	PY7	Total
Enhanced Regulatory Effectiveness								
Outreach activities on Market Reforms & Regulations	20	20	20	20	20	0	0	100
Publications on Regulations & Reforms for Stakeholders	50	50	50	50	50	0	0	250
Website	10	0	0	0	0	0	0	10
Setting up of Call Center & Help Desk	10	10	10	10	10	10	10	70
Advertisements for marketing related activities in project	25	25	25	25	25	25	25	175
Workshops for alternate market channels	10	10	10	10	10	0	0	50
Training and Capacity Building of APMC Staff								
Service Provider for TNA, Development of training modules	50	50	0	0	0	0	0	100
Printing of Training Material	5	5	0	0	0	0	0	10
Conducting training workshops for APMC staff	8	24	16	0	0	0	0	48
Tie-up with Institutes for trainings	8	25	17	0	0	0	0	50
Exposure visits within state	5	11	11	0	0	0	0	27
Exposure visits outside State	0	0	18	18	17	0	0	53
Enhance Ease of Doing Business - Agri Marketing								
IT based systems	50	100	100	100	50	100		
Monitoring and Report on Market Functioning								
Development of market health indicators tools for markets in Maharashtra	75	0	0	0	0	0	0	75
Dissemination of markets rankings	0	5	5	5	5	5	5	30
Training workshops on market health indicators to stakeholders	0	8	8	8	4	2	2	32
Enhance Dispute Resolution Functions								
Outreach activities	13	13	13	13	0	0	0	50
Development of Online and Call Center based system for reporting disputes	20	40	40	40	20	20	20	200
Decentralization of power for dispute resolution to field officers (trainings, capacity building)	38	75	75	38	0	0	0	225
Hiring of 2 experts (Technical Officer Capacity Building and Technical Officer EODB and Grievances)	24	24	24	24	24	24	24	168
	428	495	441	356	233	186	84	2223

90. Subcomponent A.3: Strengthening capacity for reform measures and joint actions.

The objectives of this sub-component are to strengthen systemic capacity for generating a knowledge base for reform measures; and to institutionalize coordination and joint actions across private and public actors to enhance market-driven growth in focus commodities. The expected results from this sub-component are (a) Enhanced information base to support the ongoing agricultural reform agenda of the GoM and (b) Establishment of functional commodity specific Agriculture Stewardship Councils for at least five commodities. The sub-component will support the following activities:

91. **A3.1: Establishing a technical cell within the PCMU:** Market and other relevant reforms to be implemented in the state need to be triggered by a formal feedback system wherein systematic studies are conducted regularly based on market data and policy recommendations are formulated by the GOM in consultation with an academic and technical research institute. A technical cell will be established within the PCMU and partnerships with leading academic and technical support institutions will be formalized to undertake evaluation of reform efforts already being implemented; targeted research and recommendations for the ongoing program of reforms; and support for piloting reform efforts to inform scale-up efforts. This technical cell will be financed by the project until the mid-term review, after which it will be a non-planned expenditure under the Government of Maharashtra.

92. Proposed Activity list and Indicative budget

A3.a: Estimated Cost (Rs. Lakh)								
Output / Main Activity / Sub-Activity / Item	PY1	PY2	PY3	PY4	PY5	PY6	PY7	Total
Hiring of experts (Statistician, IT, Reforms etc) for technical unit	60.00	60.00	60.00	60.00	60.00	60.00	60.00	420.00
Service Provider / Institute	11.00	21.00	21.00	21.00	21.00	11.00	0.00	106.00
International Exposure visits for technical staff	0.00	30.00	30.00	30.00	0.00	0.00	0.00	90.00
International Institute tieups / collaborations	50.00	0.00	0.00	0.00	0.00	0.00	0.00	50.00
Total	121.00	111.00	111.00	111.00	81.00	71.00	60.00	666.00

93. A.3.b.Commodity Stewardship Council (CSC)

1. Introduction:

Commodity Stewardship Councils (CSCs) are commodity associations for specific commodities that seek to coordinate actions of stakeholders across the commodity value chain. The specified goal of CSC is enhancing competitiveness and market access of producers and businesses operating in that commodity. While policy consultations and advocacy is an important role for such associations, they also carry out a range of important technical functions relating to their focus commodity

Global Examples of CSC

There are a wide range of existing CSCs internationally – known by different names including commodity associations, stewardship councils, value chain associations etc. - including for pip-fruit in New Zealand; fruits and vegetables in Chile; fruits in Brazil (amongst one of more than 15 such associations); poultry in Nepal; livestock and meat industry in South Africa; horticulture in Vietnam and Zimbabwe; sugar and cotton in the United States (amongst more than 20 such associations); and spices in Sri Lanka.

2. Commodity Stewardship Council in SMART

It is envisioned that using the learnings from international experience a roadmap for developing sustainable CSCs in Maharashtra for selected commodities will be prepared.

The project will focus on establishing Commodity Stewardship Councils (CSCs) for selected commodities and identified based on market growth potential for effective **public-private sector dialogue**. The project will support

- a) identification and mobilization of major stakeholders (representatives from farmer groups, trader groups, distributors, institutional buyers, and other value chain participants) into the CSC;
- b) provision of technical and hand-holding support to the SCs and SC members to identify gaps
- b) develop and implement a vision plan listing interventions and joint actions needed to enhance competitiveness and market access;
- c) implement joint actions such as market identification and promotional activities, and workforce development.

3. Expected Results:

The expected results from this sub-component are

- a) Enhanced information base to support the ongoing agricultural reform agenda of the GoM
- b) Establishment of functional select commodity specific Agriculture Stewardship Councils.

Key Stakeholder Contributions & Value derived from Partnerships

Stakeholder Type	Key Contributions	Value Derived from Partnership
Government of Maharashtra Public sector officials at the state, district and local level	<ul style="list-style-type: none"> • Set goals & Serve as convener of multi-stakeholder gatherings • Establish an enabling policy environment and invest in infrastructure and other public goods and services • Create effective support mechanisms for farmers investors and buyers such as a “one-stop solution platform” for 	<ul style="list-style-type: none"> • Improved economic and social outcomes for the farmers • New private sector investment in agriculture, complementing public investment • New value chain development and creating the opportunities for the farmer • Contributions to major initiatives

	investor information and farmer capacity building	across the state
Private Sector Global and domestic companies across the value chain, including small/medium-sized enterprises and “enabling” companies such as finance and logistics	<ul style="list-style-type: none"> Invest in value chains, with a long-term view of investment that goes beyond short-term profit and considers the sustainability of sector & Integrate a partnership approach into a long term business strategy Introduce new technologies, research or business models Provide funding for initiatives that drive impact in specific areas and develop innovative vehicles for financing/risk management Contribute knowledge, advisory support and networks in relevant areas of expertise 	<ul style="list-style-type: none"> Sustainability and stability of business model with long term community benefit goal Opportunity to innovate with new ideas in Agri-Business sector Alignment with strategic environmental, social Opportunity to generate long-term, sustainable impact through market-based approaches that can become financially self-sustaining Opportunity to innovate with new models to drive impact at scale
Community Based Organizations (CBOs) CLF/ CMRC/ PACS Farmers, often organized or represented by national and local cooperatives or associations	<ul style="list-style-type: none"> Influence policy and investment by sharing the perspectives and recommendations of famers – Organize and train farmers, and invest in implementing new practices Organized structure 	<ul style="list-style-type: none"> Access to new technologies, information and markets – Increased yields and income Cooperative growth at community level
Civil Society NGO / Non-profit Organizations/ Grower Associations/ Consumer Forum/ Agriculture Professionals	<ul style="list-style-type: none"> Organized structure Design programs for environmental and social outcomes Provide technical assistance, funding, capacity building and access to local grassroots networks in the country Help create accountability for partnership activities and results, often including developing and tracking metrics 	<ul style="list-style-type: none"> Improved economic, social and environmental outcomes – often at higher return on investment (ROI) than traditional development projects Opportunity to innovate with new models to drive impact at scale Opportunity to generate long-term, sustainable impact through market-based approaches that can become financially self-sustaining
Research Institutes/ Training & Extension service provider Academia, research organizations and other thought leaders in the sector	<ul style="list-style-type: none"> Contribute knowledge, advisory support and networks in relevant areas of expertise Promote partnership in spheres of influence 	<ul style="list-style-type: none"> Unique opportunity to develop, test and contribute new ideas Rich insights from “real world” applications

3. Objective and Functions: The objective of setting up the Commodity Stewardship Councils (CSC) for selected commodities in Maharashtra is to bring major stakeholders onto a common platform is to coordinate actions toward enhancing competitiveness and markets for the commodity. In developed countries, such associations have developed in the context of the decline of publicly financed marketing boards, taking over planning and interventions in focus commodities, even if part of the interventions may continue to be publicly financed. In the Maharashtra context, the functional role of the CSC can be systematized through the



development of Commodity Vision Plan for the commodity by the CSC with technical support from the SMART project, that lays out an overarching objective for that commodity and lists the actions that will be taken by both CSC members and state institutions towards achieving that goal.

The broad objective of this sub-component is to strengthen information, coordination and linkages in the targeted value chains and institute a sustainable mechanism for effective public-private sector dialogue bringing together stakeholders on a common platform. Specifically, this sub-component will have the following objectives:

- a) **Defining a long-term vision** for the particular value chain and working towards it actively involving all important stakeholders
- b) **Identification of performance/efficiency gaps** in the value chains and devising strategies for the sector to plug these gaps
- c) **Enchaining Market access plans** by linking all the stakeholders of Agriculture Value Chains
- d) **Policy communication** for effective growth of the sectors/value chains
- e) **Dissemination of findings/activities** through events and publications to the public at large

The CSC may carry out the following functions as reflected in the Commodity Vision plan (CVP) for that commodity:

94. 3.1. Policy consultations and inputs

The CSC will seek to institutionalize policy consultations and inputs into state policy and programs relevant to the commodity. It is important that the relevant mechanism for translating such policy inputs – such as membership of representatives of the agriculture and other relevant departments in the CSC and the CSV including commitments on specific aspects to be coordinated through convergence of public financing by the relevant departments – is developed.

Examples-

- a) In the Netherlands, publicly financed research priorities are guided by CSCs: problem and opportunity areas for research and development in that commodity are flagged by the CSC, and public financing for agricultural research is given to institutions against proposals that address these problem areas, along with a commitment to partial financing by the private sector.
- b) In the United States, the United States Department of Agriculture's Market Access Program (USMAP) is a joint private-public partnership with CSCs aimed at increasing export demand for America's agricultural products, using funds from the U.S. Department of Agriculture's (USDA) Commodity Credit Corporation (CCC) to help finance promotional activities for a range of U.S. agricultural products. The program also aids in the development, maintenance, and expansion of export markets. In 2019, it awarded \$200 million for USMAPs for various commodity associations.

95. 3.2. Standard setting:

CSC will seek to develop, based on relevant target market requirements, minimum standards in product quality. This may include, in turn, developing recommended Package of Practices (POPs), handling protocols, and minimum food safety standards for the commodity.

96. 3.3. Information and technical service provision

The CSC will play a role in providing, in partnership with the public extension systems, market information and technical services to members to meet the standards notified above. These will include playing a dissemination and counseling role within the stakeholder associations to enable members to adopt POPs, handling practices and food safety standards developed above. CSC member organizations such as farmers associations and enterprise associations can play a critical role in mobilizing their members to adopt best practices and meet improved product standards. Again, it is critical here for the public extension systems to respond to the Commodity Vision Plan (CSV) and build technical capacity to adopt and promote best practices developed with inputs from the CSC. CSCs also play a critical role in providing information on target markets.

Example- The Northwest Horticultural Council (NHC) in the United States provides information on targeted export markets including relevant Maximum Residue Levels (MRLs), tariff rates, labeling and packaging requirements, directories of shippers and importers servicing that market, and ports of entry.

97. 3.4. Quality assurance:

CSC may take on the role of assessing and certifying value chain participants that meet the minimum standards for that commodity.

Example- The New Zealand pip-fruit CSC owns and grants the “**TrustMark**” label which certifies that the fruit has been grown using either New Zealand’s world leading Integrated Fruit or Organic Production programs using Good Agricultural Practices (GAP) in production and meets a specified minimum food quality standard.

98. 3.5. Traceability:

CSCs can play a critical role in developing and implementing voluntary traceability standards through voluntary adoption of traceability mechanisms by large players in the sector including farmers associations, larger buyers, exporters and processors. Similar to the quality assurance, the CSC manages the traceability system by assigning member and field identification codes, and motivating members to follow the traceability system developed.

99. 3.6. Market promotion:

A critical function undertaken by the CSC will be market promotion. This includes both trade and consumption promotion. Activities may include trade-fair participation, consumer-focused campaigns in target export and domestic markets and hiring consultants in target markets to facilitate market entry.

Example- The Northwest Horticultural Council (NHC) represents the deciduous tree fruit industry of Idaho, Oregon, and Washington on issues ranging from food safety to international trade access. The NHC has provided information on tariff and non-tariff barriers to fruit exporters and maintains dedicated export promotion staff dedicated to specific subgroupings on apples, pears and cherries. The range of market promotion

activities includes financing chefs to develop and promote recipes using the commodity; undertaking advertising campaigns in target markets; and coordinating with the US federal Department of Agriculture (USDA) Food and Agriculture Service staff posted in target export markets to liaise and negotiate with government institutions in target markets, identify and liaise with importers and end commercial buyers, and undertake promotional activities in those countries for CSC members.

100. 3.7. Research and Development (R&D):

Coordinating and directing R&D is an important function of the CSC.

Example- The NZ pip-fruit association has a dedicated Apples & Pears Inc. is the liaison between growers and research providers. It relies on regular input from growers and grower representatives, particularly the directors of the company, and the regional and research consultative groups. The Research Consultative Group (RCG) in turn links to, and feeds off, information from regional consultation groups in different agro climatic growing regions. It is also charged with developing and maintaining an effective program of technology transfer to the nation's pip-fruit growers.

101. 3.8. Environmental Management:

CSC can play a key role in developing and promoting environmental standards relating to the commodity including agricultural waste management practices, water use efficiency, soil health and reduction of Green House Gas (GHG) emissions. Increasingly, commercial buyers and target export markets, driven by consumer awareness trends, are privileging supply sources that are able to meet a set of minimum environmental sustainability criteria.

102. Summary of Functions and activities of Commodity Stewardship Council

Policy advocacy	<ul style="list-style-type: none">• Institutionalization of policy Consultations• Leveraging convergence• Industry advocacy• Domestic and International Trade promotion
Standard Setting	<ul style="list-style-type: none">• Track and influence minimum food safety standards• Developing Package of Practices (POPs)• Handling protocols• Food processing and handling
Information & Technology	<ul style="list-style-type: none">• Knowledge dissemination• Membership• Buyer-Seller connect• Public extension systems• Providing information on target markets• Helpline
Quality Assurances	<ul style="list-style-type: none">• Certification on standards• Promotion of Good Agricultural Practices• Guidelines for accreditation of laboratories• Providing scientific advice and technical support
Traceability	<ul style="list-style-type: none">• Voluntary traceability standards & voluntary adoption• Web-based traceability platform• Quality standards and PoPs
Market Promotion	<ul style="list-style-type: none">• Trade and consumption promotion• Trade-fair participation• Target export markets
Research and Development	<ul style="list-style-type: none">• Technology transfer• Market intelligence• Policy briefs• Research papers• Data analytics
Environment & Social Safeguard	<ul style="list-style-type: none">• Promoting environmental standards• Agricultural waste management practices and Water use efficiency• Reduction of Green House Gas (GHG) emissions

103. 4. Principles for promotion of Commodity Stewardship Councils (CSC)

While promoting the CSC's it will be important to keep the following principles in mind:

104. 4.1. CSC's are to become independent, industry-led bodies that are financially sustainable

It is critical that, from the outset, it is made clear that the CSC's to be hived off into an independent self-functioning body. While public financing may continue to support partial costs of operation – globally, in many cases they continue to make up a majority of financing of CSC's in a number of cases – CSC's are expected to develop own sources of revenue from membership fees and user fees charged for services such as quality assurance and other service provided.

105. 4.2. CSC's will be expected to take leadership in managing strategic market-led growth of the commodity

It is important that the CSC's not see its role not only as an advocacy body for public subsidies to members, but also in carrying out the strategic functions listed above. In this context, it is important to build capacity of the CSC from the outset through sensitization and training of members, exposure to the work of functioning commodity councils and ensuring that key project and Department of Agriculture interventions relating to the commodity are discussed and eventually shaped by the CSC and the IDP developed. Developing specific measurable market access goals, such as increasing exports, adoption of GAP standards etc. will also be critical in the development of the CSC as a market-driven body.

106. 4.3. Public capacity building investments need to be guided by the CVP developed by the CSC

Part of ensuring institutional development and market-led growth for the commodity is to move towards public investments being responsive to the areas flagged by the CSC as listed in the IDP. As discussed above, R&D and extension services are obvious areas where public investments can become more market-driven based on CVP inputs. The relevant directorates within the Agriculture Department will need to align their work with the overall objectives and functional interventions needed to achieve enhanced outcomes for focus commodities in Maharashtra as elaborated in the CVP.

107. 5. Steps for Setting up CSC

108. 5.1. Identification of commodities:

Based on discussions, it has been decided that CSC will be formed for up to ten commodities, selected from the longlist of commodities that has been identified for intervention through the SMART project – based on the presence of market-linked clusters within the state; a base of existing private sector stakeholders; and opportunity for market growth.

109. 5.2. Identification of major stakeholders:

1. Eligibility & Selection Criteria: / *Draft Criteria for Stakeholder Identification*

Key stakeholders within the commodities will be identified and mobilized to join the CSC. A list of stakeholders across the entire value chains from target commodities will be identified based on a set of standard criteria (See Table 1 below). Both the criteria for identification and the list of potential stakeholders can be publicly disclosed to enhance transparency. Relevant government officials that need to be invitees to the CSC will also be identified from across the Department of Agriculture and other relevant departments [FSSAI, Transport, Industries, others]. Additional invitees may be identified based on inputs from members from time to time.

110. *Table 1: Draft Criteria for Stakeholder Identification*

Farmer Associations with minimum of [1,000] members.
Small enterprise associations / Traders' associations with a minimum of [100] members.
Input / machinery supplier companies and dealers' associations.
Exporters associations.
Major food processing companies with more than [100] crores turnover.
Research institutions or units within universities with a base of research work and technical staff relevant to the commodity.
Storage, transport and logistics companies operating in the commodity.
Retailers associations.

111. **5.3. Value chain diagnosis and initial consultation meetings:**

Initial meetings of stakeholders identified need to be informed by value chain analyses that presents data and evidence on status of the commodity value chain and bottlenecks in enhancing competitiveness and market access. Inputs from CSC members can be used to further develop the value chain analysis, resulting in a CVP for the commodity. This means that the Program Implementation Unit-VSTF of the SMART project will be responsible for conducting a value chain analysis and presenting a summary to potential CSC stakeholders.

112. **5.4. Development of Commodity vision plan (CVP)**

Based on the value chain analysis, initial CSC meetings and additional consultations will be used to develop an overarching goal for the commodity and to develop a CVP listing the strategy and interventions to achieve the goal. The CVP will clearly list actions to be undertaken by CSC members, by the Government of Maharashtra (GoM) and financing to be provided through the SMART project. Technical support through individual or institutional consultancies for development of the CVP will be provided by the SMART PIU, but it will be critical to ensure that it is an CSC stakeholder-led process so that ownership of the CVP rests with the CSC and there is buy-in for activities to be implemented by members. Consultations and workshops may also be held to present the draft CVP at the cluster level, led by CSC members, to get wider buy-in for the CVP and to incorporate regional variations that may be required based on local context. Annex 1 lays out the draft outline of a CVP.

113. **Draft Commodity Vision Plan Outline**

Overall goal (s) for focus commodity	CSC activities	
	through members	Directorate of Agriculture [and other departments]
Common facilities and public infrastructure needed to enhance competitiveness.		✓
R&D, Improved POP and handling practices, development and notification of desired phytosanitary standards.	✓	✓
Extension services for adoption of POPs	✓	✓
Market promotion activities	✓	✓
Quality assurance and traceability services	✓	✓

- 114. 5.5. Developing Institutional Development Plan (IDP/Business Plan) for CSC:**
Based on the CVP, an IDP for the CSC will be developed laying out activities to be implemented by the CSC with timelines, Human Resources needed at the CSC level to coordinate and monitor activities, financing support needed, and resource mobilization strategy. The project can develop standardized best practice governance norms for all the CSCs – such as tenure and rotation of Governing Council and regular reporting of performance along key parameters of the CVP- to ensure compliance with regulatory requirements and effective and transparent governance of the CSC. The project financing rule for IDP will be 60% project grant (upto Rs 5 Crs) and 40% stakeholder contribution from private sector, industry associations, member associations among others.
- 115. 5.6. Registration of CSC:**
After initial meetings, the project will move towards formal registration of the CSC. As discussed, initially only one legal entity will be registered with up to ten sub-groups for individual commodities being formed in a phased manner. Individual registration for each of the sub-group may be considered once they reach a minimum number in terms of activities being implemented. By the end of the project period, it is envisioned that there will be ten registered, functioning CSCs with secretariat staff, implementing aspects of a CVP for the commodity, generating a portion of their own revenues, and supporting a portion of the costs of the CVP through member contributions in cash or kind.
- 116. 5.7. Monitoring and data collection:**
The CSC will play a role in collect data on buyers, production, processing and exports in the target commodity.
117. Monitoring and Reporting
- a) Developing and implementing reporting frameworks, preparing partnership-level reports for circulation to partners
 - b) Collecting and synthesizing success stories and common gaps and challenges
118. **6. Governance and Administrative Issues.**
Supporting Partnership Leadership and Governance
- a) Supporting partnership leaders with Board or Committee meetings or assisting with annual or financial reports
 - b) Securing funding for specific projects and investments
 - c) The CSC will have an elected governing body with the governing body electing a chairperson. Good practice governance norms including board member term limits and provision for regular turnover of the governing body will be instituted. CSC will meet as often as needed during the start-up phase. Post that, it will meet at least once every quarter.
 - d) The CSC will have a secretariat to support its activities comprising of lead staff and specialist and experts as mentioned in cost table. The CSC will also seek Technical support form During the initial stage, the secretariat will be housed within VSTF assigned to play a technical support role. The IDC will lay out a plan for the secretariat staff to be transition to being employed by CSC post

registration, with the project providing financial support for this to the CSC. The project will provide a declining proportion of the costs CSC operation

- e) The CSC will develop an annual plan and budget based on the CVP, which will be financed through the SMART project. Suggested areas for budgetary support are listed below.
- f) CVP, annual plan and budget of SC and annual report on activities carried out and outcomes will be publicly disclosed on the SC website.

119. Proposed Support Functions of Stewardship Council (SC)

- a) Targeted capacity building to develop technical skills
- b) Supporting policy and regulatory reform to create a conducive environment for agribusiness. To anchor the policy reform agenda for the selected value chains.
- c) Develop a long-term plan for the commodity sub council through productive alliance and partnership to engage key stakeholders
- d) Identification of performance/efficiency gaps in the value chains and devising strategies for the sector to plug these gaps
- e) To create knowledge sharing practices to disseminate best practices, success stories and lessons learnt (failures) through a collective learning culture and act upon results and are in still continuous improvement across the value chain
- f) Linking all the stakeholders of Agriculture Value Chains
- g) Policy communication for effective growth of sectors/value chains highlighting the concerns affecting the sector
- h) To facilitate government support and promote various institutional mechanisms to develop access to finance
- i) Adopting innovative and proactive approaches and processes to enhance women's meaningful participation in partnerships, decision-making, leadership roles, and benefits.
- j) Promoting development and access to innovation and new technologies, combined with traditional knowledge, to attract and enable youth to be drivers of improvement in agriculture and food systems.

120. Cost table for Commodity stewardship council

Sr. No	Activities	Unit	Total	Unit Costs	Total
				INR (100,000)	
1	Lead Staff for Stewardship Council Promotion	No.s	35	24.00	840
2	Establishment and Set up cost	lumpsum	1	40.00	40
3	Formation and management of Policy Dialogue Groups	lumpsum	28	3.00	84
4	Consultancy Services of Technical Service Provider	lumpsum	25	313	628
5	Financial Support to Implement CSC- Institutional development plans	Lumpsum	6	833.33	5,000
6	Events/Seminars/Roundtables/Conferences	Lumpsum		9	359
7	Publications/Reports/Marketing collaterals	Lumpsum	167	22	229
8	International Collaborations	Lumpsum	7	40	280
Sub-total					7,460
1	Technical Staff at PIU		7	24.00	120
2	Private Sector Specialist	person year	7	24.00	120
3	Central Office rent and operations cost	lumpsum	5	84.00	420
Sub-total					660
Total					8,120

COMPONENT B:

EXPANDING MARKET ACCESS AND SUPPORTING ENTERPRISE GROWTH

121. Introduction:

Producers face several constraints in terms of accessing new markets. There is weak information on market opportunities and requirements. Further, small producers face constraints due to lack of technical and business development services. They need exposure to new technologies, and training to decode new standards set by ever-changing markets. International experience shows that accessing new markets requires longer-term strategic actions including identifying opportunity based on local competitive advantages and supply-demand projections and support for firms and entrepreneurs to undertake market development. Finally, small producers also need access to finance.

Component B of the project will support a range of activities to provide enhanced market access to farmers. This includes identifying commodities and value chains for interventions and offering capacity building initiatives to CBOs through Value Chain Development Schools so as to offer Market Access Support. The sub-component B.1.1 will support interventions to enter partnerships with identified buyers through Productive Partnership sub-projects. Sub-component B.1.2 will support CBOs to scale-up production and penetrate new markets through Market Access Plans (MAPs). This component also supports interventions towards Complementary Innovations Investments (CIIs) in identified value chains (Sub-component B.1.3). It also supports priority investments in public infrastructure to address SPS challenges faced by CBOs (Sub-component B.1.4). The component also includes a range of capacity building activities to offer technical bridge support especially to women-led CBOs.

A value chain is only as strong and competitive as its constituent enterprises. It is imperative that agri-enterprises active in the fields such product development, food safety, traceability, processing technologies etc. be strengthened so that all players in the value chain become more efficient and competitive. Sub-component B.2 addresses this issue through the provision of technical and Business Development Services (BDS) to identified enterprises in focus commodities and value chains.

Component B also will support a pilot on urban food systems in Pune city. Co-existence of traditional, modern and informal food systems is the chief characteristic of the food system in Pune. There is an urgent need to address issues such as food safety, traceability and availability of nutritious food in urban areas. This will be done through capacity building of CBOs in food safety and hygiene and provision of complementary post-harvest infrastructure so that CBOs can access urban market platforms such as weekly markets, retail outlets, etc. Finally, needs of the CBOs to access financial products and services will be addressed through interventions in sub-component B.4.

All procurable items/activities in this component including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured by adhering to the World Bank Procurement Regulations and project procurement guidelines

122. Cost estimates for Component B (Illustrative)

Sr No	Sub-component	Project Cost excluding beneficiary contribution (Rs in crore)
B1	Market Access Support	
B.1	Market Access Support Extension activities	264.68
B.1.1	Productive Partnership (PP) sub-projects	324.00
B.1.2	Market Access Plan (MAP) sub-projects	361.00
B.1.3	Complementary Innovative Investments (CII) sub-projects	45.00
B.1.4	Priority Investments (Cotton, Exports, Livestock)	
B.1.4(i)	Smart Cotton	96.22
B.1.4(ii)	Export Linkages	142.00
B.1.4(iii)	Livestock interventions	15.00
B.1.5	Capacity Building of CBOs	29.50
B.2	Support to Enterprise Development	23.12
B.3	Urban Food System Pilot	20.20
B.4	Access to Finance	90.66
	Total for Component B	1411.38

123. B1 Market Access Support

The objective of the sub-component is to increase the integration of smallholder producers in value chains, by developing and implementing partnerships between community-based organizations (CBO) and the private sector and enhancing their capabilities for accessing new and organized markets, aiming at improving market linkages. For this, the Project will support Community based Organizations (FPCs, CLFs, CMRCs, Cooperatives including PACS, Growers Association, Federation, FPO, Farmers Groups registered with ATMA) for developing business plans or project proposals under Productive Partnerships (PPs), Market Access Plans (MAPs) and Complementary Innovation Investments (CIIs) so that they can gain access to new, organized and alternate markets. The project will finance competitive matching grants and needed support to business plans prepared by the CBOs for implementing sustainable and competitive business investments. Details about the exact nature of activities that will be undertaken under Productive Partnerships (PPs), Market Access Plans (MAPs) and Complementary Innovation Investments (CIIs), as well as details regarding process flows, implementation arrangements and costs are given in Chapters B.1.1, B.1.2 and B.1.3 respectively.

For the implementation of PPs, MAPs and CIIs, some common activities will be undertaken at the PCMU level such as hiring of consultancy firm for Technical Support Group at State and Regional level, Independent Assessment Panel etc. Similarly, some activities such as Call for Proposals (CFPs), outreach activities such as investor meets, road shows etc. to attract buyers will be undertaken. To mobilize the CBOs to get a response to the CFPs, some activities like district workshops shall be carried out.

124. Formation of Commodity-wise Clusters

Area of operation of SMART Project will be pan Maharashtra. While selecting commodities, area under those commodities needs to be considered for setting tentative targets of sub projects of a particular commodity. This is also necessary to give proper weightage for investment in developing value chain of a crop which is important for the state. Cotton, Soybean, Red Gram are major crops grown in the state. However, these are undifferentiated commodities and scope for developing

efficient value chains over existing is limited, but considering the area occupied by these crops and impacted farmers it is necessary to invest in proper proportion from the project on development of value chains of these commodities. On the contrary, in fresh fruits and vegetables there is scope to develop alternate efficient value chains and partners for such sub projects will also be available but it is necessary to maintain proper balance while investing in these crops vis-à-vis aforementioned undifferentiated bulk commodities. This will also address the inclusion of geographies of state. For this commodity-wise clusters will be formed using the area approach. However, selection of clusters for strengthening value chains through project intervention will also be done using the market-led approach. Cluster development will facilitate backward and forward linkages from farmers to processors to domestic as well as international markets and end users across the value chain. VSTF would implement sub projects from funds received from private sector and in addition may seek resources from project. For this VSTF will select some clusters for implementing sub projects. Selection of clusters and their sub projects by VSTF will be from the 1000 villages already identified for integrated rural development. VSTF will develop clusters around these identified villages by accommodating neighboring villages and will implement sub projects in those clusters.

Based on the area under crop and number of farmers impacted, project has identified potential clusters of 25 commodities#. The details are given in following table-

125. Table: Indicative commodity wise area and proposed PPs and MAPs to be covered under SMART project

Sr. No	Commodities	PPs	MAPs	Total
1	Soybean	18	20	38
2	Cotton	2	3	5
3	Maize	8	9	16
4	Pigeon Pea	7	8	15
5	Gram	10	11	21
6	Other Pulses	6	6	12
7	Millets	4	4	9
8	Rice	4	4	8
9	Banana	4	5	9
10	Pomo	8	8	16
11	Grapes	4	4	8
12	Oranges	3	4	7
13	Sweetlime	1	1	1
14	Cashew	4	4	9
15	Guava	0	0	1
16	Figs	0	1	1
17	Custard Apple	0	1	1
18	Mango	4	5	9
19	Tomatoes	1	1	3
20	Onion	12	13	25
21	Okra	1	1	1
22	Potato	1	1	2

Sr. No	Commodities	PPs	MAPs	Total
23	Other Vegetables	1	1	2
24	Red Chilli	0	0	0
25	Turmeric	1	1	1
26	Goat	12	13	25
27	Poultry	2	2	4
Total		120	130	250

*GoM-Dept. of Agriculture Statistics 2016-17

** Basis for area per cluster is total area under that crop in the State and availability of continuous area in specific geography and administrative unit of the State. For field crops, area considered for cluster is 5000 to 8000 ha while for horticulture crops, it is 300 to 600 ha.

Pulses, other vegetables and spices covered as group of crops.

Common activities that will be supported under the sub-component of Market Access Support for PPs, MAPs as well as CIIs are as follows:

1. On-boarding of Consultancies:

a. Consultancy firms: Technical Support Groups for State (one or more) and Regional (4 or more):

PCMU will appoint a consultancy firm for one or more State Technical Support Group (STSG) and four or more Regional Technical Support Groups (RTSGs) (Vidarbha, Marathwada, Western Maharashtra and North Maharashtra including Konkan). The consultancy firms appointed will provide support in preparation, planning and implementation of sub-project activities as mentioned in process flow tables of PPs, MAPs and CIIs.

b. Independent Assessment Panel (IAP):

The PCMU will undertake appointment of experts to evaluate the proposals received under PPs, MAPs and CIIs. Empanelment of experts will be done from technical fields relevant to the proposals such as Agriculture, Horticulture, Animal husbandry, Marketing, Post-harvest, Finance, Social, Environment etc. These experts may be sourced from India or internationally. The project will publish one or more Expression of Interests (EOIs) to establish a register of experts that can be drawn upon for the sub-project/proposal evaluation. Such an empanelment will be undertaken by the time PCNs are received by the project.

c. Need-based short-term consultancies-

Specific, short-term consultancy services may be required by the PCMU for specific needs of the project such as value chain mapping, market assessment for specific commodities, and thematic studies etc. This will be done by appointing individual consultants or consultancy firms by PCMU.

d. Technical Knowledge Partners (TKPs)

Technical support is needed at various levels of the project right from formulation implementation to evaluation of sub-projects which may be provided by institutions in public as well as private sector. PCMU will identify National as well as International Institutes as per requirement. PCMU will enter into formal collaboration with such institutes. Indicative roles to be fulfilled by the TKPs are given below:

126. Role of TKPs-

- a) To provide technical support in terms of understanding the issues and interventions for value chains of selected commodity
- b) To develop package of practices for quality production as per requirement of targeted buyers and/or markets.
- c) To supply or help to develop planting material, new variety suitable to meet the needs of the buyers and/or market.
- d) To undertake capacity assessment, develop customized training modules and undertake the training/ capacity building programmes.
- e) To undertake value chain assessment, small research studies to overcome issues and develop desired interventions.
- f) To provide hand-holding support at production, post-harvest, processing and marketing level.
- g) To support development of technical specifications

127. Illustrative list of Institutions as Potential TKPs

SN	Name of institute
A	International level
1	Standard and Trade Development Facility (STDF)
2	Food and Agriculture Organisation (FAO)
3	Cornell University, Ithaca, NY, USA
4	University of California, Davis, USA
5	Wageningen University and Research (WUR), Netherlands
6	Michigan State University, E. Lansing, MI, USA
7	World Vegetable Center, Shanhua, South Taiwan, Taiwan
8	United States Department of Agriculture- Agricultural Marketing Service (USDA-AMS)
9	Van Hall Larenstein University of Applied Sciences, Netherlands
12	International Institutions for Promotion of Banana Exports
13	International Institutions for Technical assistance for Stewardship Council
B	National level
1	Agricultural and Processed Food Products Export Development Authority (APEDA)
2	Indian Grain Storage Management and Research Institute (IGMRI), Hapur (UP)
3	ICAR Institutes (Research, NRCs and Directorates)
4	CSIR Institutes- Central Food Technological Research Institute (CFTRI) and others
5	Indian Institute of Foreign Trade (IIFT), New Delhi
6	National Institute of Agricultural Extension Management (MANAGE), Hyderabad
7	Warehousing Development and Regulatory Authority (WDRA)
8	State Agriculture Universities
9	Krishi Vigyan Kendras (KVKs)
10	Indian Institute of Management (IIMs) and Indian Institute of Technology (IITs)
11	Reserve Bank of India – College of Agriculture Banking (RBI-CAB)

TKPs will be selected based on mutual interest of CBOs and institutes as well as project requirement.

3. Outreach activities for PPs, MAPs, CIIs

- a) Publish Call for Proposal (CFP) to reach out and identify potential partners in national and local news papers
- b) PCMU will publish Call for Proposal (CFP) in national and local newspapers in first three years of Project life. PCMU may continue this activity after three years, if so needed.
- c) Conduct various activities to reach out to potential buyers/ markets
- d) VSTF will carry out various outreach activities (National and State level investor meets, road shows, participation in international and national exhibitions) with the

support of STSG/ RTSGs. The costs estimate for various sub-activities under this activity is Rs.850.00 lakhs, the details are given in below table.

4. Mobilization and Sensitization of CBOs

Mobilization and sensitization of CBOs will be carried by conducting workshops at district level. These workshops will be carried out before the call for proposal in order to mobilize potential CBOs for respective commodities. CBOs will also be sensitized about the SMART project and specifically about PPs and MAPs. It is envisaged that minimum 1 workshop at district level will be conducted annually. Respective PIUs such as Agri, MSRLM, MAVIM, VSTF, MCDC and AHD will mobilize their CBOs for these workshops. The costs estimates for various sub-activities under this activity is Rs. 102.00 lakhs, the details are given in below table.

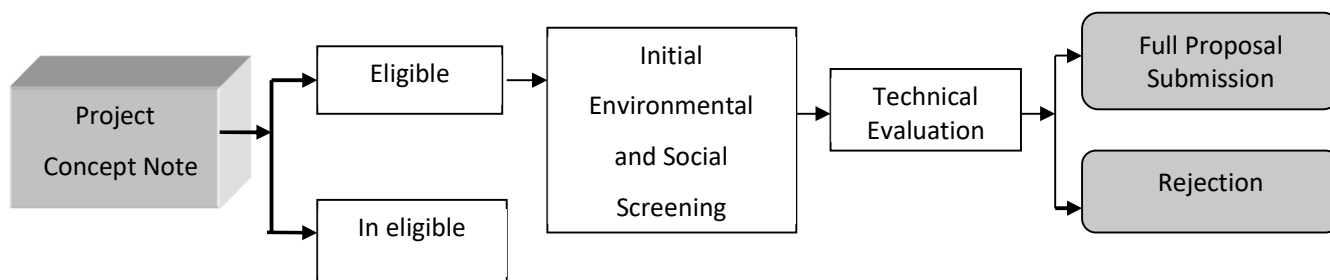
5. Setting up of Helpdesk to facilitate development and submission of PCNs

A help desk will be established in PCMU to provide support to partners for preparation and submission of PCN electronically in prescribed format/ template. STSG will provide required manpower for help-desk.

6. Setting up of the PCN Approval Committee

A mechanism will be set up to evaluate the PCNs. The RIUs will screen the submitted PCNs based on the pre-decided criteria. The RIUs will submit only such PCNs to the PCMU that meet the criteria. With the help of IAP experts and the STSG, the PCMU will evaluate all the proposals received from the RIUs and rank them. The qualifying proposals will be sent to the PCN Approval Committee chaired by Project Director. The concerned Nodal Officers of the PIUs will be members of the said Committee. The PCMU will function as a Secretariat to the PCN Approval Committee.

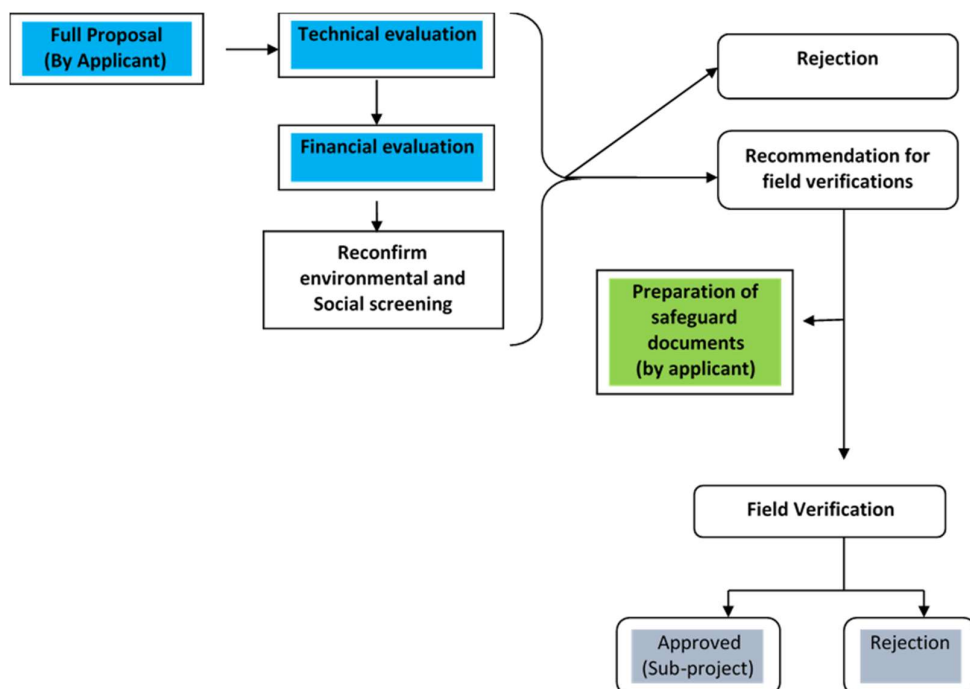
Figure 3: PCN Evaluation Process



7. Setting up the State Proposal Approval Committee

A mechanism will be set up to evaluate the Full Project Proposals (FPPs). With the help of IAP experts and STSG, the PCMU will evaluate all the FPPs received. It will rank the proposals based on the pre-decided criteria and send the qualifying proposals with its recommendations to the State Proposal Approval Committee. The Committee will be chaired by the Project Director and the HoDs of all the PIUs will be members of the said Committee. The PCMU will function as a Secretariat to the State Proposal Approval Committee.

Figure 4: FPP Evaluation Process



1. **Extension activities for value chain development by PIUs in catchment areas of PPs and MAPs:** Value Chain Development School (VCDS) is designed to bring all actors of Value Chains on one platform. VCDS will enable actors of value chain to understand concerns and issues of other players within the value chain. This will build their capacities in terms of technical and market related aspects. This will also act as binding force to keep actors of value chain together to make the value chain efficient by creating win-win situation for all. This being a new concept, a service provider will be appointed for designing Value Chain Development School (VCDS) who will carry out need assessment, develop VCDS modules, prepare extension material and conduct training of trainers (ToT). Based on these modules and ToT, this activity will be carried out by field staff of PIUs. It is envisaged that CBO beneficiaries of PPs and MAPs will be covered in VCDS after approval of PCN of sub-project. Around 1000 CBOs will be benefitted from the VCDS. Out of 1000 CBOs, about 600 CBOs will be of field crop and 250 CBOs will be of Horticulture crops. Similarly, 150 CBOs of Livestock will be benefitted under the activity.

a. Value Chain Development School through DoA

Following are the indicative activities proposed under this:

- i) Tech Market Meets.
- ii) Market led Crop demonstrations
- iii) Exposure cum training visits within state
- iv) Exposure cum training visits outside state
- v) Exposure cum training visits outside India
- vi) Farmer Field School
- vii) Activities to meet the specific market requirements such as GAP certification, food safety, organic farming and pest free area certification.
- viii) International exposure visits for technical staff

- i) **Tech Market Meets:** In Tech Market meets, representatives of all actors of value chain will be invited including Producer CBOs, technology providers (SAUs, inputs and other service providers), market players (commission agents, traders, wholesalers, processors, exporters and other end users), transporters, bankers, insurance companies, representative of consumer forums etc. During the meet, the value chain will be analyzed by a facilitator and all actors will be involved in this exercise. Actors of that value chain will be sensitized and motivated to prepare action plan to improve existing value chain into more efficient and to create win-win situation for all. This will set the agenda for activities to be followed during implementation of proposed sub-project. The costs estimates for this activity is Rs. 240.00 lakhs, the details are given in below table.
- ii) **Market-led Crop demonstrations:** Crop demonstrations typically are meant for demonstration of improved technologies to increase productivity. However, since the focus of the activity is productivity, the market aspect usually remains neglected. Market-led crop demonstrations in project along with improvement in productivity will emphasize upon needs of market which includes quality of produce in terms of needs of end-user. The costs estimates for various sub-activities under this activity is Rs. 5472.00 lakhs, the details are given in below table.
- iii) **Training cum Exposure Visits-** Classroom trainings for farmers do not give desired impact unless they are coupled with exposure through field visits to understand execution and impact of technology. This would include visits to research institutes, SAUs, role models and visits to markets to identify needs of market, etc. Project proposes to conduct training-cum-exposure visits of farmers in sub-projects. Such training-cum-exposure visits can be within state, outside state and also outside the country. The costs estimates for various sub-activities under this activity is Rs. 2737.00 lakhs, the details are given in below table.
- iv) **Farmer Field School (FFS):** FFS is a proven tool wherein the field becomes a school, a trained facilitator assumes the role of an enabler teacher and standing crops become live laboratories. Transfer of technology is more effective through FFS. Project will conduct FFS as part of VCDS for beneficiary farmers of sub-project. The costs estimates for various sub-activities under this activity is Rs. 1100.00 lakhs, the details are given in below table.
- v) **Service Provider for GAP certification and Food Safety-** This is particularly envisaged for horticulture crops where food safety and traceability have become important issues. The Project will onboard a Service Provider for this activity. Wherever the market requires certification, beneficiaries of sub-projects will be registered under GAP and training will be imparted to them for food safety. The Service Provider shall provide end-to-end support for GAP certification under this activity.
- vi) **International Exposure visits for technical staff:** It is very essential to give international exposure to field staff so as to make them globally competitive and encourage them to engage actively in implementation of sub-projects of value chain development. Project proposes to give international exposure to field staff engaged in implementation of sub-projects. The costs estimate for various sub-activities under this activity is Rs. 900.00 lakhs, the details are given in below table.
All procurable activities in this component will be procured by following World Bank procurement regulation and procurement guideline of project.

128. b. Value Chain Development School –Animal Husbandry

For strengthening the livestock value chain, activities such as multiplier breeders' training, farmers and AHD training on market-oriented climate smart Good Animal Husbandry training and training of Pashu Sakhis will be undertaken. The project might also undertake training-cum-exposure visits of farmers & Pashu Sakhis within and outside the States; but the main focus of this component will be to identify & groom lead Pashu Sakhis & farmers who could establish model units to train farmers during farmers' field schools. The PIU Animal Husbandry Department is responsible for Capacity building activities under Value Chain Development.

- i) Tech market meets for Goats and Back Yard Poultry will be organized where the CBOs could interact with technology partners, buyers, processors, retailers, exporters and other stake holders to identify market failures and gaps for planning their production activities.

The training needs and gaps identified will be addressed by training farmers & other stake holders. For this, the Pashu Sakhis will be trained in the Training of trainers (ToT) mode to groom them as Lead Pashu Sakhis. These lead Pashu Sakhis will subsequently train the other Pashu Sakhis who in turn will train the farmers. The project might also undertake training-cum-exposure visits of farmers & Pashu Sakhis within and outside the States; but the main focus of this component will be to identify & groom lead Pashu Sakhis & farmers who could establish model units to train farmers during farmers' field schools.

- ii) The FFS will be designed and conducted based on the actual field level needs identified. The training module for the same will be designed by the service provider for VCDS. PIU Animal husbandry will be responsible to carry out these activities, but will be supported by engagement of specialized TSA. The costs estimates for various sub-activities under this activity is Rs. 947.00 lakhs, the details are given in below table.

129. Estimated Costs of Market Access Support

Sr. No.	Activities	No.	Total Estimated Cost (Rs in lakhs)
1	Consultancies by PCMU		
1.1	Consultancy firms for State (1 or more) and Regional (4 or more) Technical Support Groups	5 or more	4000.00
1.2	Independent Assessment Panel	300	201.00
1.3	Need based Short term consultancies	5	200.00
1.4	Technical Institution / Knowledge Partner / Research Institutions tie-up by PCMU		
A	International	13	994.00
B	National	10	195.00
2	Outreach activities for PP, MAP, IP		
2.1	Advertisement for Call for Proposals about PP, MAP, IP	1	60.00
2.2	National Level Investors Meets	5	100.00
2.3	Roadshows / Focused group meetings across major cities in India	30	150.00
2.4	Participation in International level Exhibitions	10	350.00
2.5	Participation in National level Exhibitions	10	100.00
2.6	State Level Investor Meets, Stakeholder workshops & Preparation and updating database of buyers, startups, technology providers, research institutions, markets etc	15	150.00

Sr. No.	Activities	No.	Total Estimated Cost (Rs in lakhs)
2.7	Mobilisation and Sensitization of CBOs by PIUs	102	102.00
3	Extension activities for value chain development by PIUs in catchment areas of PPs and MAPs		
3.1	Service Provider for Value Chain Development School(VCDS) Need Analysis, developing VCDS Modules, ToT, Training and Extension Material	1	600.00
	PIU Agri		
3.2	Value Chain Development Schools - Field Crops		
	Tech Market Meets	160	160.00
	Market Led Crops Demonstrations	72720	3636.00
	Training Cum Exposure visits within State for Farmers	12120	727.00
	Training Cum Exposure visits outside State for Farmers	3030	636.00
	Farmer Field Schools	2424	776.00
	International Exposure visits for technical staff	250	500.00
4.2	Value Chain Development Schools – Horticulture		
	Tech Market Meets	80	80.00
	Market Led Crops Demos for GAP, Organic Certifications / Traceability	30600	1836.00
	Service Provider for GAP certification and Food Safety	1	300.00
	Training Cum Exposure visits within State for Farmers	5100	306.00
	Training Cum Exposure visits outside State for Farmers	1275	268.00
	Training Cum Exposure visits outside India for Farmers	500	800.00
	Farmer Field Schools	1012	324.00
	International Exposure visits for technical staff	200	400.00
	PIU AHD for Small Ruminants and Backyard Poultry		
4.3	Value Chain Development Schools - Livestock		
	Tech market meet for Goat Farmers (12,000 farmers @100 farmers per meet)	120	120
	Community Buck Breeding & Supply Program (Supply of SMART Super Buck) (350 Bucks @ Rs.15,000 : Rs.7,500 Subsidy / Buck towards buck price & insurance for 3 Years - Procured based on standard weighment) (These numbers include breeders training also)	350	26
	CBBP (Support for rearing, feeding & managing bucks) (350 Bucks - feeding cost @ Rs.5,000 / Buck)	350	17.5
	CBBP (Disease screening of bucks & vaccination - Rs.1000/Buck)	350	3.5
	ToT for Sheep and Goat husbandary schools (ASCI certification) (228 master Pashu Sakhis trained - 24 day training)* (Production planning, Operations, Agri-business, marketing, book keeping, etc)	228	175
	ToT for Backyard Poultry practices school (ASCI certification) (No of master Pashu Sakhis& Mother Unit owners) (No of master Pashu Sakhis) (24 day training) (Production planning, Operations, Agri-business, marketing, book keeping, etc)	200	77
	FFS for Sheep and Goat (20 farmers per FFS - 1500 FFS - total 30,000 farmers) (Production planning, Operations, Agri-business, marketing, book keeping, etc)	1500	480
	FFS for Backyard Poultry (20 farmers per FFS - 150 FFS - total 3,000 farmers) (Production planning, Operations, Agri-	150	48

Sr. No.	Activities	No.	Total Estimated Cost (Rs in lakhs)
	business, marketing, book keeping, etc)		
5.	Component B 1 recurring cost		7571.00
	Total		26468.00

130. Proposal Assessment Framework / Guidelines

PPs, MAPs and other sub-project proposals will be indicatively assessed as below:-

Sr. No.	Activity	Responsibility	How
1	Preliminary scrutiny / Screening of Project Concept Note (PCN)	Respective RIUs	PCN will be scrutinized by experts at RIUs on following aspects: a. PCN as per standard format b. Eligibility of applicants (CBOs / Buyers / Others) c. Eligibility of subprojects d. CBOs details – registration details, incase if not registered provide undertaking before signing of Grant Agreement FPP they will register. e. Documents like Resolution of BoDs, Audited Balance Sheet, Bank Statements, Land Documents etc.
2	RIU to submits PCN preliminary scrutiny to PCMU and PIUs (for respective CBOs)		RIU will consult with respective regional / district level office of related PIUs and with help of RTSG and RIU experts and submit to PCMU with copy to PIUs
3	Evaluation of PCN	PCMU with support of IAP and STSG	PCN will be evaluated on following aspects: a. Social and Environmental Safeguards (initial screening) b. Technical Evaluation c. 3. PIUs will give remarks and to be considered
4	Ranking of the PCN	PCMU	PCMU will screen the PCN for social inclusion and environmental impact. Ranking of PCN will be done based on the following evaluation criteria: a. No. of Beneficiaries (Direct / Indirect) b. Existence and type of partnership within value chain development c. Expected impact on beneficiaries (income or other and cost-efficiency) d. Contribution to value chain development e. Demonstrates innovation aspects f. Sustainability g. Social and Environmental impacts h. Adequacy of equity and / or Bank loan to carry out proposed subproject
5	Approval to PCN	PCN approval Committee	a. PCMU works as secretariat of the PCN approval Committee

			<ul style="list-style-type: none"> b. PCMU will submit the qualifying proposals and recommendations to PCN approval Committee. c. Based on the marks received for PCN, PCN committee approves PCN for FPP preparation d. Reject PCNs will be informed and reasons for rejection will be disclosed if needed
6	Field verification of proposals selected for FPPs	<ul style="list-style-type: none"> - PIUs - RIUs for safeguards 	<ul style="list-style-type: none"> a. PIUs through field staff b. Field visits to CBOs c. Reconfirmation of Social and Environmental safeguards and suggesting mitigation measures to be included in FPP
7	Evaluation of FPP	PCMU with support of IAP and STSG	<p>Initially IAP will verify the technical feasibility of FPP. After technical feasibility, FPP will be evaluated in detail on following aspects:</p> <ul style="list-style-type: none"> a. Technical b. Financial c. Economical d. Inclusion e. Compliance of SMART Safeguard Policies (Environment & Social etc.)

PCN standard format, scoring criteria and decision rules are annexed in Set II

B.1.1 Productive Partnerships Sub-project

131. Introduction:

A Productive Partnership involves three core stakeholders: a group of producers through Community Based Organizations (CBOs), one or more buyers, and the public sector. These three stakeholders are connected through a business proposition, or “business plan”, which describes the capital and services needs of the producers and proposes improvements that would allow them to access alternative markets. The plan also supports up-gradation of production capacities and skills of the producers to strengthen their linkage with the market, i.e. the buyer(s). The implementation of such a business plan through a subproject is supported through three core inputs and/or activities directed towards the producers’ needs: productive investments, technical assistance, and business development. These core inputs are financed through competitive project matching grant, which are matched by the beneficiary producers, financial institutions (Banks) and in some cases also by the buyer(s). **But loan is not mandatory for sub-project likewise, grant is up to 60 per cent and not all projects will necessarily need 60 per cent grant.** Grant is used for the financial closure of the sub-projects.

132. The project will support developing and partially financing Productive Partnerships (PP) between farmers represented by CBOs and buyers. The aim is to develop a long-term, sustainable and commercial relationship that will help the participating partners to improve their competitiveness in terms of price, cost, productivity, quality, and sales volume and provide holistic solutions to address market imperfections that inhibit socio-economic progress of smallholder producers. The Productive Partnership approach will provide integrated solutions for addressing market imperfections such as (i) limited scale of production and low productivity; (ii) inferior standing in market negotiations with buyers and input providers leading to poor prices and unstable market relationships; (iii) poor knowledge of modern production practices, technologies and market requirements, and of the entrepreneurial and management skills required to become more competitive and resilient to economic and climatic shocks.

133. PP, as a market linkage tool, is useful for such commodities wherein there is a need for very close coordination between CBOs and buyers. This would include, among others, perishable commodities, commodities that are requiring processing soon after harvest, and where the product is differentiated according to variety, quality or other dimensions (e.g. organic). In addition, combining the focus on smallholder farmers with that on production of nutritious crops and livestock is useful since it can improve direct access to nutritious food for smallholder farmers who typically face poor nutrition outcomes. More broadly, improving the value chain for these nutritious crops and livestock can lead to better availability of quality nutritious food in the state. The PP will help buyers and sellers (CBOs) to develop sustainable partnerships thereby achieving reliable quality supply to the buyer and an assured market for the seller with higher price realization, thus creating a win-win situation for both the partners.

134. Objectives of the Sub Component

- a) Facilitating development of long-term partnerships between CBOs and the private sector for development of value chains.
- b) Helping Community Based Organizations (CBOs) to engage in profitable market-oriented production and to provide improved access to markets through the provision of technology, information services, critical public infrastructure and linkages to agribusinesses.
- c) Creating and strengthening industry-wide partnerships along the value chain, thus forging linkages between CBOs, processors, and other stakeholders.
- d) Reducing existing obstacles to agriculture and food trade, thereby increasing the ability of farmers and agribusinesses to respond to traceability and food-quality standards to
- e) meet domestic and exports requirements.

135. Process flow of Productive Partnership Plan (PP)

This section outlines the process flow for the Productive Partnerships sub-project.

136. Preparation and Approval stage of sub-project

Main STEPS / Activities	Sub-Activities	Primary Responsibility	Secondary Responsibility	How
1. Preparatory activities	a) Engagement of one or more State Technical Support Group (STSG) and four or more Regional Technical Support Groups(RTSGs)	PCMU		STSG and RTSG will be engaged as per world bank procurement process.
	b) Empanelment of Independent Assessment Panel (IAP)	PCMU	STSG	The evaluator panel, with national and if needed, international external experts, will be contracted by the project to analyse the proposal based on their expertise. The project will publish one or more Expression of Interest to establish a register of experts for the sub-project/proposal evaluation. Experts will be selected based on their merit in the different activities that the project is focusing on. The roster of experts will be updated whenever there is a need.
	c) Creation of database of potential buyers.	VSTF	STSG, RTSG	VSTF will prepare data base of potential buyers (commodity-wise). This can be done based on existing database of industries, APEDA list, exporters and interactions with associations at national/international level.
	d) Creation of database of potential CBOs	PIU, RIU, DIU	RTSG	The list of eligible CBOs will be prepared by referring existing list as well as by making a list based on response to CFP
	e) Identify Technical Knowledge Partners (TKP) and Collaboration with TKPs	PCMU, PIU, RIU, DIU	STSG, RTSG	Reputed institutes working in Agriculture sector at national and international level are identified, and formal collaborations are done based on the activity and need of sub-project. See Chapter B1 for details.

Main STEPS / Activities	Sub-Activities	Primary Responsibility	Secondary Responsibility	How
	f) Mobilization of CBOs to get response for productive partnership sub-projects.	PIU, RIU, DIU	RTSG	Mobilization of CBO by conducting workshops at district level to get response for productive partnership sub-projects.
	g) Helpdesk for development of PCN	PCMU	STSG	A helpdesk will be set up at PCMU with the help of STSG, to assist possible candidates in the development of proper PCN and to assist the proposer in identifying potential partners. The helpdesk can be reached by e-mail and by telephone.
2. Outreach activities	a) Publish Call for Proposal (CFP) to identify potential sub projects	PCMU	STSG	CFP will be published in newspapers at national, state and local level newspapers to invite proposals. These calls will be widely advertised and disseminated in electronic media, print media, project website, seminars, workshops and direct contact etc. Reputed organisations, industries, cooperatives and extension organisations, who have proven track record of market-farmer extension linkages, may be specially targeted for wide publicity. The advertisement will include application procedure, eligibility criteria, etc. The CFP will address the identified focus areas relevant to the project development objectives. The project will allow two months for potential project beneficiaries to submit project concept note . A helpdesk will be set up at PCMU, to assist possible candidates in the development of proper PCN and to assist the proposer in identifying potential partners.
	b) Outreach activities to get response to CFP from buyers	VSTF	STSG, RTSG	National, state, regional level investor meet, exhibition, workshops, road shows, seminars, focus group meetings will be conducted to get response from buyers.
3. Match making	Match making of potential CBOs and buyer partners will be continuous activity for first three years.	PIU, RIU, DIU	RTSG	Respective PIUs with the help of Technical Support Group (TSGs) and RIUs will do the match making of potential CBOs and Buyers.
4. Preparation of Project Concept Note (PCN)	a) To conduct state level training of stakeholders on preparation of PCN	PCMU	STSG	Stakeholders like PIUs, RIUs, DIUs and RTSGs will be trained on developing PCN by PCMU with help of STSG. The PCN will be predefined in electronic format.
	b) Preparation of PCN	Jointly by buyer & CBO	RTSG	Buyer and CBOs jointly will prepare PCN. RTSGs will support for preparation of PCN. The applicant will prepare the PCN following a standard electronic format, and it will describe the activities to be carried out, the business model to be developed, the partnership between the agribusiness and participating CBOs and the commitment of each partner to the

Main STEPS / Activities	Sub-Activities	Primary Responsibility	Secondary Responsibility	How
				subproject, how this will impact a particular value chain, the contribution of partners towards the realization of the subproject objectives, innovation to be introduced and its spill-over effect, and the reasons why the proposed activities would qualify for funding under the project.
	c) To guide and support for preparation of PCN	PCMU, PIU	STSG	PCMU/ STSG will help and support the CBOs, RTSGs to develop PCNs as per checklist and format, also to ensure PCN is in accordance with Project Development Objectives (PDOs).
	d) Screening, verification and submission of PCN	RIU, DIU	RTSG	Regional Implementing Unit will be responsible for screening each subproject concept note to ascertain whether or not, (i)the applicant(s) meet the eligibility criteria for participation, and (ii)the proposed subproject meets the eligibility criteria for matching grant funding. Respective PIUs with the help of their district line unit will verify the PCN and submit to PCMU.
5. Evaluation and approval of PCN (Approval, Rejection, Modification)	a. Evaluation and approval of PCN (Approval, Rejection, Modification)	PCMU	IAP, STSG	Initially Environmental and Social screening of PCN will be done. If PCN fulfils Environmental and Social Safeguard criteria, then evaluation of the proposal will be done by specialised and independent external evaluators. Based on the marks obtained in the score sheet for the PCN, each concept note will be graded and those that clear the threshold will be approved by PCN Approval Committee. PCN Approval Committee will be chaired by the Project Director and all HoDs of all PIUs will be members of the same. Rejected PCNs will be returned to partners along with the comments. If they wish, they can submit the revised PCN in subsequent rounds after necessary improvements.
	b. Help CBOs to improve and re-submit PCN for approval	PIU, RIU, DIU	RTSG	Based on suggestions, shortcomings observed in validation, evaluation, support will be provided to improve/ modify PCN wherever necessary and possible.
6.Preparation of FPP of approved PCN	a) To conduct State level Trainings on preparation of FPP	PCMU	STSG	PCMU / STSG will conduct trainings of PIUs, RIUs DIUs, RTSGs, and other stakeholders on preparation of FPP process, content and requirements including session on Social inclusion, Gender analysis, Environment & Social Safeguards.

Main STEPS / Activities	Sub-Activities	Primary Responsibility	Secondary Responsibility	How
	b) Social inclusion, Gender analysis, Environment & Social Safeguards of Subproject	PIU, RIU, DIU	RTSG	During preparation of Full Project Proposal, RTSG will do analysis of Social inclusion, Gender, Environment & Social Safeguards of the subproject as per project strategy and address the gaps through dedicated interventions in FPP.
	c) Empanelment of Architectural and Engineering consultant by the project and hiring of consultant by CBO	RIU, DIU, CBO	RTSG, Consultants	The RIU will empanel Architectural and Engineering consultants to carry out technical design and financial estimation of infrastructure of sub-projects. The consultant will be hired by CBO. The consultant will prepare the design, detailed estimates of proposed work. The consultants will support the CBO/RTSG for preparing the FPP. The Project Market field Engineer (MFE) will verify the design and estimates. <i>It may be noted that empanelment would be carried out during the PCN stage itself. The list of empanelment will be updated and revised at regular basis as per the need.</i>
	d) Preparation of Technical Specifications for equipment/ implements	RIU, DIU, CBO	RTSG	Technical specifications for implements/ equipment to be procured as a part of sub-project activity will be prepared on the basis of requirement by RTSG. RTSG will source required technical information from concerned institutes like SAUs, ICAR institutes etc.
	e) Preparation of FPP	PIU	RTSG	Based on the approved PCN, the FPP will be prepared by RTSG in the prescribed electronic format which will be bankable.
	f) To guide and support in preparation of FPPs	PCMU	STSG, RTSG	PCMU will be responsible to provide guidance and support to CBOs through PIUs, RIUs, DIUs with help from STSG and RTSG
	g) To support CBOs to submit FPP to FIs/Banks to get an in-principle loan approval, if necessary	PIU	RTSG	All necessary support will be provided to CBOs to prepare and submit FPP to FIs/ Banks for appraisal and to obtain in-principle loan approval, if necessary. But loan is not mandatory for sub-project.
7. Validation & Evaluation of FPP	a) Field Verification of FPP	PIU	RTSG	Field verification of FPP will be undertaken to check the necessity of interventions and infrastructure and also to verify Social inclusion, Gender, Environment & Social Safeguards aspects. Checklist for field verification will be created under Operational Guidelines issued by PCMU.

Main STEPS / Activities	Sub-Activities	Primary Responsibility	Secondary Responsibility	How
	b) To review and evaluate FPP	PCMU, PIU, RIU	STSG	FPP will be evaluated on their expected financial, socioeconomic and environmental impact, their degree of inclusion of stakeholders, and their multiplier or replication potential. The FPP will also be screened for the safeguard compliance. The PCMU, will evaluate each FPP, with the help of specialized and independent external evaluators. Technical evaluation of FPPs will be done by IAP, and the financial and overall evaluation will be done by STSG as per pre-decided criteria. As per these criteria, a score will be generated and grading of the proposals will be done.
	c) To revise the FPP based on comments from PCMU	PIU	RTSG	Sub-project (FPP) can be suitably revised based on the suggestions/ comments by IAP and PCMU team, wherever feasible.
	d) To support CBOs to submit loan application to FIs /Banks for approval if required.	PIU	RTSG	CBOs preparing FPPs will be provided support for preparation and submission of FPP to FIs/ Banks, make necessary compliances and get approval of FIs/ Banks if required. But loan is not mandatory for sub-project.
8. Approval of FPP and allocating to PIU	a) To submit FPP along with draft Grant Agreements to PCMU for approval	PIU	STSG	RTSG will ascertain that the FPPs are prepared as per necessary requirements and will submit the same to PCMU through PIU along with Grant Agreement.
	b) Approval of FPP and allocating it to PIU	PCMU	STSG	PCMU will clear qualifying plans and submit it with their recommendations to the State Proposal Approval Committee. The Project Director, SMART chairs the State Proposal Approval Committee, and head of the all eleven participating PIUs will be members of this committee. The PCMU will function as the secretariat of this committee. SPAC will give approval and allocate subproject to one PIU for implementation.
9. Signing of the Grant Agreement	a) Signing of the Grant Agreement for approved projects	CBOs, Growers Org/ Association.	STSG	After approval of FPP, grant agreement will be signed between PIU, CBOs and Buyer / Private Partner in prescribed format.

137. Project Beneficiaries:-

The project will be implemented in all the districts of Maharashtra. The direct beneficiaries of the project are small and medium semi-commercial and commercial agricultural producers with a capacity to generate marketable surpluses and are organised into Eligible Community Based Organisations (CBOs). CBOs include, among others Farmer Producer Companies (FPC), SHG Federations viz., Cluster Level Women Federations (CLF), Community Managed Resources Centres (CMRC),

and Primary Agriculture Credit Cooperative Societies (PACS)². Additionally, agri enterprises, value chain participants, commodity groups, where relevant, will also be the project beneficiaries.

138. Selection criteria for Potential Buyers / partners

Buyer should be legally registered entity with financially and commercially strong credentials such as minimum turnover of Rs 50 lakh. Preference will be given to entities that have demonstrated partnership with producers. In case the entity is a start-up engaged in agribusiness, the said start-up should be registered and recognized by Government of India or Government of Maharashtra.

139. CBO selection criteria

- a) CBO should be a legally registered entity, with audited books of Accounts (audited by a Chartered Accountant). If CBO is not a legal entity then at the time of PCN, then it should apply for legal registration and should be legally registered at the time of Grant Agreement signing.
- b) Project will largely focus on FPCs / FPOs, CLFs, CMRCs & PACSs, farmer groups registered with ATMA however project may consider grower associations, federations etc. Minimum membership base of CBOs is required to be: 250 shareholders for FPCs and/or PACS, 100 SHGs for CLFs/ CMRCs, 10 institutional members for Federations, 250 members of Grower associations and FPOs, In case of ATMA registered farmer groups minimum membership base should be 20 farmers or as prescribed by state government .
- c) CBO should not have any significant audit observations.
- d) CBO should not have been declared as Non-Performing Asset (NPA) by the Bank due to past loan default.
- e) CBO should have turnover of more than Rs. 5 lakh in at least one audited financial statement in last three years.
- f) Priority will be given to CBO records should show growth in membership on a y-o-y basis for 2 years preceding the year in which proposal is submitted
- g) Priority will be given to CBO having previous experience in collective buying or selling
- h) Priority will be given to the CBOs fulfilling the criteria of; i) 80 percent small and marginal farmers ii) 6 percent ST producers iii) 7 percent SC producers and iv) 30 percent women.

In case proposals received are more than the requirement, above a) to e) are mandatory selection criteria while f) to h) are preferential criteria.

140. Eligibility of Proposals and Proposal Selection Criteria

Following proposals are deemed to be eligible:

- a) All proposed are expected to be technically sound and financially viable as well as satisfactory environmental and social safeguards.
- b) Proposals that consist of market infrastructure and productive activities (storage collection facilities, processing equipment,) that add value to the produce.
- c) Support market opportunities identified jointly by the producer organisation, organised buyers and other economic actors of the value chain.
- d) Partnerships emerge from participatory and local processes from bottom to top.
- e) Support market-led production both in terms of quality and market timing.

² Inclusion of producer organization legally registered under cooperative act may be taken up after the completion of first call for proposal.

- f) Sustainable from an environmental, social, economic and financial perspective.
- g) The partners share the risks both in processing and marketing

141. Proposal Selection Criteria

- a) Number of beneficiaries (direct and indirect)
- b) Existence and type of partnership within the value chain
- c) Expected impact on beneficiaries (incomes or other) and cost-efficiency
- d) Contribution to value chain development
- e) Demonstrates innovation aspects
- f) Sustainability
- g) Social Environmental impacts
- h) Adequacy of equity and/or Bank loan to carry out the proposed subproject

142. Institutional and Implementation Arrangement

Institutional and implementation arrangement for the PP subprojects are divided based on the activities and responsibilities that would be undertaken by the PCMU, PIUs, RIUs and DIUs. PCMU will be working as secretariat for subproject approval and monitoring. Respective PIUs will be responsible for implementation and rollout of subproject proposals with help of RIUs and DIUs. Details of the arrangements are mentioned in below table

143. A. Implementation arrangements of sub project (PPs)

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Preparation of Operational Guidelines in English and Marathi	PCMU, PIU		Operational guidelines for effective implementation of the PP component in the field will be prepared in English and Marathi by PCMU and PIUs. Guidelines will define the roles of involved agencies & staff at various levels.
2	Training on implementation, procurement, safeguards compliances, financial management, MIS, etc	PCMU, PIUs	STSG, RTSGs	Training on implementation, procurement, safeguards compliances, financial management, MIS etc. will be provided to PIUs, RIUs, and DIUs and other stakeholders.
3	Opening of bank account and ensuring beneficiary contribution	CBOs, DIUs	RTSGs	CBO will open Bank account in the banks to handle the amount received from PCMU as grants as well as contributions from beneficiaries.
4	Formation of Procurement Committees at CBO level	CBOs, DIUs, RIUs	RTSG	As a part of procurement process, 'Procurement Committees' will be constituted at CBO level as per Procurement Manual.
5	Technical Trainings for capacity building of CBOs and beneficiaries	PIUs, DIUs	TKPs	Technical trainings will be organized by technical knowledge partners as per requirement and as mentioned in the specific sub-project.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
6	Handholding of CBOs for commodity transaction as per approved plan	PIUs, RIUs, DIUs	RTSGs	Once the sub-projects are rolled out, CBOs and partners will be provided with handholding support by DIUs & RIUs for seamless implementation and for commodity transaction as per approved plan to develop long term market linkage.
7	Release of first tranche	PCMU		PCMU will release first tranche as per Grant agreement & the financial management manual.
8	Procurement of Equipment and Civil works	CBOs, DIUs, RIUs	RTSG	Various equipment/ implements/ machineries and civil works mentioned in the sub-project will be procured/ undertaken as process laid down in the Procurement Manual.
9	Supervision of works, recording of works	PIUs, RIUs and DIUs	Architectural and Engineering consultants, RTSG	Consultant will supervise the works and provide necessary guidance. Progress of work will be recorded in measurement books. Field visits by PIUs and RIUs will be undertaken to monitor the progress and attend the issue if any.
10	Demand and release of second and third Tranches	CBOs, DIUs, PIUs and PCMU	RTSG and STSG	CBOs will demand 2 nd and 3 rd tranches after utilizing the funds released in 1 st and 2 nd tranches respectively with necessary compliances. as per Grant agreement and financial management manual
11	Submission of Utilization Certificates (UCs)	CBOs, DIUs, RIUs and PIUs	Consultant, RTSG	After spending the funds to carry out the activities, the necessary UCs will be submitted to PCMU through proper channel.
12	Implementation of Project	PIUs, RIUs and DIUs	RTSG, Consultant	Sub-project will be implemented by respective PIUs through RIUs and DIUs as per operational guidelines as well as institutional arrangements of implementation, funds flow arrangements.
13	Generation and validation of data for subsequent monitoring of sub-projects	CBOs, PIUs, PCMU	RTSGs	Generation of data within the MIS will be carried out by the CBOs with the assistance of RTSGs and under supervision of the DIUs and RIUs. PIUs will validate the data created by the CBOs regularly.
14	Monitoring & Evaluation	PCMU	GIPE	Six monthly monitoring of the progress of the sub-project will be undertaken by GIPE. Impact assessment of the sub-projects will be carried out at Mid-term and End-term.

144. 10. Estimated Cost

The financial support provided the subprojects by the project will be in the form of matching grants, which are justified by the positive externalities that are generated by the subproject and the fact that commercial finance is often not available to rural smallholders. The levels of grant support and the arrangements for co-financing will vary as per the financial viability of the sub-project. Experience from similar project suggests that satisfactory outcomes are far more likely when a minimum cash co-financing of the total subproject costs is required from beneficiary partners, encouraging greater ownership, enhancing risk-sharing and showing more significant

commitment on the part of producers. Hence, the matching grant is treated as a viability gap financing to proposals that are economically justified but not financially viable. The extent of the funding is up to 60 per cent of the sub-project proposal.

145. PIU-wise indicative PP funds will be as under:

Sr. No.	PP Activities	Indicative Unit Cost (Rs. Lakh)	Sub projects (Indicative No.)	Indicative Grant (Rs. Lakh)	Total Cost of Subprojects (Rs. Lakh)
PIU wise Subprojects					
1	DoA, AHD, MCDC and others	270.00	67	18090.00	30150.00
2	MSRLM		24	6480.00	10800.00
3	MAVIM		12	3240.00	5400.00
4	VSTF		7	1890.00	3150.00
5	VSTF CSR fund		10	2700.00	4500.00
Total PP Subprojects			120	32400.00	54000.00

B.1.2 Market Access Plans (MAPs) Sub-project

146. Introduction:

Globalization and trade liberalization offer the options of accessing for new markets; however they also bring a unique set of challenges for smallholder farmers. Such challenges include lack of information about requirements of new domestic and global markets such as variety, size, appearance, form and other quality attributes, food safety and food quality, as also lack of knowledge and skills in modern methods of production and lack of scale and size economies. Lack of information, skills, technologies and scale increase the transaction costs for smallholder farmers, rendering them uncompetitive. The smallholder farmers are hence forced to sell their produce in traditional markets where they may not get good prices for their produce. These challenges need to be addressed so that they can compete in the evolving markets. The project will provide support to farmers through partially funded Market Access Plans (MAPs) to overcome the abovementioned challenges so farmers can access new markets in a competitive manner. The Market Access Plans (MAPs) will be developed to help CBOs, associations, federations of farmers and other farmer groups to access targeted markets for their produce. The targeted market could be a domestic market or an export market. The plan supports producers to undertake the activities so as to fulfil the requirements of and hence gain access to specified markets.

MAPs will support a range of activities required across the value chain to access the new markets, such as-

- a) Adoption of improved varieties
- b) Adoption of Good Agricultural practices (GAP), Good Hygiene Practices (GHP), Good Manufacturing Practices (GMP), and other relevant global standards
- c) Infrastructure such as collection centres, primary processing units and adoption of improved technologies in post-harvest storage and processing;
- d) Adoption of food safety standards of target markets;
- e) Marketing activities- customer acquisition through trade fairs, market promotion, brand development etc.
- f) Capacity building through training to enhance knowledge and skills of the stakeholders involved in the value chain.

147. Objectives of the Sub-Component:

- a) To explore and understand new markets for the produce in domestically as well as internationally, and to enhance the accessibility of producers to existing markets.
- b) To improve access of producers and entrepreneurs to a range of technical and business development services, technologies and skills training for development of inclusive and competitive agriculture value chains.

148. Development of the MAPs

The MAP for any commodity will be developed by-

a) CBOs, Growers Associations, Growers federations

Producers, through Community Based Organizations (FPOs, CLFs and CMRCs), Growers associations/ federations, group of producers (FIGs) come together to develop the MAP for selected commodities to access identified markets.

b) Market Access Plan jointly by Enterprises (Processor, Exporter) and CBOs:

In some cases, CBOs may approach and take support of enterprises like processors and/or exporters to develop a MAP to access the specific domestic or export market.

In this case, the enterprise may contribute to or support value chain in terms of capacity building, investments in infrastructure or through any other activity crucial in value chain.

149. Process Steps for development of Market Access Plan:

This section outlines the process flow for development of MAPs.

Preparation and Approval stage

Primary Responsibility	Main STEPS	Sub-Activities	Responsibility	How?
PCMU	1. Engagement of Technical Support Groups at state and regional level.	b) Engagement of one or more State Technical Support Group (STSG) and four or more Regional Technical Support Groups(RTSGs)		STSG and RTSG will be engaged as per world bank procurement process and TORs finalised.
PCMU, PIU, VSTF, RIU	2. Call for Proposal (CFP)	c) Creation of database of potential markets	STSG	VSTF will prepare data base of potential markets (commodity-wise) separate for fresh and processed products in domestic and exports. This can be done based on existing database of industries, APEDA list, exporters and interactions with associations at national/ international level.
		d) Creation of database of potential CBOs and growers associations	RTSG	The list of eligible CBOs will be prepared by referring existing list as well as by making a list based on response to CFP. Eligibility criteria is given below.
		e) Publish Call for Proposal (CFP)	STSG	CFP will be published in newspapers at national, state and local level newspapers to invite proposals from CBOs, crop associations/ federations and other producers associations to prepare Project Concept Note for MAP.
		f) Outreach activities to get response	STSG, RTSG	Conduct activities such as workshops, road shows, seminars, focus group meetings, use of other media at state, regional and district level to get response from CBOs, and other growers associations. See Chapter B1 for details.
PCMU, PIU, RIU	3. Preparation of Project Concept Note (PCN)	e) Identification of Commodity Clusters, Geography and Partners	RTSG	Based on commodity-wise data, potential commodity mapping will be carried out and clusters for selected partners and commodities will be identified. For details, see Chapter B1.
		f) To conduct training of stakeholders on preparation of PCN	STSG	Stakeholders like PIUs, RIUs, DIUs and RTSGs will be trained on developing PCN by PCMU with help of STSG

		g) To guide and support for preparation of PCN	STSG	PCMU/ STSG will help and support the CBOs, RTSGs to develop PCNs as per checklist and format, also to ensure PCN is in accordance with Project Development Objectives (PDOs). A list of proposals that are eligible is given below.
		h) Preparation of PCN	RTSG	CBOs will prepare a PCN as per the prescribed template with the support of RIUs/ DIUs and RTSGs.
		i) Verification and submission of PCN		Verification of PCN will be done to see that it sufficiently reflects PDOs.
PCMU, PIU, RIU	4. Evaluation and approval of PCN (Approval, Rejection, Modification)	a. Empanelment of Independent Assessment Panel (IAP)	STSG	Empanelment of experts from agriculture, horticulture, animal husbandry sectors and specialised in production, post-harvest and marketing will be done. See Chapter B1 for details.
		b. Evaluation and approval of PCN (Approval, Rejection, Modification)	STSG, IAP	Based on the marks obtained in the score sheet for the PCN, each concept note will be graded and those clear the threshold, will be approved. Rejected PCNs will be returned to partners along with the comments, if they wish, can submit in subsequent rounds after necessary improvements. PCN should mention the necessity for market research for identified market and for selected commodity for further approval.
		c. Help CBOs to improve and re-submit PCN for approval	RTSG	Based on suggestions, shortcomings observed in validation, evaluation, support will be provided to improve/ modify PCN wherever necessary and possible.
CBOs, Growers Associations	5. Market Research	a. Support CBOs to undertake Market Research, preparation and submission of report.	RTSG	As per approved PCN, CBOs can undertake market research themselves or through an agency as per pre-decided outcome. CBOs will be supported to design market research, conduct and prepare report as per guidelines decided.
		b. Validation of Market Research Report and approval by PCMU	STSG	After acceptance/ approval of Market research, the cost incurred on market research will be reimbursed on the basis of guidelines by PCMU.
PCMU, PIU, RIU, DIU	6. Preparation of FPP	a. Identify Technical Knowledge Partners (TKP) and Collaboration with TKPs	STSG, RTSG	Reputed institutes working in Agriculture sector at national and international level are identified, and formal collaborations are done based on the activity and need of sub-project. See Chapter B1 for details.
		b. To conduct State level Trainings on preparation of FPP	STSG	Trainings of PIUs, RIUs DIUs, RTSGs and other stakeholders on preparation of Full Project Proposals (FPP)- process, content and requirements.

		c. Empanelment of Architectural and Engineering consultant	STSG, Consultants	The PCMU will empanel Architectural and Engineering consultants to carry out technical design and financial estimation of infrastructure, implements and equipment proposed under activities in the sub-projects. The consultants will prepare the design, detailed estimates of proposed work, and will prepare bill of quantities. The empanelled consultants will support the CBOs for preparing the FPPs.
		d. Preparation of FPP as per approved PCN and based on Market Research report	RTSG	Based on approved PCN and market research report, FPP will be prepared in prescribed template. See Annexure SET IV.
		e. To guide and support in preparation of FPPs	STSG, RTSG	PCMU will be responsible to provide guidance and support to CBOs through PIUs, RIUs, DIUs with help from STSG and RTSG
		f. To support CBOs to submit FPP to FIs/Banks to get an in-principle loan approval, if necessary	RTSG	All necessary support will be provided to CBOs to prepare and submit FPP to FIs/ Banks for appraisal and to obtain in-principle loan approval, if necessary. But loan is not mandatory for sub-projects.
PCMU, PIU, RIU	7. Evaluation/ Validation of FPP	a. To review and evaluate FPP	STSG	STSG will review the FPP which will further be evaluated by Independent assessment panel (IAP) based on pre-decided criteria. MAP-4 for the list of activities that are supported under MAP.
		b. Field Verification of FPP	RTSG	Field verification of approved sub-project by will be undertaken to check the necessity of interventions and infrastructure and also to verify social and environmental aspects. Checklist for field verification will be created under Operational Guidelines issued by PCMU.
		c. To revise the FPP based on comments from PCMU	RTSG	Sub-projects (FPPs) can be suitably revised based on the suggestions/ comments by IAP and field verification team, wherever feasible.
		d. To support CBOs to submit loan application to FIs /Banks for approval	RTSG	CBOs preparing FPPs will be provided support for preparation and submission of FPP to FIs/ Banks, make necessary compliances and get approval of FIs/ Banks, if required. But loan is not mandatory for sub-project.
PCMU, PIU	8. Approval of FPP and allocating to PIU	a. To submit FPP along with draft Grant Agreements to PCMU for approval by SPAC	STSG	RTSG will ascertain that the FPPs are prepared as per necessary requirements and will submit the same to PCMU along with Grant Agreement for MAP for further approval.

		b. Approval of FPP and allocating it to PIU	STSG	PCMU will review the reports of IAP and field verification team. SPAC will accord an approval to sub-project based on recommendation of PCMU. PCMU will allocate the approved sub-project to respective PIU for implementation.
CBOs, Growers Org/ Association.	9. Signing of the Grant Agreement	a. Signing of the Grant Agreement for approved projects	STSG	After approval of FPP by SPAC, grant agreement in prescribed format will be signed between PIU and project partner CBOs.
PCMU, PIU, RIU, DIU	10. Rollout of MAP	Implementation of the sub-project.	STSG, RTSG, TKP	A detailed implementation plan along with clear guidelines will be prepared.

150. Eligibility Criteria for CBOs

Types of Community Based Organizations (CBOs) eligible for developing MAP sub-project proposal include-

- a) FPCs/ FPOs registered under Companies Act,
- b) Cluster level federations (CLFs) established by MSRLM,
- c) Community managed resource centres (CMRCs) established by MAVIM
- d) Primary agricultural cooperative societies (PACs) and other coop institutes/ organizations registered under Coop Act and involved in the activities related to Agriculture value chain.
- e) There are some farmers/ producers/ women groups are promoted by VSTF corporate partners like FPCs, FGs/ PGs/WGs may also be considered.
- f) In addition to this, commodity-wise growers associations/ federations such as MRDBS, MahaGrape, MahaAnaar, MahaBanana, MahaOrange, MahaLime, MahaMango, Vegetable Growers Association etc., Producers groups (PGs)/ FIGs will also be considered.

151. CBO selection criteria:

Membership: Since MAP is targeting the markets rather than buyer, there is a need to aggregate sufficient quantity of produce to meet the requirements of identified markets. Hence minimum beneficiaries should be 750 for sub-project of fruits and vegetables and 2000 beneficiaries for sub-project of grains and pulses. MAP sub project will typically target the markets of outside the Maharashtra state. This can be either single or group of CBOs in federation, growers' association, federation having more than 10 institutional members. Different kinds of CBOs can come together and form association with common commodity, market requirements and understanding. The individual CBO should have submitted minutes of at least 2 Annual General Meetings (AGMs) held in two years immediately preceding the year in which proposal is submitted.

- a) At least 1 audited financial statement of showing record of turnover more than Rs.25 lakh, with no audit paragraph and no NPA should be submitted by the CBOs for the year preceding the year in which proposal is submitted
- b) Priority will be given to CBOs whose records should show growth in membership on a y-o-y basis for 2 years preceding the year in which proposal is submitted
- c) Priority will be given to CBOs which have previous experience in collective buying or selling

- d) If CBO is not a legal entity then at the time of PCN, then it should apply for legal registration and should be legally registered at the time of Grant agreement signing.
- e) If CBOs going to export commodities to overseas markets themselves, at least one CBO of group/ association/ federation should have all necessary permissions, licenses to export the commodity in overseas markets.

152. Market selection for MAP: The MAPs are developed by CBOs targeting specific market in domestic or export sector for selected commodity, the market selection becomes important. Following are the considerations for selecting markets-

Export markets-

- a) Market potential- sufficient demand for the commodity to be exported- quantity and period (duration)
- b) Competitiveness in terms of price/ cost, quality, food safety standards and other market requirements
- c) Trade relations with importing country
- d) Authenticity of market and importers in the market
- e) MRL, banned pests/ diseases and chemicals
- f) Protocol for production and export is available
- g) Domestic markets- credibility of market, payment terms, experience in last 3-4 years- seasonality of demand- festivals, matching of demand with production.
- h) The market research will provide detailed information, about the market.

Eligibility of Proposals

Following proposals are deemed to be eligible:

- a) Proposals that consist of integrated value chain development for the shortlisted commodities and pre-identified clusters across the State.
- b) Proposals to test and disseminate new market-led techniques and technology (e.g. seeds, improved breeds, new post-harvest technologies etc.) on select value chains
- c) Proposals for the purchase of raw or processed materials from producer groups under contractual arrangements for further processing, wholesale, retailing and export.
- d) Proposals for agro-processing, market infrastructure, introduction of market-led production technology and agriculture services.

153. A. Implementation of Project (MAP)

Step No	Process Flow Step with time in weeks	Responsibility		How? Details
		Primary	Support	
1	Preparation of Operational Guidelines in English and Marathi	PCMU, PIU,	STSG	Operational guidelines for effective implementation of the MAP component in the field will be prepared in English and Marathi by PCMU and PIUs. Guidelines will define the roles of involved agencies at various levels.
2	Training on Implementation, Procurement, safeguards compliances, financial management, MIS, etc.	PCMU, PIUs,	STSG, RTSG	Training on Implementation, operational guidelines, Procurement, safeguards compliances, financial management, MIS etc. will be provided to PIUs, RIUs, and DIUs and other stakeholders.
3	Opening of Bank account and ensuring beneficiary contribution	PIUs	STSG	Bank account will be created as per instructions in Financial Management (FM) manual to handle the amount received from PCMU and beneficiaries.
4	Release of first tranche	PCMU		PCMU will release first tranche as per Grant Agreement and Financial Management Manual
5	Technical Trainings for capacity building of CBOs and beneficiaries	PIUs, DIUs	TKPs	Technical trainings will be organized by technical knowledge partners (TKPs) as per requirement and mentioned in sub-project
6	Handholding of CBOs for commodity transaction as per approved plan	PIUs	RTSG	Once the sub-projects are rolled out, CBOs and partners will be provided with handholding support by RTSG for seamless implementation, and for commodity transaction as per approved plan to develop long-term market linkage.
7	Formation of Procurement Committees at CBO level	CBOs, DIUs and RIUs	RTSG	As a part of procurement process, 'Procurement Committees' will be constituted at CBO level as per Procurement Manual.
8	Procurement of Equipment and Civil works	CBOs, DIUs, RIUs	RTSG	Various equipment/ implements/ machineries and civil works mentioned in the sub-project will be procured/ undertaken as process laid down in the Procurement Manual.
9	Supervision of works, recording of works and receipt of equipment and field visits to monitor the progress.	PIUs, RIUs and DIUs	Architectural and Engineering consultants, RTSG	Consultant will supervise the works and provide necessary guidance. Progress of work will be recorded in measurement books. Receipt of equipment will be recorded and processed for payments by the CBO as per FM Manual guidelines. Field visits by PIUs and Market Field Engineer (MFE) in the RIUs will be undertaken to monitor the progress and attend to issues, if any. For details, see operational guidelines.
10	Demand and release of second and third Tranches	CBOs, DIUs, PIUs & PCMU	RTSG and STSG	CBOs will demand 2 nd and 3 rd tranches after utilizing the funds released in 1 st tranche at appropriate stage as detailed in the Grant Agreement.
11	Submission of Utilization Certificates (UCs)	CBOs, DIUs, RIUs & PIUs	Consultant, RTSG	After spending the funds to carry out the activities, the necessary UCs will be submitted to the respective PIUs through proper channel in prescribed formats as per FM manual.
12	Implementation of Project	PIU, RIU and DIU	RTSG, Consultant	Sub-project will be implemented by respective PIUs through RIUs and DIUs as per operational guidelines and specifications given in Grant Agreement.

13	Generation and validation of data for subsequent monitoring of sub projects	CBOs, DIUs, RIUs, PIUs	RTSG	Generation of data within the MIS will be carried out by the CBOs with the assistance of RTSGs and under supervision of the DIUs and RIUs. PIUs will validate the data created by the CBOs regularly.
14	Monitoring & Evaluation	PCMU	GIPE	Six monthly monitoring of the progress of the sub-project will be undertaken by GIPE. Impact assessment of the sub-projects will be carried out at Mid-term and End-term.

154. 2. Estimated Cost

The estimated cost for implementation of MAP sub-component under project grants will be Rs 361 crores. The broad categorization will be as follows-

(Rs in lakhs)

No	Type of Proposals	Unit Cost per sub-project	No of sub-projects	Total indicative grants	Total Cost of sub-projects
1	MAP proposals from CBOs, and Growers Associations	270.00	130	35100.00	58500.00
2	Market Research for MAPs	10.00	100	1000.00	1000.00
	Total			36100.00	59500.00

155. PIU wise sub-projects details (indicative)

(Rs in lakhs)

No	PIUs	Unit Cost per sub-project	No of sub-projects	Total indicative grants	Total Cost of sub-projects
1	Dept of Agri, Dept of Animal Husbandry, MCDC and others	270.00	72	19440.00	32400.00
2	MSRLM		26	7020.00	11700.00
3	MAVIM		13	3510.00	5850.00
4	VSTF		8	2160.00	3600.00
5	VSTF CSR fund		11	2970.00	4950.00
			130	35100.00	58500.00

B.1.3 Complementary Innovation Investment (CII) Sub-project

The project will support development and partial financing of subprojects that aim to pilot, disseminate and adopt innovative technologies. These technologies will have one or more of the characteristics of (i) adding value to the produce, and (ii) introduce new products, concepts and activities that can translate into better access to lucrative markets and higher economic benefits in the medium term. Partnerships supported under PP and MAP will be given preference for this type of support to expand the adoption of technologies. Given a potentially higher risk associated with such subprojects, the project will provide an additional grant to the eligible partnership.

156. Potential beneficiaries for CII would be
- CBOs supported under PPs and MAPs of SMART: CBOs supported under PPs and MAPs of SMART as beneficiaries of CII would preferably get additional grant for adoption of innovative technologies which are not supported under original grant agreement.
 - CBOs operating in matured value chains apart from PPs and MAPs of SMART: CBOs operating in matured value chains apart from PPs and MAPs of SMART will also be eligible for CII.

In both the cases, CII support should translate into better access to lucrative market and higher economic returns. The pattern of assistance and process for selection of beneficiaries of CII would be similar to selection of PPs and MAPs. However there will be cap of Rs. 50 Lakhs or VGF of 60% whichever is less for such assistance through CII.

157. Import of Genotypes (Varieties and Breeds)

The project will support proposals for import, multiplication and transfer of technology for commercially important crops and breeds. The proposal may be initiated by CBOs, Research institutes or government or private organizations. Depending on the proposal, the project will support the activity either partly in convergence with existing government schemes or fully through a project grant.

158. Implementation of sub project

Implementation of the CII sub-project will be designed as an add-on activity to the existing PPs and MAPs. This program will be implemented by PCMU in collaboration with PIUs and State and regional technical support groups.

159. Estimated Cost of the CII sub-project

Sr.	Complementary Innovations Investment Subprojects	Unit/s	Rs. Crore
1	Innovation Plans to support for adopting Agritech / startup-based innovations (maximum upto 60 per cent or Rs.50 lakhs whichever lower)	26	13
2	Innovation Plans to support for adopting Agritech / startup-based innovations (maximum upto 60 per cent or Rs.50 lakhs whichever lower) exclusively from VSTF funding	14	7
3	Import of Genotypes material for select crops and breeds	Lump sum	25
	TOTAL		45

B.1.4. Priority Investments in Public Infrastructure

This component will finance civil works, goods, and consulting services for priority investments in public infrastructure (new or rehabilitated) needed for improving the efficiency and climate resilience of prioritized value chains. These investments will (i) address Sanitary and Phytosanitary (SPS) challenges that are part of a broader set of competitiveness challenges faced by the state's producers, processors, and exporter, and (ii) supply key public goods that are currently missing due to market failures or are beyond the capacity of individual subprojects but are closely linked to subproject success and viability. These public investments to be financed will be under the responsibility of the of the implementing line departments / agencies and may include, among others: (i) investments to support export of perishable commodities (e.g. perishable cargo complex), (ii) strengthening postharvest research and extension, training (e.g. standardization of sea protocols for export, collaboration with leading universities including FAO for food safety); and (iii) investments within the framework of public-private partnerships for the provision of key private services that the private sector is not supplying due to market failures (e.g. high end laboratory facilities for testing cotton yarn, regional collection, cold storage facilities, nurseries for elite planting materials, etc.). The project will be collaborating with the Standard and Trade Development Facility (STDF) for prioritizing the needed investments, using the Prioritizing SPS Investments for Market Access (P-IMA) framework. The P-IMA framework offers an evidence-based approach to inform and improve Sanitary and Phytosanitary (SPS) planning and decision-making processes. It helps to link SPS investments to public policy goals including export growth, agricultural productivity, and poverty reduction.

The infrastructure that will be needed for each of the priority investments, will be determined individually for each location and will emerge from the business and market needs assessment. The process of business and market need assessment, and facility design will be facilitated by a qualified service provider.

B.1.4(i). Priority investments in public infrastructure: Market interventions for Cotton-“Smart Cotton”

160. Introduction

India produces around 30 per cent of the world's cotton production with around 127 lakh ha. of cotton cultivation area. India's total cotton production is around 370 lakh bales. Maharashtra with around 43 lakh ha. land under cotton, produces around 100 lakh bales. The yield of the Maharashtra-grown seed cotton is 9-10 quintal per hectare against the world highest of 50 quintals per hectare. The overall quality of the State grown cotton is extremely poor; non-uniformity, trash and contamination are major issues due to which this cotton is sold at heavy discount to the Market Price. The economy of around 30 lakh cotton growers and their families depends on the cotton prices. Textile is the major employment creating sector and the overall textile economy suffers due to the lack of consistent supply of quality cotton. So overall cotton farmers are distressed and prone to suicide in the present scenario and paradigm shift are desired in the sector to bring turn around in the given status. Increasing the yield may not be the only answer to the problem so this project visits the redressed with the reforms clubbed with technology in order to facilitate the overall cotton supply chain with the solutions which will bring a sustainable change.

Thus, digital transformation that aims to extend from fibre to fashion would be a journey towards better returns, better efficiency and increased business value.

161. Cotton growers are the foundation on which the cotton industry is built. The performance of the textile industry largely depends upon the quality parameters of the lint that ultimately reach to spinning industry. The focus of this project is to cater to the quality needs for the textile industry and in return fetch the highest possible price of cotton to the growers. Consistency in the supply of quality cotton lint means less rejection, controlled waste, improved efficiencies and lesser conversion cost for the spinning industry. Thus, quality has significant impact on the price of cotton.
162. The project aims at producing consistent, uniform and clean cotton by better farm management, and crop monitoring. There is immense focus on CBO-based production, controlling deterioration of cotton quality in the post-harvest stage and lint-based marketing with traceability and branding. The project also aims at process standardization to control quality losses during processing. The CBOs are facilitated by this project with e-Market place for right price discovery. The reverse coding system along with traceability works on a self-correction model and a desire to excel.
163. The project is designed with state-of-art traceability solutions and cutting-edge blockchain technology. The project plans to pivot the structure with the cutting age technology like Big Data Analytics, IoT, GIS, FinTech, AI&ML and Blockchain etc.. Branding adds price premium to a variety of products. Thus introduction of branding from the raw material stage with traceability will encourage Indian fashion industry in their clothing purchase decision. Ultimately, quality in is quality out and consistency in the fiber quality means fewer rejections, higher efficiency, lower conversion cost, controlled waste, higher price realization. The supply chain if is driven with higher margin, the producer member of the supply chain can also earn better prices.
164. **Objectives of the Sub-Component**
Objectives of the “Smart Cotton” project resonate with the over-arching objectives of the sub-component “Priority Investments in Public Infrastructure”. One of the said objectives of the sub-component is to finance key public goods that are currently missing due to market failures or are beyond the capacity of individual subprojects but are closely linked to subproject success and viability. Examples of such key public goods within the cotton eco-system are those of high-end laboratory facilities for testing cotton fiber and regional collection facilities for cotton.
165. **The specific objectives of the Smart Cotton project are to:**
 - a) Propagate cotton cultivation to ensure demand-based supply of lint through existing CBOs.
 - b) Digitizing Agriculture for Traceability and Branding of the Bales.
 - c) Lint-based marketing of branded bales produced through the CBOs under the trademark of “Smart Cotton”
 - d) Create an e-Market place for trading “Smart Cotton” bales and encouraging e-commerce transactions directly between the CBOs and spinners.
 - e) Opportunity for the Ginners, Traders and Brokers to sell their bales through this e-Market place and brand building on chargeable basis. As well as the Groups of farmers producing organic cotton, Cotton produced under the Better Cotton

initiative and others will have the opportunity to market their Cotton Bales on the give e-Platform.

- f) Through planned farm and harvesting management, build an ecosystem around the quality production of cotton that will encourage better price realization.

166. Overall Agenda of the project

- a) Ensure quality of Cotton
- b) Deliver good quality Cotton as per commitment.
- c) Very high input & process level testing instead of 100 percent testing to avoid the confusion regarding quality parameters between buyer and seller.
- d) Established brand/certification which is acceptable worldwide.
- e) Certification which would enable tracking of bales and help in maintaining centralized bale inventory system with traceability.
- f) To establish Quality Management System (QMS).

167. Benefit to Farmers/ CBOs:

- a) Wider exposure to market for lint based marketing
- b) Better prices of their produce i.e. seeds and seed cotton
- c) Good post harvesting practices will be encouraged.
- d) Adoption of better quality practices by farmers will bring more premiums to the market price.

168. Benefit to Ginners

- a) Better prices due to better quality of produce for farmers and ginners
- b) Assurance of fair-trade practices i.e. right prices for the given quality
- c) Option of selling by using traceability and branding, better market share, outreach credibility including experts will increase premium.
- d) Banking platform will give assurance on getting payment in right time.
- e) Access to the export business
- f) Well-defined quality
- g) Option to save on the logistics costs due to the wide availability as in project it is planned to provide value added service of transport service
- h) demand based supply and lint-based marketing

169. Benefits to the spinners

- a) Ease of doing business
- b) Better insight of the offered bales quality
- c) Lesser rejection, lower lint wastage, Higher efficiencies, lower conversion cost
- d) Better after sales services, better Grievance redressals, efficient management.

170. Institutional and Implementation Arrangements:

A. Institutional Arrangements

I. The Mahacot PIU

‘MahaCot’ (The Maharashtra State Co-op Cotton Growers Mkt Fed Ltd) is a State level Apex Co-Operative body, formed by the State Government of Maharashtra, in order to pursue its Cotton Monopoly Scheme. Its staff has technical expertise of more than 25 years in procurement and processing of seed cotton (Kapas).

The “PIU-MahaCot” will be a separate cell within MahaCot headed by its Managing Director. Minimum necessary staff from MahaCot, having relevant expertise and experience will be deputed for the MahaCot PIU – “Smart Cotton”. MD, MahaCot, is empowered to take the decision on deputing such staff. This arrangement is made as a temporary measure till such a time that it is not replaced by a Special Purpose Vehicle (SPV). The MahaCot PIU, being temporary in nature, will have autonomy in decision making, and will be ring-fenced from its parent organization in all decision-making including expenditure and accounting.

Immediately process of creating SPV will be started by SMART Project upon seeking approval from Government of Maharashtra (GoM). Thereafter, this SPV will be transferred by the Cotton Stewardship Council. It is envisaged that the project will be financially viable and sustainable before it gets handed over to the Cotton Stewardship Council. The functioning of the MahaCot PIU will be carried from MahaCot Office until subsequent arrangement are made.

II. Institutional Arrangement at field level

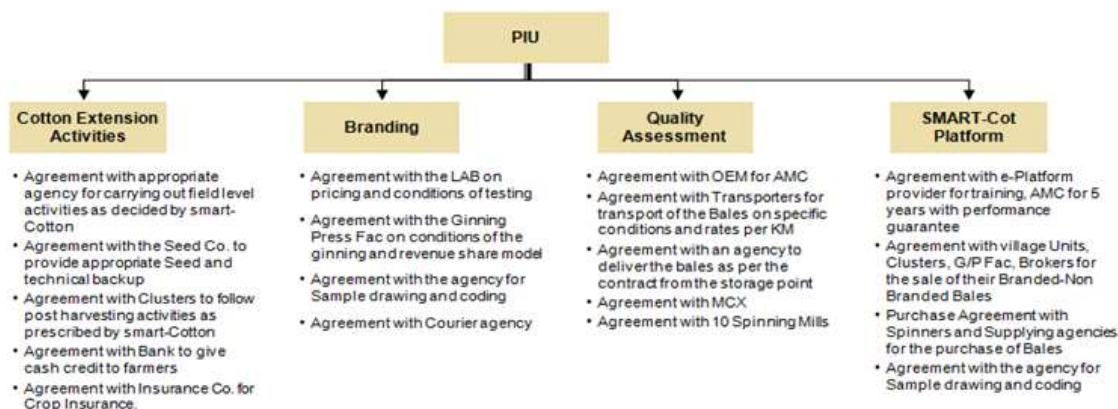
- a) The participant family should necessarily be cotton producer.
- b) The beneficiary should be member of CBO and he/she should abide by the decisions taken by the CBO lead farmer on variety selection, aggregation, sampling, traceability, sales and profit sharing.
- c) From every village of the CBO, one Farmer will be selected as a village lead farmer.
- d) Every Taluka will have such CBOs, with cotton sowing are producing 5000 bales.
- e) One Taluka will be headed by 1 grader.
- f) Every CBO will be coordinated through one representative of Agri. Dept or Project managing partners)
- g) There will be 5 Talukas in operation in the selected District.

PIU has selected 6 Districts as the area of operation in Vidarbha region, 5 Districts in Marathwada region and 1 District in Khandesh region. These are selected on the basis of highest sowing area in the descending order.

Note: The above-mentioned arrangements may change subject to availability of CBOs in the areas or district places.

The given arrangement is for illustrative purposes only.

III. Project Implementation



Knowledge Partner: USDA, CIRCOT, CICR, Textile Committee, UN-FAO

The given arrangement is for illustrative purposes only.

i) Cotton Extension Activities

- a) Agreement with appropriate agency for carrying out field level activities as decided by Smart Cotton
- b) Agreement with the Seed Company to provide appropriate seed and technical backup through the call centers so appointed.

ii) Branding/certification, High End Cotton Testing Laboratory Activities

- a) Agreement with the testing faculty on pricing and conditions of testing,
- b) Exploring the possibility of setting Laboratories on PPP Model.
- c) Agreement with the Ginning Press Factory on conditions of the ginning and pressing
- d) Agreement with the agency for Sample drawing and coding
- e) Agreement with Service Provider on running of Branding and e-market place activities
- f) Agreement with providers for Blockchain based traceability, quality assurance system and e-market place based IT and Business Development.

iii) Laboratory Activities

- a) Agreement with OEM for AMC and quality certifying assistant
- b) Agreement for Laboratory Management for operation as per the international standards

iv) SMART Cotton Online e-Market Platform

- a) Agreement with e-Platform provider for operating, training, AMC for 5 years with performance guarantee
- b) Agreement with village Units, CBOs, Ginning/ Pressing Factory, Brokers for the sale of their Branded/certified-Self Branded Bales
- c) Purchase Agreement with Spinners, Exporters and Supplying agencies for the purchase of Bales
- d) Agreement with the agency for Sample drawing and coding
- e) Agreement with Transporters for transport of the Bales
- f) Agreement with an agency to deliver the bales as per the contract from the storage point
- g) Agreement with Spinning Mills
- h) Agreement with existing farmers groups producing cotton bales under organic, better cotton or various programmes for extending project facility.

Note - The given arrangement is illustrative purpose only.

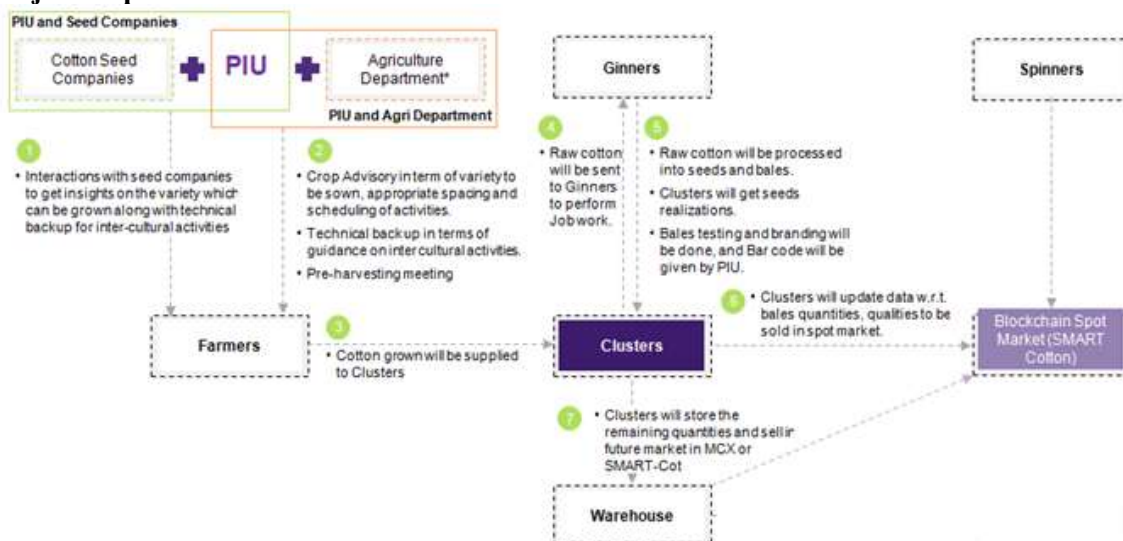
IV) Consultancy Services

Looking at the technological interventions and requirement for innovative techniques in marketing, the project will require services of professional and technical consultants to support project regarding Project Development Plan, overall feasibility, market acceptability, legal framework and transactional settlements. Consultancy services will be required for Blockchain based traceability, quality assurance system & e-marketplace based IT and business development.

PIU shall utilize services of the Consultant agencies for smooth implementation of the project. This shall include experts from fields of IT, Legal, Traceability System, Blockchain, Value Chain, Cluster Development, Textile Sector, Market Linkage, Information, Education and Communication, Cotton Quality and Processing Expert.

The activities, roles & duties, eligibility criteria and detailed TOR for Consultant agencies will be submitted at a later date whenever relevant.

Project Implementation Flow Chart:



*Agriculture department together with ATMA, VSTF, MSRLM and MAVIM (Cluster Coordinating Agencies) will undertake formation of clusters and cotton extension activities.

1) SMART Cotton Online e-Market place will bring Ginners and Spinners on SMART Cotton Online e- Market platform.

2) Two types of trade will be undertaken on SMART Cotton e-Market place i.e. one where bales quality is end to end traceable and certified by PIU under Total Quality Management (TQM) by the trade name “smart cotton”. Other is where self-branded seller will declare the quality parameters and sell this bales through this e-Market place.

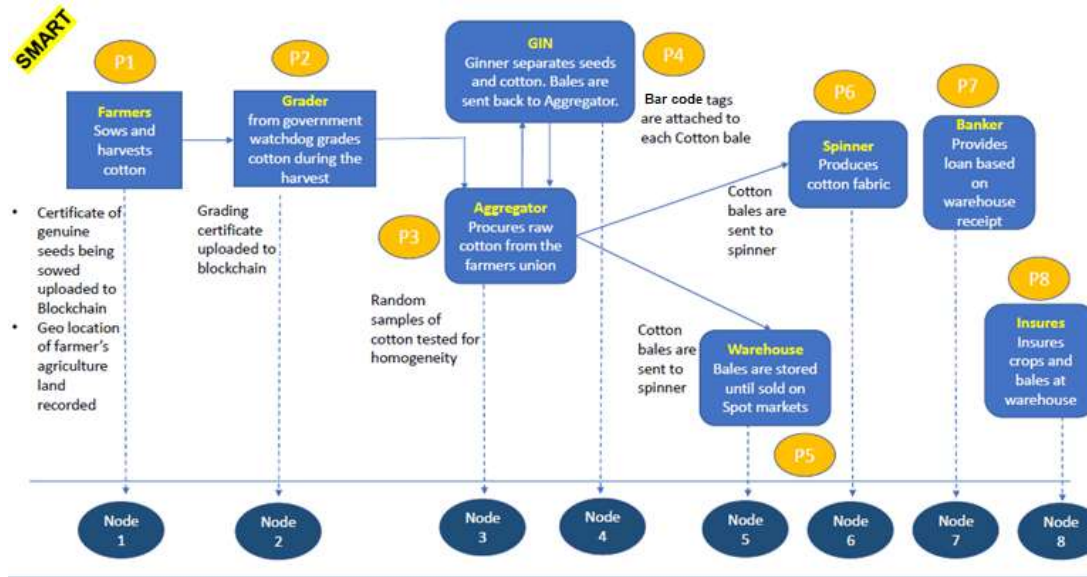
3) Model is based on Total Quality Management with standardized procedures for recording which leads to traceability.

The given arrangement is for illustrative purposes only

Project Implementation: Traceability from Farmer to Ginner for SMART-Cotton

STEP 1	STEP 2	STEP 3	STEP 4
Data Collection	Monitoring and Tracking of Activities	Support on requirement	Farmer Compliance
Collection of farm and farmer data using Mobile application	Knowing past and future activities of farmers	On-ground and on call help by teams	Traceability of the produce from the farmer
<u>Critical parameters</u> 1. Soil data 2. Farm area and location 3. Variety and brand	<u>Additional Support</u> 1. Information sharing through real-time dashboards to	Ground team – Executives from Govt. Allied teams Calling team – Executives from Govt. allied team	Root cause analysis for any abnormality is quality in production
Technology Support - Data Collection Application	Technology Support – Realtime online dashboard	Technology Support – Platform/dashboard for executives Data Collection Application	Technology Support – Dashboard with all real-time and past data

Project Implementation: Blockchain



Benefits of Traceability and Blockchain technology:

- Increased Farm Profits by creating a mechanism to link market premium for quality and pass it to the participating farmers
- Increase in Farm Productivity and Acceptability of Market due to value added features to Value Chain partners
- Cotton as per requirement of the Market
- Customization of activities for farmer as per market quality requirement
- Track-ability, Traceability and Yield Estimation of Farm Produce
- Tracking farm data and monitoring the yield marks unique code for produce with respect to farmer.

Note - The given arrangement is for illustrative purposes only

171. B. Implementation arrangements

The project mainly involves the following three components.

- Extension Activity
- Branding, Quality certification and traceability
- E-Market place

i) Extension Activity:

The existing CBOs (sowing cotton) under the Project Partners viz. VSTF, MAVIM, ATAMA, MSRLM will be explained the concept of the Project Smart Cotton. The activity will be coordinated under the Extension Officer taken on deputation from Agriculture department. All the interested Individual farmers will be initially registered by the Project Partner Agencies. The group of the farmers at the village level will be given an individual code. Also the CBO consisting of such villages will also be given a separate code. It will be ensured that the sum of the aggregated cotton brought for processing will make atleast one lot of 100 bales. The cotton bales produced from the seed cotton brought from such CBOs will be branded as Smart Cotton.

- The Activities will be coordinated in the periphery of the seed cotton processing units so that all aggregate of the seed cotton produces 5000 bales.

- b) This activity will spread out in the major cotton producing districts 6 from Vidarbha region, 5 from Marathwada region and 1 from Khandesh and will cater around 3,50,000 farmers by the end of 5 year of operation.
- c) 5 Major Cotton producing talukas will be selected in every district which will sum up to 60 talukas by the 5 year of operation.
- d) Five processing units with the priority given to Star Rated Units first, will be identified and further to it the CBOs under the various project partners will be explored for participation in each district.
- e) Apart from this, newspaper advertisement for suo-moto participation of existing unknown group of farmers or willing to participate in CBOs will be appealed to achieve the projected target.
- f) The above planning will transform to form the following structure;

The given arrangement is for illustrative purposes only

Target Plan – Next Five Years

Proposed Plan	Year 1	Year 2	Year 3	Year 4	Year 5
Quality Bales Output (Lacs)	1.00	2.00	3.65	6.45	10.00
Ginners	20	30	40	50	60
Number of Farmers	35,000	70,000	1,27,750	2,25,750	3,50,000
District	4	6	8	10	12
Talukas	20	30	40	50	60
CBOs	100	150	200	250	300
Villages	700	1,050	1,400	1,750	2100

The given arrangement is for illustrative purposes only

“Smart Cotton” is the brand name given to the bales produced under the Smart Cotton project. It is aggregation of produce with traceability solution. Herein the CBOs aggregate the farm produce at the ginning stage using the product traceability technology such as Blockchain. It captures the information at various levels up to the production of smart cotton bales. It is an intelligent platform that digitizes agriculture to serve consistency and quality with enhanced productivity. It is mainly structured on the following activity management system.

- a. **Farm Management System:** The project extension department would mainly use the prevailing structure in the SMART project as implementing partners. The Department of Agriculture, GoM, VSTF, MAVIM and MSRLM would be the major implementing partners. Overall control of this department will be with the Agriculture department for which a special officer is placed as this departmental head. Provide crop advisory in terms of appropriate seeds selection. Provide training support and extension service
- b. **Crop Monitoring and traceability System:** The farm management systems would work to manage multiple eco system as above to implement 1 variety in 1 village. This will ensure better uniformity in cotton. This would be done by the implementing partners by facilitating technical support for selection of the cotton seed considering the by and large soil health and prevailing ecosystem. The programme will be coordinated through a well-designed system supported with multilingual offline enabled easy to use mobile application for the growers and field staff. Geo mapping

of farm location, crop stage monitoring crop activity monitoring and technical backup will be supported with the use of traceability software and call centres.

- c. **Post-Harvest Management:** Training will be given for the better handling of cotton from picking to aggregation at ginning level. Better Post harvesting management of seed cotton will reduce trash and contamination. The CBOs would be coordinated in order to aggregate their seed cotton at the ginning facility. This CBOs would be coordinated for this exercise through the existing implementing partners and the Grader appointed by the PIU.

ii) Branding, Quality certification and traceability

The system to draw samples at different stages is planned in order to regularize the overall quality monitoring from the Farm to the making of bales after processing. The sampling is based on the principle of total quality management. This sampling process will go hand in hand with the traceability. The Block chain technology is used along with QR codes for the sampling to the seed cotton and lint cotton samples in this process. The sampling would be drawn by an independent agency which is specialized in this sector. This agency work is outsourced on piece basis. The sampling material used and labelled with the QR code would be sourced with required quality specifications so that there is no damage during its transfer to the Laboratory for testing. The testing would be done by an accredited and well qualified laboratory with all international norms. The results from this laboratory would meet the world standards for accuracy, Precision and reputability. The samples received by these laboratories will only have the QR code on it. The QR code would be scanned of the individual samples before it gets tested. The results will automatically be exported to the Smart Cotton server. The Server would then decode the identification and produce Averaged result for the whole lot of 100 bales. These results will be available with all parameters with SD and CV. Based on the analysis with the help of software the advisory will be generated for the processing factory. This advisory would facilitate the proper settings in the machinery so as to improve the processing quality. This will in other words prevent the loss in the valuation. All the bales so produced will be marked with the Smart Cotton mark.

Thus, these bales will be produced by ginner on charge basis. The processing fees will be prefixed by the CBO and an agreement would be entered with the CBO. The PIU will play the role of only facilitator. The ownership of this bales will be of the CBO.

Also, the cotton seed so produced in the process will be owned by the CBO. The lot of the seed will also be coded by the Number. Thus, the bales with the QR code and the seed so produced will be available with the CBO and CBO will have the freedom to sell the same at their wisdom. The CBO can sell the seed and store the bales or the CBO may sell both the goods or store both. The PIU facilitates the CBOs with the e-market place for the sale of both the goods, that is bales and the cotton seed.

iii) E-market place

It is a portal where the Smart Cotton branded, self-branded and the broker-sorted Bales can be sold through the e-auctioning. The Smart Cotton portal is the platform where there is the interface between the buyer and sellers of the bales. There is a page where the rating of the sellers, buyers and even the service providers can be rated from one to five bales. It's the mirror of all the activities conducted on the portal as well as those who indirectly play a part of the program. The platform is the single window display which gives lot of flexibility for all the buyers and sellers to take their decision. The platform provides a single window

transaction gateway for all the bale buyers and sellers enabling with financial and physical settlement between the parties.

As per the rules of the contract, the settlement will undergo its future official documentation which is mostly auto generated and as per the agreements and rules of engagements signed in the process of registration. It creates the platform for farmers and quality conscious and facilitating bridging the gap for demand and supply for quality bales.

This enables physical settlement between the parties as per the mutually agreed settlement conditions and mentioned in the process registration and through Blockchain traceability smart contract can be generated. The platform also provides the value-added services like transportation, trade finance, market risk instruments like future to tackle and thereby giving transaction cost advantage to the buyers' choice. Market information asymmetry on quality and quantity is made available through this platform.

172. CBO Identification and Development Strategy to implement Smart Cotton program during various Stages of Sub- Project Cycle is presented below;

Stages	Procedures	Activities & Outcome
Farm Level Management Extension Activities	Identify the CBOs in the proximate area of the ginning Pressing Factory. Register the group for following the procedures and instructions given by PIU from time to time. Elect/ select the lead farmer as the farmer's coordinator for this group. Stakeholders consultations	Arrange a pre-sowing CBO- seed producers meet where training on spacing, selection of varieties importance of Lint based marketing, understanding the needs of value chain components etc. will be discussed. CBOs will be given the opportunity to select any one seed variety for the land under cotton under the CBO
	The Farmers follow the sowing norms and in the post sowing period get technical back up from the Agri Department and the seed producing company	follow the technical guidelines as being advised,
	Training for post harvesting activities is given to the CBO groups and also techniques of good picking practices are explained to the cotton picking laborers.	Proper picking, proper storage in the field/home proper handling while carrying the row cotton for sale/processing to ginning pressing factories improve the quality of lint in the cotton bales
	Sample drawing in the field after aggregating raw cotton from pickers and drawing another raw cotton sample at the stage of handing over the raw cotton for processing is carried out All the activities are recorded on the installed traceability system	This ensures proper system were the raw cotton that is sown and grown in the field is the same that is tendered for processing
Implementation at the level of G/P factory Branding Quality certification And traceability	Coordination with different farmer, lead farmers, through project partners and MahaCot graders will enable the CBO members to tendered raw cotton for processing so that marketable lots of bales are made.	The raw cotton brought for tendering is graded and the receipt of so graded cotton tendered is issued by the grader. The further payments to the farmers after the sales of cotton seed and bales is made on the basis of the gradation and quantity mentioned on their receipts.
	The outsource cotton sampling agency will draw the samplings at different defined stages in processing, pack and dispatch them with definite QR code identification for testing, in the prefixed laboratories. All the activities are recorded on the installed block chain traceability system	The test results of the samples are milled with the decoded QR code, averaging it out for results and prefixing them with the tagged QR code on the cotton bales. All these bales will be branded as Smart Cotton. They will be stored or sold through e-Market place at the wisdom of farmers group (CBO). The same will be applicable for the cotton seed heap also that is co-produced.

Stages	Procedures	Activities & Outcome
Implementation at the stage of e-Market place	The Smart cotton branded bales, self- branded bales and bales for sales through brokers will be received for sales through e-Market place. E-auctioning will be carried out for all the bales on this e-Market place. The discovered price when accepted by Smart farmers group / self-branded group or brokers as is applicable, the total sales formalities will be self-generated.	Higher exposure to the buyers through e-Market place will discover optimum price. Contract settlements , bales deliveries etc. will be auto generated giving the buyers and sellers total ease of doing business

173. Estimated Costs

The estimated cost for the first 5 years which includes Capex and Opex around Rs. 96.22 crores. The Break-Even Point (BEP) is attained at the end of 5 years.

S. N.	Output / Main Activity / Sub-Activity / Item	Total (Rs. in Lakh)
1	Trainings and Extension by PIU Agri Cotton Value Chain Development School	3967.0
2	Consultancy Services	200.0
3	Cotton Blockchain System Development	250.0
4	Lab Services	1200.0
5	E-market Platform Development	1000.0
6	Outreach and Marketing Activities for SMART Cotton Promotion	104.0
7	Farm Traceability Software, transactional cost, data hoisting	550.0
8	Component recurrent cost	2351.0
	TOTAL	9622.0

B1.4(ii) Proposed Export Infrastructure for Fruits & Vegetables

174. 1. Introduction

Maharashtra is one of the major producers of fruits and vegetables States in India. The major fruits grown in Maharashtra are mango, grape, pomegranate, banana, mandarins, sweet lime etc. The major vegetables produced are onion, brinjal, okra etc. The State ranks first in production of grape, pomegranate, and onion while it ranks second in banana and mandarin production in the country. It also ranks second in total fruit production in the country. The contribution of Maharashtra in the export of fruits and vegetables is considerable; around 50-60 per cent of the fruit and vegetable exports of India are routed through Maharashtra.

While exporting agriculture/ horticulture produce from India, following issues are being faced by the various stakeholders:

- a) Approximately 25 per cent of all food products are lost after harvesting due to insects, vermin, and spoilage. Currently, a significant number of chemicals are used on food products for preserving agriculture produce and preventing insect losses. Excessive use of chemical has led to human hazards at destination countries. Therefore, many importing countries are banning agriculture produce from India on the ground of residue above Maximum Residue Limits (MRL). This has become a Non-Tariff Barrier (NTB) for Indian produce. To avoid such things all the fruits and vegetables must be packed in pack houses monitored by concerned authorities.
- b) While exporting agriculture produce, it is necessary to comply with requirements of importing countries. Quality, hygiene and traceability are the major parameters to be maintained while exporting agriculture produce. There are stringent quarantine requirements from various countries. To ensure compliance with such parameters, the Government has made it mandatory to carry out primary processing of the produce in APEDA recognized pack houses before exporting to certain countries. Increasingly, countries like UAE, Saudi Arabia etc., which have so far been popular export destinations, are also asking for compliance with these parameters.
- c) Countries of European Union members, Japan, New Zealand, Mauritius, South Korea needs fruit-fly free mangoes. Therefore, there is need to treat mangoes in Vapor Heat Treatment or Hot Water Treatment prior to export shipments.

It is with this background that project proposes following activities under the sub-component “**Priority Investments in Public Infrastructure**”.

I. To set up Export Infrastructure for Fruits & Vegetables

PIU MSAMB will engage with Standard and Trade Development Facility (STDF) of World Trade Organization (WTO) and will constitute study with “Prioritizing SPS Investments for Market Access” (P-IMA) tool to identify what kind of facilities are required for export infrastructure in the state. Based on this study, the project will take a call on the kind of infrastructure to be created in the state. Subsequently, PIU MSAMB will engage a service provider for construction and operationalization of this infrastructure.

II. To undertake activities to strengthen export linkages:

The specific objective of activities proposed for strengthening export linkage is to help the CBOs participating in Sub Component B1 i.e. Productive Partnerships and Market Access Plans. Under these activities, the capacity of CBOs which are participating in PPs and MAPs will be built. Proposed capacity building activities under export linkages will be carried out by MSAMB itself. Participants for these capacity building activities will be

selected by concerned PIUs which are implementing the PPs and MAPs related to export of agricultural commodities. For this purpose, following interventions are proposed:

175. Capacity building of beneficiary CBOs under PPs and MAPs:

- a) **Agri Export Training Course (AETC):** This involves sensitization and training of all stakeholders on various aspects of exports like procedure and documentation, sanitary and phytosanitary requirements of specific markets, forward linkages and logistics, banking in export business, role of custom house agents etc. to develop entrepreneurship among CBOs. It is proposed to conduct 10 courses every year for 35 participants each for 6 years.
- b) **Commodity-Specific Export Training:** This involves sensitization and training of export potential of important commodity growers in selected pockets of the state to increase awareness about market requirements and value chain. It is proposed to conduct 6 training programs every year for 25 participants each for 6 years.
- c) **Division Level Training Program:** This involves sensitization and training of Nodal officers, Registration Officers, Inspectors, Phytosanitary officers, Pack house operators etc. for market focused SPS measures and procedures. It is proposed to conduct 6 training programs every year for 25 participants each for 6 years.
- d) **Trainers Training Program of Indian Institute of Foreign Trade (IIFT):** This is distance learning program of 4 months duration for capacity building of concerned line department officers. It is proposed to train 5 officers every year for 7 years.
- e) **Participation in International Exhibitions:** For market promotion, there is need of aggressive international marketing. For the same, participation in international exhibitions will help to showcase the produce of the CBOs, growers and farmers. This will give the first-hand information about market requirements to the Growers, CBOs, Grower exporters and concerned line department officers. It is proposed to participate in 1 international exhibition every year for 6 years.

III. Service Provider for Organic Farming: Though organic certification is mostly required for horticulture crops, it is also increasingly seen to be a requirement for marketing field crops in niche markets. The Project will onboard a Service Provider for this activity. Wherever the market requires Organic Certification, beneficiaries of sub-projects will be registered under the same and training will be imparted to them for producing organic produce. The Service Provider shall provide end-to-end support for organic certification under this activity. This activity will be implemented by PIU-Agri.

IV. Service Provider for Pest-free Area Certification: This aspect is especially important for export of commodities, particularly horticulture, to meet export market requirements. The Project will onboard a Service Provider for this activity. Wherever the destination market requires Pest-free Area Certification, beneficiaries of sub-projects will be registered under the same and relevant training will be imparted to them. The Service Provider shall provide end-to-end support for Pest-free Area certification under this activity for 10 commodities. This activity will be implemented by PIU-Agri.

176. Indicative Cost

(Amount in Rs. Lakh)

Sr. No.	Nature of the Activity	Cost per unit	Total No. of units	Total Cost	Source of Funding (percent)		SMART Project Cost
					Beneficiary (per cent)	SMART Project (per cent)	
1	TA Support for the study	Lump Sum	1	100.0	0	100	100.0
2	Export Infrastructure	Lump Sum	1	13050.0	0	100	13050.0
3	Capacity Building Activities			565.5	0	100	565.5
4	Service Provider for Organic Farming	Lump Sum	1	200.0	0	100	200.0
5	Service Provider for Pest-free Area Certification	Lump Sum	1	200.0	0	100	200.0
6	Technical staff – PIU MSAMB Manager Export (Deputation)	Lump Sum	1	84.00	0	100	84.00
TOTAL							14199.5

(Amount in Rs. Lakh)

Detailed Cost Break up of Capacity Building Activities:				
No.	Nature of the Course/ Activity	Expenses per participant/Unit	No of beneficiaries/units per annum	Required funding from Project
1	Agriculture Export Training Course (5 Days duration) for CBOs	0.15	350	52.5
2	Commodity Specific Export Training Program (2 Days duration) for growers	0.06	150	9
3	Trainers Training Program at Indian Institute of Foreign Trade (IIFT) - Certificate program in export import management (Online for 4 months)	0.75	5	3.75
4	Division level training program for Nodal officers, Phytosanitary Authorities, Pack house operators,	0.06	150	9
5	Participation in International Exhibitions	20	1	20
Total ()				94.25
Total for Seven Years				565.6

B.1.4(iii). Priority Investments in Public Infrastructure: Enhancing Institutional Capacity of Animal Husbandry Department

177. Introduction:

India holds the 2nd position in goat meat production in the world constituting around 9 per cent of the total production. The \$30 billion meat market of India has been growing very rapidly at a rate of about 20 per cent per annum. This is largely attributed to fact that over 70 per cent of Indians are non-vegetarians. The demand is also buoyed by population growth, urbanization and rising incomes in the country.

178. The State of Maharashtra, which has a total goat population of 8.4 million, has the 6th largest goat population in the country and accounts for about 6.5 per cent of the total caprine wealth of the nation. Though this is the case, owing to the huge domestic demand the State's production is not able to match up with the demand and therefore, a significant share of meat consumed in the state is produced in the neighboring states. Goat milk products like goat milk cheese and goat milk paneer are also not very popular. Therefore, the goat farmers are forced to sell their milk through dairy outlets for negligible prices or not to sell meagre quantities of the same. There is a similar situation in the case of egg production too.
179. However, despite these issues, the opportunities are immense. There is a growing demand for high quality and safe meat and value-added products that are conveniently delivered through e-commerce channels to the customer's door step. Given the fact that the high-end markets are progressively moving away from wet market purchases, there is an increasing need to develop a proper traceability mechanism in the downstream value chain. Furthermore, given the fact that Maharashtra has the largest urbanized population in the country, urban food systems need evolve to cater to the huge demand of the State.
180. The opportunities for well-established and safe value chains in goats and poultry could well be game-changers for smallholders in Maharashtra. Free range chicken eggs are considered as a premium commodities world over. Backyard poultry eggs account for about 20 per cent of domestic egg supply of the State and command a price premium due to consumer preferences. Much of the eggs being consumed in the State are produced by birds reared in battery cages. There is a growing market across the world for eggs sourced from birds reared under the cage-free system. These trends have started to create niche segments in the domestic egg markets also. Recent legislature by the GOI ruling for addressing animal cruelty aspects of confining layer birds to individual cages and given the fact that the multinational companies have committed to source all their poultry products from cage-free systems by 2020, the demand for eggs produced in cage-free system has soared rapidly.
181. Further, India enjoys a strong export market demand from the Middle-East for small ruminants and small ruminant meat. The value of meat trade between India and Middle East has doubled in the last 4-5 years. Maharashtra enjoys a dominant position in this trade. Whilst listing the opportunities, it is extremely important to note that since goat and poultry production is generally done by smallholders and women, with women accounting for over three fourth of the productive labour force, it happens to be a very strongly inclusive market opportunity.

182. The Animal Husbandry Department (AHD) wishes to address the unique set of challenges as well as leverage the opportunities within the goat and poultry value chains. Further, it realizes the need to shift its focus from welfare schemes to market-oriented production support systems and to prepare the road map for the same to uplift the Department to global standards. For this, it would like to enhance its institutional capacity by engaging a knowledge partner.

183. Engaging knowledge partner(s)

Against the backdrop given above, the AHD would like to engage Food and Agriculture Organization (FAO) or similar entities. FAO is world-renowned agency that disseminates knowledge and information to developing countries on various aspects of agriculture and allied activities, nutrition and food security. It is known world-over for its work in the fields of elimination of hunger and food insecurity, reduction of malnutrition, improving productivity, reduction of rural poverty, building inclusive and efficient agricultural and food systems, and increasing the resilience of livelihoods to threats and crises (like disease and climate change), etc. It is the most renowned international agency that has proven track record of working with states and countries to transform their livestock sectors and has been central to development of various tools and approaches, influencing policy and supporting development of plans and programs geared to transform livestock sectors and to build capacity of animal husbandry departments of various national & state governments to support vibrant livestock sectors. The perspective plans prepared by FAO have helped national level agencies to reorient their outlook away from implementing welfare programs to implementing market-oriented development plans supporting a vibrant livestock sector.

It is envisaged that in its capacity as a knowledge partner, FAO or similar entity will facilitate the AHD to carry out broad-based reforms ranging from capacity building within the Department to facilitating nutritious safe food value chains.

It is envisaged that two major activities that will be undertaken with the help of the knowledge partner:

- a) Preparation of Plans to change the operations of AHD from production-led activities to market-led activities
- b) Capacity building based on the Plans that will show the evolving role of AHD to support a modern livestock sector & the current capacity GAP with needs to be addressed through targeted capacity building to involve specialized TSA supporting agribusiness, food safety, AMR, and GAHP.

184. 1. Objectives of the Sub-component

The major objective of the intervention by AHD is to change the orientation of the Department from production-led and welfare schemes and activities towards market-led activities and inform policies to enable private sector development and create a dynamic livestock sector.

185. Major intervention proposed by AHD

Two major activities will be undertaken. These are:

A. Preparation of Plans to change the operations of AHD from production-led activities to market-led activities

The major activities carried under the said program will include the following items but will not be restricted to the same.

a) **Creation of Livestock Master Plan (LMP):**

The LMP will provide a sector-wide strategy for the next 10 -15 years to guide the Animal Husbandry Department (AHD) on sectors with further development potential, options to address risks like climate change and provide investment options including the scaling up of project models and effective engagement with the private sector. The LMP would move beyond the near singular focus on large ruminants and would improve the focus on other domestic animals like small ruminants, swine and other species.

b) **Strategy and Plan for food safety**

A strategy and plan for food safety would be developed following a **One Health strategy**. It will help create a plan as to how various ministries/departments with a responsibility for livestock product food safety and human health can effectively work together and will help in clarifying roles and building capacity of the respective ministries with a focus on the Veterinary Public Health Role of AHD. Thus, for example, the plan will enable AHD to create a plan of working with the Ministry of Human Health and various entities including Food and Drug Agency (FDA), and FSSAI.

c) **Capacity development on various aspects of market-oriented, climate-smart Good Animal Husbandry Practices (GAHP)**

This intervention would involve following activities:

- i. In-service training of AHD staff in agribusiness and market-oriented climate-smart Good Animal Husbandry Practices (GAHP) supported by a TSA would be undertaken.
- ii. Standard operating procedures for meat handling would be developed by AHD in association with the Pune Municipal Corporation in collaboration with knowledge partner.
- iii. Building capacity for food safety testing: The knowledge partner will conduct a capacity assessment of selected laboratories in the State and would equip selected State laboratories to perform the required food safety tests. Investment and plans for food safety monitoring would be informed by the One Health strategy and plan given above. Because of the focus on food safety, the project will also contribute to the implementation of the anti-microbial resistance (AMR) program by building needed lab capacity of AHD for sample collection and AMR testing. Capacity will also be extended to farmer and veterinary practitioners to limit antibiotic use;
- iv. Blockchain technology will be accessed through an EoI and implemented through specially trained and equipped Pashu Sakhis and other value chain actors.
- v. These interventions are expected to improve the capacity of the Department to address the challenges that arise in the animal husbandry sector in the next decade and change its outlook, areas of emphasis and production practices accordingly.

- d) **Breeding policy for goats** to guide the long-term genetic resources and breed improvement needed for a competitive subsector. The AHD feels the need to develop a breeding policy for goats. This policy will help us in exploiting the genetic potential of our animals to the fullest and also to cater to the needs of the organised and unorganised markets without compromising the already dwindling number of small ruminants.

- e) **Urban food system pilot:** Knowledge Partner will guide all the stakeholders in preparation and execution of the urban food safety component. It will be implemented by Pune Municipal Corporation (PMC) under the supervision of AHD in Pune City. It will focus upon improving the quality of livestock products supplied and consumed in the city with special focus on various aspects of production, handling, processing and sale. The major areas of focus of Knowledge Partner in the livestock sector would be the following:
- i. **Upgradation of the abattoir:** Knowledge Partner will guide PMC in upgrading the existing abattoir for APEDA certification. It will also work with AHD and PMC to develop SOPs to support urban, domestic and export markets. This will also include support to develop a quality control lab and train the staff members of the laboratory. This is expected to improve the overall quality of meat produced and consumed in the city.
 - ii. **Developing a clean meat program** through training, upgrade and certification of butchers and the development of SOP as and where required will be anchored by the Knowledge Partner. It will also train the trainers of NRC-Meat, Hyderabad who would in turn train around 125 butchers and meat retailers of Pune city.
 - iii. **Consumer awareness campaigns** will be conducted to support the clean meat program and create awareness about importance of clean meat consumption in among the residents of Pune. This program will not only focus on food safety with special emphasis on meat but also on the nutritional benefits of goat milk. These campaigns will be implemented by a TSA under the guidance and supervision of AHD and PMC.

- 186. Value chain actor survey of food safety practices, awareness and perceptions** will be undertaken to guide behavior change campaign targeting of consumers and key value chain actors.

Estimated Costs for engaging Knowledge Partner & other TSAs for capacity development

The knowledge partner will be selected as per the guidelines laid down under the World Bank procurement procedure for single source selection. The activities conducted with the support of Knowledge Partner will cost about Rs.10 Crore. This contract will be awarded and implemented by PIU AHD. Engaging other TSAs, development of SOPs and market studies are expected to cost an additional Rs.5.0 Cr.

B. Capacity building based on the Plans prepared with Knowledge Partner support

187. Capacity Building Initiatives

- a) Based on the Plans prepared by AHD with support from Knowledge Partner, capacity building initiatives will be required at the AHD level. This includes the following:
- b) The AHD staff would receive in-service training in agribusiness and market-oriented climate smart Good Animal Husbandry Practices (GAHP) through development of a professional development curriculum and skills development by TSAs like KVK and MAFSU. As well AHD require training to reduce AMR and so multiple TSAs may be involved to support not only curriculum development but effective training and skills development. The state's AHD training facility has lecture hall and computer room. Instructors with deep knowledge in agribusiness and market oriented GAHP would need to be supplied by the TSA.
- c) The GAHP- related SOPs and training materials will be developed by the Knowledge Partner.

- d) The SOPs for the slaughter house will be developed by a suitable TSA like the NRC-Meat with the support of the knowledge partner.
- e) Training of slaughter house staff and ensuring compliance would be the responsibility of NRC-Meat or any other suitable TSA that agrees to perform the above mentioned task.
- f) The standard operating procedures and training of Staff of the laboratory would be carried out by NRC-Meat or any other suitable TSA under the support and guidance of the Knowledge Partner which would also help the stake holders in upgrading the capacity of the labs.
- g) Butcher training and its curriculum development will be carried out by a specialized TSA like NRC-Meat under the active guidance and support of the Knowledge Partner. It will support PMC for the same.
- h) The farmers and veterinary practitioners will be trained to reduce or minimize the use of antibiotics. This program will be an essential ingredient of all the training programs targeting farmers and veterinary practitioners. It will be implemented by all the agencies involved in such trainings. The training materials for the same will be developed in association with the Knowledge Partner.
- i) The technical training of farmers will be implemented by a TSA that is yet to be identified. AHD will not only support this agency to develop the curriculum, but also monitor its performance on a regular basis.
- j) The lead Pashu Sakhis, Cluster managers and AHD staff will be trained on various aspects of livestock production by a specialized TSA.
- k) The lead Pashu Sakhis will train the farmers on various aspects of livestock production under the guidance and support of the specialized TSA monitored and further supported by AHD.
- l) Specialized training of Pashu Sakhis will be done through a suitable TSA with the support of the Knowledge Partner.
- m) In-service training program of AHD staff to build agribusiness knowledge and skills will be carried out by any suitable TSA with relevant experience.
- n) The training curriculum and IEC materials will be prepared centrally by the TSA and the trainers will be trained by the TSA to ensure uniformity in training delivery.
- o) The goat breeding farm owners will be trained to improve their production, management, nutrition and breeding practices, record keeping and performance recording and selection of animals and to upgrade the same to internationally accepted best practice so that they are able to supply the required number of breeder bucks to the farmers as per pre-specified criteria.
- p) More training is also needed of AHD staff, veterinary practitioners & farmers to reduce the overuse of antibiotics which is a growing problem and of severe impact due AMR. And part of the national AMR program objective, which has yet to gain much traction.

188. Last mile service delivery and farmer capacity development – The community-based service providers (Pashu Sakhi) will be trained and equipped to support productivity and market access including traceability, as well as support farmer training. This component would equip and upgrade the skills of the some 4500 – 5000 Pashu Sakhi recruited through MACP, MSRLM and MAVIM. Capacity of Pashu Sakhi would be significantly upgraded and selected Pashu Sakhis will be equipped with tablets for supporting the traceability requirements of specific markets/buyers. There is well establish good practice in Pashu Sakhi training that has been led by various organizations in different parts of the country. These or other organisations

with similar capacity & credentials will be engaged to undertake the necessary trainings.

189. Specialized training of Pashu Sakhi to support breed improvement performance recording programs, would also be undertaken. For this, a cadre of Pashu Sakhi or master trainers would be developed to support training of farmers in market oriented climate smart production practices. To establish the Pashu Sakhi as agri-service professionals, a customised training would be designed which would enable them to be certified through ASCI. Pashu Sakhi would receive specialized training that would groom them as entrepreneurs and they would be linked to input supply networks for feed and mineral supplements, de-wormer, etc. The Pashu Sakhi training, training of master trainers and support for farmer training would be supported by a TSA. TSAs with proven experience & track record in executing similar activities/programs will be considered for this program.
190. The AHD would be further trained to improve their market orientation and also to provide emergency services' support to the Pashu Sakhis. The capacity of AHD to provide emergency services of small ruminants and backyard poultry would be further enhanced through a TSA which has experience in same or similar fields.
191. A detailed capacity building plan, including TOT will be developed by the TSA. The Pashu Sakhis would be connected using modern technologies like WhatsApp and other mechanisms through which they will receive ongoing handholding support. While it is shown that high level training of Pashu Sakhi in other states by certain organizations has enabled them to be very effective in providing minor treatments like cleaning out infections, attending kidding's etc, they do require an emergency veterinary services backup. This would be enabled by AHD which is in the process of launching mobile clinics in various districts.
- 192. Demonstrations**

As part of the Farmer Field school approach to training farmers, demos will be established comprising lead farmers who will be facilitated to practice GAHP. GAHP include feeding and fodder cultivation and preservation techniques that would be demonstrated by selected lead farmers. This program would encourage the cultivation of various types of fodder in different parts of the state to assess the yield and suitability of these varieties in the field condition. As part of the FFS and other trainings the farmers will also be given active exposure to fodder preservation techniques like silage making, & hay making.
- 193. Local exposure visits** based on demos by lead farmers: Lead farmers will be identified and further supported by the project to perform demos to enable ongoing exposure to GAHP of other farmers. This will be complemented to view some more specialized activities such as Breed Farmer whereby selected farmers will be taken for exposure visits to give them a deeper understanding about modern goat farming techniques, skills, developments in the field of animal feeding, breeding and nutrition, etc. For example, multiplier farmers may visit those in another state, but most of the farmers will be trained through the FFS approach as this has gotten the highest sustainable adoption. 1 cycle of FFS will take nearly 1 year.

- 194. Estimated Costs** - The capacity building activities conducted with the support of the Knowledge Partner and TSAs will cost approximately Rs. 5 crores. The activities will be implemented by PIU-AHD.

B.1.5 Capacity Building of Community Based Organizations (CBOs)

195. Introduction:

The Project will support Community based Organizations (FPCs, CLFs, CMRCs, PACS, Growers Association, Federation, FPO, Farmers Groups) for developing Productive Partnerships (PPs) and Market Access Plans (MAPs) with existing, new, organized and alternate markets. However, in order to participate meaningfully in a value chain, CBOs have to adhere to the norms of governance, management and professionalism. CBOs in emerging markets must become more professional and more productive so as to manage effective linkages into value chain with suppliers, lenders, processors and buyers. The project will seek to build the capacity of CBOs towards these objectives. A well-managed and professional CBO can attract finance and customers, which means that it can sell more and do more for its members and for farming communities. Hence, the Project will focus on the basic capacity building of CBOs in critical management areas of governance, leadership and professionalism. In addition to basic trainings, other trainings which are not part of component B such as trainings on bridge technical support for CLFs and CMRCs, gender sensitization and safeguards are detailed in this chapter.

196. Objectives of the Sub-component:

Objectives of the capacity building sub-component are as follows:

- a) To assess CBOs, identify their training needs and accordingly build their capacity.
- b) To improve the governance, management skills and professionalism of CBOs.
- c) To improve the capacity of CLFs/CMRCs so as to enable them to participate in the competitive value chains
- d) To build the capacity of CBOs on gender issues
- e) To build the capacity of CBOs on Safeguards (Social & Environment)

197. Following are the main areas in which capacity building will be initiated by the project:

B.1.5.1 Comprehensive Capacity Building and Training of CBOs:

It has been observed that different types of CBOs (FPOs, CLFs, CMRCs, PACS etc.) have inherently different levels of capabilities. Hence, the project will carry out a Training Need Assessment (TNA) after which customized trainings courses can be designed.

CBOs participating in Productive Partnerships and Market Access Support will be trained on Governance, financial management, business management, social safeguards, gender, and environment through comprehensive training. Technical service provider will be hired to undertake training need assessment and preparation of training module for comprehensive training, TSA will train the Master trainers identified from training institutes and PIU Staff which will then deliver the training to CBOs.

Pilot project on Land asset ownership for women beneficiaries will be undertaken by means of sensitization workshops with CBOs participating in the project. Detailed write-up is in Gender Strategy.

198. B.1.5.2 Bridge Technical Support:

The project focuses on enhancing participation of women's CBOs in HVA (High Value Agriculture) value chains. At least 30 per cent of CBOs supported will be women-led CBOs (CLFs, CMRCs, FPCs) having a majority of members being women. The project will provide additional "bridge" technical support to such CBOs including (i) additional training and mentoring support (ii) assistance to register as formal organizations and meet regulatory requirements, (iii) build their capacity on production and post-production activities in the focus thirty high-value commodities and (iv) strengthen their capacity towards market transactions by engaging them in ag-tech demonstrations and farmer field schools to enable them to transition to HVA and connect to organized markets.

To enable CLFs and CMRCs to participate in competitive value chains, following specific activities are proposed:

1) TSA for providing bridge technical support, rating & operational support to CLFs and CMRCs

- a) Technical Support Agency will be hired for providing Bridge Technical Support to CLFs and CMRCs.
- b) TSA will conduct the training need assessment of the CLFs and CMRCs
- c) TSA will develop the training modules for CLFs and CMRCs based on TNA
- d) TSA will help the CLFs to complete the regulatory compliances for the registration.
- e) TSA will conduct sample survey/review for institutional capacity assessment of CLFs & CMRCs and recommend the necessary operational support required for CLFs and CMRCs to handle the commercial business activities under the project.

2) Capacity Building of MSRLM and MAVIM Staff:

- o PIU – MSRLM and PIU – MAVIM staff are involved in Mobilization, Institution Building, Financial Inclusion and Livelihoods activities focusing largely on production related activities. Under SMART project there is paradigm shift from production to value chain development approach to deal with this shift MSRLM and MAVIM staff capacity building activities like training, exposure visits and participation in management development programs will be undertaken.

3) Capacity Building of CLFs & CMRCs

Technical Service Agency will do the delivery of capacity building activities including training and exposure visit as per the modules developed on the basis of training need assessment. Some of the proposed trainings are as mentioned below.

- a) Initial and preparatory activities targeting the cadre, BODs including training, Exposure visit to Market.
- b) Training on statutory compliances of federations with regard to business, financial transaction, asset – liability, profit & loss, dividend distribution, online payment systems, etc.
- c) Training of board members on their roles and responsibilities; books of records; MIS; agenda / norm setting to carry out business; calculation of business turnover, profit, loss, break-even, etc.

- d) Technical training of board members on their roles and responsibilities on managing various functions such as productivity enhancement, Good Agriculture Practices, Good Animal Husbandry Practices, procurement system development, payment mechanism, market price dissemination, weather information dissemination, etc.
- e) Product specific exposure of concerned board members to better performing federations and CBOs to learn best practices available on product specific value chain within the country.
- f) Participation of federations in state, regional, national and international level workshops to learn successful models and share experiences.

4) Capacity Building for CBOs (FPCs & PACs)

Community based organizations such as Farmer Producer Companies (FPCs) and Primary Agricultural Credit Societies (PACS) should be capacitated on statutory compliances with regard to registrar of companies (ROC), business, financial transaction, asset – liability, profit & loss etc. through training, exposure visits and handholding support. This will make these CBOs competitive to take part in agricultural value chain development activities.

199. Process Flow for Interventions under Capacity Building

A. Categorization/Selection of CBO

Following are the eligibility criteria for CBOs to be selected for Comprehensive capacity building and training of CBOs:

- a) CBOs interested in Productive Partnership/Market Access Plan or any other activities of Project
- b) Minimum membership base of CBOs is required to be: 250 shareholders for FPCs and/or PACS, 100 SHGs for CLFs/ CMRCs, 250 members for Federations, Grower associations and FPOs, 40 members for Farmer Groups.
 - a. CBOs should submit Minutes of at least 1 AGM
 - b. CBO should submit at least 1 audited financial statement
 - c. CBO should not have any significant audit observations.
 - d. CBO should not be declared as Non-Performing Asset (NPA) by the Bank due to past loan default.
 - e. CBO should be engaged for at least one year in agricultural production, marketing, processing, trading or input supply. For CLFs/CMRCs, the respective PIUs have the responsibility to certify about their previous engagement in areas mentioned above.

All of the above criteria are subject to modification based on implementation experience. DIUs/ PIUs will carry out the categorization/preliminary screening of CBOs based on the criteria along with on ground verification.

200. B. Capacity Building of CBOs:

The process flow for CBO Capacity Building will be as below:

B.1 Comprehensive Capacity Building and Training of CBOs

Identification and on-boarding of Agency for doing Training Need Assessment of Sample CBOs from FPOs/FPCs/CLFs/CMRCs/PACS.

The role of the Agency will be as follows:

- a) The Agency will develop the draft training modules based on the TNA and will train the Master trainers from partner training institutes (VANAMATI/RAMETI/Others) and PIU Staff.
- b) Master Trainers will deliver training to identified CBOs and come up with feedback to Agency for modifications in the draft training module, if so required.
- c) The Agency will submit the final draft training module and conduct the refresher training for Master trainers, if so required.

B.2 Bridge Technical Support for CLF/CMRC

MSRLM will hire the Technical Support Agency /consultants in the respective thematic areas and will provide bridge technical support to CLFs and CMRCs

201. Estimated costs of the Sub-component

Item	No.	Approx. unit cost (Rs.)	Cost (Rs. in lakh.)
B.1 Comprehensive Capacity Building and Training of CBOs			
Service Cost for Technical Service Provider	1	Lumpsum	200
Printing of Training Material	1	Lumpsum	15
Training of Master Trainer	100	100 persons from VANAMATI/RAMETI, @ 20000/ Master Trainer	20
Comprehensive Capacity Building and Training for BoDs of CBOs (Governance, leadership, business management, Gender , Social and Environment Safeguards) residential 5 days	1000 CBOs	5 Participants per CBO, Training of 5 days, Rs.2000/participant/day	500
Refresher training non residential	1000	1 Participants per CBO, Training of 1 day, Rs.1500/participant/day	15
Sensitization workshops / Campaign for Land entitlement to women (1 workshop/campaign for 1 CBO)	1000	1 workshop per CBO for 1000 CBOs @Rs10000 per workshop	100
Total Cost			850
B 2. Bridge Technical Support for CLF/CMRC			
TSA for providing bridge technical support, rating & operational support to CLFs and CMRCs	400 CLFs, CMRCs	TSA will be hired by PIU MSRLM Cost of TSA and Operational Support to 400 CLFs, CMRCs	1000
Capacity Building of MSRLM and MAVIM Staff	100	Includes Training, Exposure Visits, Participation in MDP programs etc @ Rs. 1 lakh per person	100
Capacity Building of Federations (CLFs & CMRCs)	400	Includes Training, Exposure Visits @ Rs. 2 lakh per Federation (CLFs & CMRCs)	800
Capacity Building for CBOs (FPCs & PACs)	400	Includes Training, Exposure Visits, Participation in MDP programs etc @ Rs. 50000 per CBO	200
Total Cost			2100
Total Cost B.1 + B.2			2950

The cost estimates are indicative, not exhaustive and are subject to modification.

B.2 Enterprise Development Support

202. A value chain is only as strong and competitive as its constituent enterprises. It is imperative that agri-enterprises active in the fields such product development, food safety, traceability, processing technologies etc. be strengthened so that all players in the value chain become more efficient and competitive. This sub-component will provide Business Development Services (BDS) to identified enterprises in focus commodities and value chains. The sub-component will support hiring of specialized Technical Support Providers (TSPs) and provision of last-mile services to enterprises, assistance for developing business plans and commercial loan applications; and adoption of more efficient production and processing technologies, including green technologies.

In providing support to enterprises, the project will drive convergence with existing government schemes including loan financing through the Prime Minister Employment Guarantee Program (PMEGP); grant support through the Chief Ministers Agriculture and Food Processing Support Scheme; and skills training support for entrepreneurs and workers through the Prime Minister's Kaushal Vikas Yojana. See Annexure ES-1 for details.

Women play significant role in unorganized food processing enterprises as owners and workers but face a number of challenges leading to relatively lower employment and enterprise growth outcomes relative to men. Female labor force participation at percent is one of the lowest among middle income countries and continues to fall in India.

In the State of Maharashtra, MSRLM and MAVIM are promoting enterprise development for women by providing access to credit with small finances in the form of revolving fund to SHGs and Access to Market with the help of Exhibitions at regional and National level. In order to scale their operations, women entrepreneurs need access to formal credit for Working Capital Support and Business Development Support services. They also require common infrastructure, Common Facility Centres and institutional tie ups for accessing markets.

The sub-component "Enterprise Development" will focus on enhancing outcomes for women-owned enterprises through identification of commodities, clusters and processing activities where women predominate; through training and deployment of women last-mile technical service providers; and through longer periods of intensive handholding and technical support to enable growth of such enterprises.

Business Development Support to the Enterprises will be provided through Technical Service Agency broadly TSA will perform following tasks

- a) The TSA will identify the enterprise clusters in commodities supported under project.
- b) TSA will shortlist the Business Development Service Provider (BDSP) among the targeted geographies who will deliver the business development services to the entrepreneurs.
- c) TSA will organize training of the BDSP in institutes like IIM Ahmadabad, CFTRI, EDII Ahmadabad etc.
- d) The detailed role of TSA is elaborated in Annexure ES 2

203. Selection criteria for enterprises to participate in the Business Development Services:

The enterprises will be selected within the commodities selected under the project; Enterprise eligible for BDS support should not be less than one year old.

Divisional level census / listing of existing enterprises covering selected parameters. Data will be collected on:

- a) Number of workers employed by the enterprise
- b) Nature of the enterprise (production, trading, services)
- c) Premises of the enterprise (own house, own shop, or rented)
- d) Frequency of purchase of raw material
- e) Amount of cash in the cashbox at the end of the day

Based on the above a potential enterprise database will be prepared. Further, the data will be used to create: a) Division-level profiles (of enterprises classified by typology, age, number of workers employed, and location) b) Enterprise typology profiles (based on analysis of all enterprises by age, number of workers employed, and location screening of enterprises) Data collection will be done using CAPI (Computer Assisted Personal Interview) by community cadre identified from each division.

204. Excluded List of Enterprises

The following enterprises will not be supported by BDS:

- a. Enterprises not supporting the Project Development Objective
- b. Enterprises not related to Value Chains supported under project.
- c. Backyard activities (like backyard poultry, Kitchen Garden etc.)
- d. Enterprises operated by the project staff

If enterprises information will come from third-party then PIU MSRLM will do the Field Verification for first check of the enterprises.

Enterprises necessarily support the overall objectives of the sub project. This activity will aim to bridge the gaps and will support to make the value chain more efficient and it will support integration of small enterprises into more profitable higher value chains.

For capacity building support, the project will take the services of institutes IIM Ahmadabad, EDII Ahmadabad, Indian Institute of Entrepreneurship Management, Mumbai and other competent institutes. Project will plan for the Acceleration program with selected entrepreneurs with the technical support from agencies like SPRING Accelerator & CIIE-IIM Ahmadabad based on the experience of BDS support to first lot of enterprises.

1. Objectives of the Sub-component

The objective of this sub-component is to enhance competitiveness of agri-enterprises in focus commodities and value chains through the provision of technical services and Business Development Services (BDS) to identified enterprises.

2. Process flow

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Conduct Outreach programmes for identification, mobilization and selection of potential entrepreneurs	PIU MSRLM	TSA for BDS	The project will hold workshops, meetings, technology dissemination seminars through which identification and selection of potential entrepreneurs will be undertaken.
2	BDS- Business Development Services	PIU MSRLM	TSA for BDS	<p>The project will hire a Service Provider to carry out BDS. See Annexure ES - 2 for ToR for the SP.</p> <p>The SP will support business expansion support, and stakeholder consultation, exploration of forward and backward linkages, and conducting viability assessment and preparing business plan for growth of selected enterprise.</p> <p>The TSA will identify the enterprise clusters in commodities supported under project. TSA will shortlist the Business Development Service Provider (BDSP) among the targeted geographies who will deliver the business development services to the entrepreneurs. TSA will organise training of the BDSP in institutes like IIM Ahmadabad, CFTRI, EDII Ahmadabad etc. BDS support will be provided for 2 years from the selection of the enterprises.</p> <p>Following Support shall be provided to the enterprises</p> <ol style="list-style-type: none"> Access to technology and Skills Regulatory Compliances Buyer Linkages Linkages with schemes of other ministries and departments (See Annexure ES – 1- Schemes for convergence) Access to credit Other inputs like, packaging, branding,
3	Mentoring and Handholding support	PIU MSRLM	TSA for BDS	Trainings/ workshops for selected enterprises in which they will receive mentoring, Product development support, and training on issues pertaining to quality, food certification, traceability.

3. Cost estimates

Sr. No.	Activities	Unit	No. of Units	Unit Cost	Total Cost (Lakh Rs.)
A	Business Development Service Provider				1500
B	Training of selected Entrepreneurs	No. Of Entrepreneurs	2000	0.0185	370
C	Recurrent cost	No. of Person	5	88.4	442
	Budget for Enterprise Support (A+B+C)				2312

Performance Indicators (Gender disaggregated)

- a) Number of Project Supported Enterprise becoming formal
- b) Number of enterprises making incremental investment.
- c) Number of project supported enterprises accessing finance from financial institutions.
- d) Number of jobs created as a result of programme activities

B3: Access to Finance

205. India has about 12.5 crore farmer households of which over 85 per cent are small and marginal farmers with land holdings of less than 2 hectares. As a result, majority of the small producers are unable to realize optimal value from their farming operations and make economic progress.
206. Forming a Producer organization as a platform to take up collective business activities, build capacity and provide linkages to markets is emerging as viable option for this. Various policy level initiatives are being taken by Government aimed at promoting the concept of Producer organizations.
207. Presently, around 5000 FPOs are in existence in the country, which were formed under various initiatives of the Govt. of India (including SFAC), State Governments, NABARD and other organizations over the last 8-10 years. Of these, around 3200 FPOs are registered as Producer Companies and the remaining as Cooperatives/Societies, etc. Majority of these FPOs are in early stage of their operations with shareholder membership ranging from 100 to over 1000 farmers. Around 2000 commercially viable Producer Organizations (POs) have been promoted in the state of Maharashtra under several programs- MACP, PODF of NABARD, SFAC and other agencies.

208. 1. Status of Financing to Community Based Organizations (CBOs)

In addition to FPOs there are various other member based formats used by small holders for farming as well as non-farming economic activities collectively termed as CBOs. CBOs include Farmer Producer Organizations (FPOs), Primary Agricultural Cooperative Societies (PACS), Cluster Level Federations (CLFs) and Community Managed Resource Centers (CMRCs) of women Self Help Groups (SHGs) promoted by MSRLM and MAVIM respectively. CBOs need investment as well as operational credit to carry out various functions. Being membership based organizations, their collective financial strength looks good but these CBOs do not own much assets to provide adequate collateral security. The FPOs, PACS and CMRCs are registered entities, while CLFs are Association of Persons engaged in livelihood activities.

209. 2. Financing To Farmer Producer Organizations (FPOs)

A Farmer Producer Organization is a legal entity formed by primary producers, viz. Small and marginal farmers, which is directly engaged in agriculture and allied activity as crop production, dairy, fishery, animal husbandry, poultry, bee-keeping and sericulture etc. A FPO can be a producer company, a cooperative society or any other legal form which provides for sharing of profits/benefits among the members.

2.1 Essential features of an FPO -

- a) Formed by a group of producers for either farm or non-farm activities.
- b) It is a registered body and a legal entity.
- c) Producers are shareholders in the organization.
- d) It deals with business activities related to the primary produce/product.
- e) It works for the benefit of member producers.
- f) A part of the profit is shared amongst the member and rest of the surplus is added to its own funds for business expansion.

1.1 Opportunities for financing to FPOs by banks

To ensure sustainability and economic viability of FPOs, their nurturing plays an important role in taking up viable business activities like aggregation of produce, collective marketing, bulk procurement of inputs, primary processing, etc. To meet the credit requirements of FPOs in broadly categorized into three phases.

1. **Evolution and Early Stage:** At this stage, the financial need of the FPOs revolves around the cost of mobilizing farmers, registration cost, cost of operations and management, training, exposure visits etc.
2. **Growth and Development Stage:** Once FPOs are formed with support from promoting institutions, there are three ways to raise fund to meet their working capital and infrastructure needs. They include – Equity Financing, Operational Credit and Debt Financing.
3. **Matured Stage:** As the FPOs move towards expanding their businesses, they need finance for horizontal expansion, quality management and vertical integration with value chains. Suitable loan products for this stage are as follows -
 - a) Loan Products with Collateral/Guarantee Cover - Loans to FPOs that are eligible for assistance from SFAC towards equity/credit guarantee cover. Also Institutions like NABARD provide loans to FIs / Promoting Institutions, for onward lending to FPOs.
 - b) Loan Products without Collateral/Guarantee Cover - Loans to FPOs that are not in position to provide collaterals.

The items eligible for assistance broadly include capital cost such as cost of building, machinery and equipment for processing, specially designed vehicles for transportation etc. and working capital requirements for input supply, procurement, collective marketing, and other recurring costs connected with the project.

1.2 Current status on FPO finance:

Various government policy initiatives are providing technical support to FPOs. Major institutes and their nature of support.

Support to FPOs from NABARD

- a) **Financial Intervention** - by direct lending to PO in the form of term loan and cash credit.
- b) **Capacity building-** Fund for skill development, training, planning and technical extension etc.
- c) **Market linkage** - for setting-up of marketing infrastructure facilities for sale of produce.

Support to FPOs from SFAC -

The entire government schemes for FPOs are implemented by SFAC.

- a) Equity grant – SFAC provides matching equity grant maximum of Rs.10 Lakh per FPO for enhanced borrowing power and enables them to access bank finance.
- b) Credit Guarantee Fund scheme – Enables FPOs to seek collateral-free loan up to 1.00 crore which in turn can seek 85 percent cover from the Credit Guarantee Fund.

So far very few commercial banks, FIs are lending / financing to FPOs. Most banks and financial institutes are not familiar with appraisal for small business credit for such farmer collectives, nor have they developed appropriate methodologies (such as credit scoring or cash flow-based appraisal) for assessing these types of loans; hence this market segment is not appealing to them.

2. Challenges in financing the CBOs:

1. Lack of access to affordable credit for want of collaterals and credit history is one of the major constraints, the FPOs are facing today. Further, the credit guarantee cover being offered by SFAC for collateral free lending is available only to Producer Companies.
2. FPOs are mostly represented by small farmers with poor resource base and hence, initially they are not financially strong enough to deliver vibrant products and services to their members and build confidence.
3. Farmers' Organizations are required to be efficiently managed by experienced, trained and professionally qualified persons. However, such trained manpower is presently not available in the rural space to manage FPO business professionally.
4. The important factor considering increasing finance to FPOs is as under:
 - a. Providing comprehensive early stage funding.
 - b. Designing appropriate loan products as at the level of farmer member and at the FPO level.
 - c. Encouraging value chain financing under priority sector lending.
 - d. Warehouse receipts-based lending and price risk mitigation.
5. The CLFs formed as federations of SHGs are not registered legal entities. Non - availability of financial documents such as audited balance sheets makes access to finance for CLFs difficult.

3. Objectives – Objectives of this component are as under -

- a) support access to finance interventions to enable the project beneficiaries to access a broader range of financial products.
- b) facilitate a standardized third party rating system of FPCs.
- c) facilitate development of specialized financial products offering project based finance to CBOs.
- d) Support setting up / expansion of a partial credit guarantee fund for CBOs.

4. Strategies to improve finance to FPOs

- a) Policy/Advocacy – The project will take up advocacy with banks and other financial institutions as well as government agencies. Working with NABARD, Dept of Financial Services (GoI), RBI to come up with tailored financial products to support FPOs (e.g., FPO-linked product along the lines of SHG-Bank Linkage)
- b) Coordination with the banking sector would be given momentum. Despite RBI's directive to banks on financing of FPOs many branches of banks are unaware of the policies regarding FPOs and they need to be educated. The State Level Bankers Committee (SLBC) and District Consultative Committee (DCC) shall be approached for a resolution and follow up on the RBI directives. Status of applications from FPOs to the banks would be reviewed at these meetings to assess progress in implementation.
- c) Ratings of FPCs for credit worthiness is taken up as a part of this project which would improve flow of credit to the FPCs. Along with FPCs such a tool customized for CLFs / CMRCs will be developed too.
- d) Partner Financial Institution Platform – the project will be identifying and tying with financial institutions via MoUs to ensure win-win for both FI's and project beneficiaries to provide "preferential access". Need to include the key principles of the PFI platform and also the goals/objectives of the Platform.
- e) FPOs shall be encouraged to take benefits of SFAC and NABARD schemes.

The project would therefore support various access to finance interventions to enable the project beneficiaries to access a broader range of organized markets. The feasibility of appropriate tools will be explored during project preparation.

The interventions would include, among others, financial education and counselling, agriculture value chain financing, partial credit guarantee facility and linkages with the ongoing NRETP. Active collaboration with other relevant projects and IFC would be sought during preparation to design this intervention.

5. Proposed Interventions

- a) Training and Capacity Building of CBOs – primarily related to financial planning, book-keeping and legal compliances to ensure that CBOs meet the minimum eligibility conditions of most of the financial institutions and a credible financial record is maintained.
- b) MIS/IT Support – The project funds for infrastructure and technical equipment shall flow to the CBOs during the project period. To ensure proper tracking of the utilization of these funds, suitable platform shall be provided to enable computerization / use of ERP solutions including cloud-based accounting module by the CBOs.
- c) Credit Rating of CBOs: Given the large and diverse universe of CBOs, a standardized approach to evaluating the CBOs needs to be adopted. Credit rating of CBOs could help us on multiple fronts including facilitating bank linkage, identifying gaps which need to be addressed (tailored training and capacity building efforts), develop incentive structures (incentivizing CBOs to get a higher “grade” example CBOs rated as A-grade will be facilitated with Bank linkage (in addition to project funds) and/or market linkage whereas B-rated will primarily get project funds and some support for market access while C-rated CBOs get capacity building support helpful to improve their rating.
- d) Partner Financial Institution Platform – The aim of this intervention is to increase closer coordination between the project and financial institutions in order to facilitate better service delivery by the banking sector to the CBOs. MoUs with financial institutions such as commercial banks and NBFCs are envisaged as a beginning of continued dialogue. The project has already entered into an MoU with the Allahabad Bank and four more are in the pipeline. During the project period, this platform will bring in more financial institutions on board to catalyze finance to CBOs through proactive steps like development of a lending policy and customized products for CBOs.
- e) Supporting Risk Mitigation activities to facilitate increased access to finance:
- f) The will support establishment of a Partial Credit Guarantee Facility with an independent professional agency. For this, a feasibility study will be carried out by the project by appointing a service provider. Based on the feasibility study, the project is expected to contribute to an existing or new PCGF, which will in turn provide third-party credit risk mitigation to lenders with the objective of increasing access to credit for CBOs and agri-enterprises. Before making a capital contributions to the PCGF, the project will ensure: (i) completion of the feasibility study; (ii) issuance of expression of interest that reflects the findings of the feasibility study and, the policy requirements of the World Bank; (iii) evaluation and contracting of the PCGF managing institution following a competitive process and based on advice of expert panel and legal counsel; (iv) Fund documents are reviewed by GoM.

210. Cost Table

Sr. No.	Activity	Amount (Rs. Lakh)
	Capacity Building	
1	a. Outreach workshops for stakeholders including Bankers/FI Meets etc. by STSG	51.00
	b. Capacity Building of Banks / FI / Service Provider like CA, CS etc. about SMART projects - PP, MAP and A2F components	102.00
	c. Exposure Visit cum Training of Bankers / FI, Service Providers at Banking training Institutes	135.00
	Technical Assistance	
2	a. Development of IT enabled / Cloud tools for digitization of CBOs records - MIS system	200.00
	b. Development of Rating tool and rating of FPCs / CBOs through independent rating agency	480.00
	c. Piloting of new and innovative financial products through FinTechs with CBOs	250.00
	Partial Credit Guarantee	
3	a. Feasibility study evaluating the option of setting up PCG	30.00
	b. SP for PCG operations	100.00
	c. Partial Credit Guarantee Fund	7500.00
	Recurrent Cost	
4	a. Access to Finance Expert at PCMU	168.00
	b. Access to Finance Associate at PCMU	50.00
	Total	9066.00

B4: Pilot Program on Urban Food Systems

211. More than 40 percent of population are residing in the cities in Maharashtra. Like many cities all over the world, Technology, higher incomes, increased no of working women are the drivers of changing urban food consumption patterns. Often called as “nutrition transition”, the shift in the urban diet patterns are toward increased consumption of the animal sourced food, fats and oil, sugar and more processed foods. With shift towards consumption of obesogenic food consumption cities are facing challenges of double burden namely that of “malnutrition “often earlier associated with rural population as well as that of “overweight “population.
212. These high paced changes have put stress on the food systems. Given the nature of the existing urban food system such as prevalence of coexistence of traditional, modern, informal food systems addressing the issues such as food safety, traceability and availability of nutritious food has become major challenge for the city policy makers. Pune city as a signatory to Milan urban food policy Pact, has been working on the agenda of making Pune Nutritionally Smart City. Given the complexity and multiple dimensions of the issue, PMC wants to adopt multi-pronged approach for improving the existing food system.
213. The SMART project would support this endeavor with following components bringing synergies with other SMART project partners namely Department of Agriculture, Department of Animal Husbandry and Maharashtra State Marketing Board.
214. **Objectives -**
- a. To build safe food systems for the city of Pune
 - b. To improve nutritional status of Pune citizens by 3As (Awareness, Access, and Availability of nutritious, safe food)
 - c. Forging strong urban rural linkages for creating sustainable food systems.
215. To achieve these objectives following interventions are planned
1. Behavior Change Communication Campaign
 2. Creating complimentary infrastructure forCBOs for accessing Urban markets
 - a. Farmers weekly markets in PMC
 - b. CBOs as supplier to the Midday meal schemes
 - c. Access to CBOs in Organized retail markets and adopting GAP Safe food protocols by its members
 - d. Access to Post harvest infra to CBOs
 3. To improve goat meat value chain through upgradation of the existing slaughter house
216. **Implementation**
- To achieve above goals, SMART project has planned following interventions
- 1) **Behavior change communication campaign for citizens** (for consumers, institutional buyers and food system actors): To enhance awareness about nutritious and safe food, campaigns are planned for all the actors in the food system including stakeholders in the informal sector. This will have impact on the awareness and expected to enhance demand for the safe food. It will also have impact on safe food availability through regulatory measures

i.Process flow of IEC implementation plan:

This section outlines the process flow for project implementation under four important section of interventions which are hotels, street vendors, PMC employees, and general citizens.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Stakeholder meeting	PMC	PCMU	To bring all stakeholders associated with food business on common grounds of food safety and hygiene. Stakeholder involved: food and drug association (FDA), PMC Health department, (AHAR) Indian Hotel & Restaurant Association, PIU cell and other potential stakeholders.
2	Training of food handlers	FDA PMC AHAR Subject matter experts	PCMU	Training of food handlers to aware them about food hygiene organized by PIU-PMC in support of of FDA, Hotel association. Subject matter experts and CSR partners will be appointed by PMC to carry out training programs. FDA will do the regular check on proper adaptation of practices.
3	Awareness campaign and capacity building workshops	PMC Subject matter experts AHAR		Citizens can be outreached through Awareness campaign which will be arranged with the help of PMC Health department, PMC social media cell and media group and associated SHG. Street Vendors, Hoteliers, Slaughter House Staff, Butchers & Meat Traders, FPOs, Mid-Day Meal workers will be focused for training. Further exposer visits (Peer-to-peer learning) will take place by PMC, FDA officials to learn and incorporate best practices in Pune city.
4	Survey of value chain actors and consumers on practices, perceptions and awareness of food safety of meat & nutrition value of goat milk			These surveys guide the campaigns. it is imperative to firstly understand practices, perceptions and awareness of value chain actors and consumers in order to target the campaigns.
4	Enhancing citizen participation in food scenario through feedback App.	PMC		Pune municipal corporation has PMC Care app (updated under program) which will be the medium of registering complaints and feedback by citizens against bad food experiences and Penalty will be imposed by FDA in co-ordination with PMC Health Department.
5	Quarterly meetings with stakeholders	PMC	FDA AHAR	Quarterly review meetings –zone wise with presence of FDA, hotel owners and Zonal commissioner arranged by PIU IN support with health department.

2) Creating complimentary infrastructure for FPOs for accessing Urban markets

a) Farmer’s weekly markets: Pune city already hosts some farmers’ markets. This component will address to suppressing value chains by connecting CBOs to the urban consumers. The pilot will bring out the issues in scaling up the same and lessons for creating sustainable food systems. In the first phase, the project aims to regularize about 26 farmers market and provide them with temporary infrastructure and provide proper sanitation and solid waste facility in each market. Based on the progress of these markets, additional markets could be taken up by the project. Other markets running along road will be provided with nearest amenities place if available. Along with that 2 Otta markets (Market place developed by PMC with basic infrastructure) will also be made available for running farmers market which are laying vacant. Governance of these markets will be reviewed and finalised in consultations with relevant stakeholders.

b) Farmer Producer Organizations (FPOs)/CLFs/CMRCs/SHGs will address food safety, congestion, improve traceability and sanitation facilities. PMC and Maharashtra State Agriculture Marketing Board, Pune (MSAMB) will be implementing the frontend activities, and agriculture department (Agricultural Technology Management Agency (ATMA) specifically) will perform the backend activities. For that matter MoU will be signed between PMC, MSAMB, ATMA and FPO.

i.Process flow of farmers weekly market

This section outlines the process flow for project implementation under strengthening of Farmers markets managed by FPOs.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Appointment of Technical Consultants	PMC	MSAMB ATMA	<ul style="list-style-type: none"> RFP will be Prepared by PMC PIU cell with the help of PMC Encroachment and Mandai Department for appointing the technical consultants .Following functions will be performed by Technical consultant: <ul style="list-style-type: none"> Stakeholders Consultation Setup of Advisory Team DPR and Feasibility study
2	Appointment of contractor	PMC	MSAMB ATMA	RFP for appointing the contractor for construction activity will be prepared by technical consultants.
2	Development of selected locations for farmer’s weekly market.	PMC	MSAMB	<ul style="list-style-type: none"> Approval from statutory local bodies by concerned department of PMC
		Contractor appointed.	MSAMB PMC ATMA	<ul style="list-style-type: none"> Infrastructure work <ul style="list-style-type: none"> Storage space for holding markets temporary equipment. Roads/pavement Electrification Solid waste management Sanitation
3	Memorandum of understanding (MoU)	PMC MSAMB ATMA	FPO	MoU between PMC and MSAMB and FPO / Knowledge Partner will be signed to work as per the principle of Farmers Weekly Market Policy 2016.
4	Registration & Certification of FPO and farmers	MSAMB ATMA	PMC	<ul style="list-style-type: none"> Issuing of license for registration Provision of Certificate for best FPO for market management

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
	associated			<ul style="list-style-type: none"> • Formulation of Monitoring teams
6	Practices, awareness and perception survey of value chain actors and consumers		PMC	To guide the campaigns you need to firstly understand the current practices, awareness and perceptions regarding food safety. A second survey will focus on goat milk awareness and perceptions to guide a campaign targeting increased consumption by promoting the many nutrition and other benefits of goat milk. This will be undertaken by a survey developed by PMC guided by the Knowledge Partner in the case of livestock products (goat meat, milk, eggs)
5	Awareness program for citizen	PMC	MSAMB ATMA	<p>Awareness's about food hygiene and safety along with benefits of farm fresh produce available in the city will be managed by Public Relation officer (PRO) of PMC, Social media Cell, PMC.</p> <ul style="list-style-type: none"> • Radio and Television Broadcasting • Social media • Awareness Campaigns • Newspaper • Hoardings and Pamphlets

b) FPOs/CLFs/CMRCs as supplier to the Midday meal schemes: This component will try to gauge the feasibility of involving CBOs as supplier of fruits and vegetables for PMC run mid-day meal scheme. This will provide children many a times from unprivileged sector, with nutritious food, and will create new market opportunity for CBOs.

The city has 20 centralized kitchens for the midday meal scheme. Nearly 2.8 lakh students are provided with meals under the scheme in 640 schools (PMC & Private). Besides civic schools, students from the aided educational institutes also get the meals. The government has fixed a menu for every day based on calories. 20 Professional catering firms consisting of SHG and NGOs are currently running the central kitchen following the state government's directives.

i. Process flow of connecting CBO with Mid-Day Meal (MDM)

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Synergy workshops of FPOs and Mid-Day Meal Operators	PMC MDM Contractor ATMA	FPO FDA	<p>The workshop will be arranged to sensitize the mid-day meal workers towards best cooking practices focusing on hygiene with the help of subject matter experts.</p> <p>The workshop will also create awareness about benefits of farm fresh food and Maximum Residue Limit (MRL), further linking them with FPO producing MRL products</p>

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
2	Monitoring	PMC ATMA	FDA	Periodic inspection on central kitchen to check the quality of food served by FDA and PMC health department. The underperforming MDM contract will be terminated by Education department.

c) Access to CBOs in Organized retail markets and adopting GAP Safe food protocols by its members. The niche urban market demands organic, or at least residue free food products, they are willing to pay more for the same. The project will support a pilot where farmers will be trained in safe food protocols, their produce will be tasted for Minimum Residue Limits. The private sector organized retail format will be a partner to this pilot as seller of this produce.

d) Access to Post harvest infra to CBOs: CBOs often face constraints in space, high rates for the packing space. They cannot access widely spread urban market. To address these issues, Mobile vans, packing units and such infra structure will be provided so that they can have access to the lucrative urban markets.

i. Project Implementation

c) Access to CBOs in Organized retail markets and adopting GAP Safe food protocols by its members. The niche urban market demands organic, or at least residue free food products, they are willing to pay more for the same. The project will support a pilot where farmers will be trained in safe food protocols; their produce will be tasted for Minimum Residue Limits. The private sector organized retail format will be a partner to this pilot as seller of this produce.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1.	Identification of farmers registered at Organised retailer pack houses	Organised retailer	ATMA	Organised retailer will identify the farmers registered with their pack house for safe food production in coordination with the ATMA.
2.	Market Led Crops Demos for GAP, Organic Certifications / Traceability	ATMA	Organised retailer	ATMA, DoA will conduct market led crop demos, GAP/organic certification/ traceability of the farmers selected by organised retailer for safe food production with the help of organised retailer.
3.	Training for GAP / Organic, Traceability and Food Safety (1 day)	MSAMB	ATMA /Organised retailer	Training to the farmers selected for safe food production / the farmers selling safe food in the weekly markets with the help of ATMA/PMC/Organised retailer.
4.	MRL Testing	ATMA	Organised retailer	Field machinery of the ATMA, DoA in coordination with the organised retailer will test the samples of the farmers selected for the safe food production.

- d) **Access to Post harvest infra to CBOs:** CBOs often face constraints in space, high rates for the packing space. They cannot access widely spread urban market. To address these issues packing units and such infra structure will be provided so that they can have access to the lucrative urban markets.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Pack House	ATMA	MSAMB /PMC	<ol style="list-style-type: none"> 1. ATMA in coordination with PMC and MSAMB will decide the criteria. 2. CBOs participating in the weekly markets will be identified. 3. The design, detailed estimate and details of equipment for pack house will be prepared by ATMA in coordination with DoA and PCMU. 4. Proper procedure will be followed by ATMA and proposals after scrutiny will be sent to approval at PCMU. 5. Disbursement of the grants after approval from PCMU. 6. Monitoring the funds and regular use of pack houses by ATMA.
3	Training Cum Exposure visits outside State for Farmers	MSAMB	ATMA/PMC	<ol style="list-style-type: none"> 1. MSAMB in coordination with ATMA and PMC will formulate guidelines for selection of all concerned stakeholders. 2. MSAMB in coordination with ATMA and PMC identify the farmers, line department officers and stakeholders for exposure visit and the training. 3. Identification of agency and approval of PCMU. 4. Arrangement of visits.
4	IEC	MSAMB	ATMA/PMC	MSAMB in coordination with ATMA and PMC will conduct advertise and publicity about safe food, weekly markets through various means like radio, newspaper, printing material etc with the help of its PRO department.
5	International Exposure Visit to study Urban Food value Chain	MSAMB	ATMA/PMC	<ol style="list-style-type: none"> 5. MSAMB in coordination with ATMA and PMC will formulate guidelines for selection of all concerned stakeholders. 6. MSAMB in coordination with ATMA and PMC identify the farmers, line department officers and stakeholders for exposure visit. 7. Identification of agency and approval of PCMU. 8. Arrangement of visits.

3. Improving goat meat value chain (infrastructure and value chain incentives)

217. **A) Upgrading public infrastructure for goat meat with accreditation:** Demand for animal sourced has shown consistent increase in the urban markets. However, for some segments, such as goat meat, the small holders do not have access to the modern slaughter houses. PMC will upgrade its existing slaughter house and will get the necessary accreditation. The SMART project will support this intervention as it will create safe meat value chain for the citizens.

In addition to the upgradation of the slaughter house, butcher's training, ranking and capacity building activities will be undertaken to create safe meat value chain. . Activities under Urban Pilot will launch a campaign to increase awareness of food safety issues specifically targeting clean meat and increase awareness of nutritive value of goat milk.

218. Process flow for implementation

Up gradation of existing PMC slaughterhouse & APEDA registration

The existing PMC slaughterhouse at Kondhwa, Pune will be upgraded & registered with APEDA. This will not only open up new avenue for small ruminant meat export, but also improve the animal handling and meat handling practices of the city. The major sub interventions of this activity are;

- a) Renovation of the existing slaughter house building
- b) Creation of a cold storage facility
- c) Proper waste disposal
- d) Renovation of effluent treatment plant
- e) Solid waste disposal mechanisms (Bio-methanation, composting, rendering, etc.)
- f) Repairing drainages & building new ones where required
- g) Creation of a meat handling facility that could support basic meat processing facility like cutting and packaging
- h) Creation of a Laboratory / Testing Facility
- i) Regulatory License for operation of Slaughter house and all associated facilities from APEDA, Pollution control board, FSSAI, etc.

The slaughter house will then be operated on a PPP basis. Existing butchers operating from PMC slaughter house & Agencies slaughtering goats reared by SMART recognized CBO members will get priority access to the renovated facility.

219. Implementation for Goat meat value chain Interventions For Upgradation of the slaughter house

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1.	Techno-economic feasibility study	PIU-PMC	PCMU, PIU-AHD, External consultant to do techno-economic feasibility study	Call EoI & appoint external consultants Evaluation of techno-economic feasibility study & finalization of slaughter house design
	Submission of formal proposal to PCMU SMART	PIU-PMC	PCMU, NRC Meat	Submit a formal proposal to PCMU
	Approval of proposal	PCMU	PIU-AHD, NRC Meat	As per guidelines of the World Bank based on the recommendation of PCMU
	Tender & contract awarding	PIU-PMC	PCMU	Calling tender, completing other requirements & awarding of contracts as per World Bank guidance
	Infrastructure up-gradation of existing PMC slaughterhouse	PIU-PMC	PCMU, NRC Meat	Supervision of construction Bill payments Reporting of progress of work to Project authorities
	Getting required certifications & registrations for operations & enabling	PIU-PMC	PCMU, PIU-AHD, NRC Meat, External consultant	Completing Legal requirements & getting required licenses

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
	export (FSSAI, APEDA, Pollution control, etc.)			Application & completion of required formalities Getting registration

220. Cost Tables: Urban food Pilot

Sr.no	Component	PIU	Amount (Lakh)
1	IEC Plan For Safe And Nutritious Food Under Urban Food Pilot Project (Including surveys & other studies ³)	PMC	260.00
2	Upgradation of Farmers Market	PMC	280.00
3	Upgradation Of Slaughter House	PMC	702.00
4	Market led Crop Demos	DoA	80.00
5	MRL testing	DoA	113.00
6	Pack houses	DoA	200.00
7	Training of GAP, food safety +IEC	MSAMB	45.00
8	Training and Visit to other states	MSAMB	63.00
9	International visits	MSAMB	80.00
10	Manpower	ALL	277.00
	Total		2099.00

A) ³Survey of value chain actor and consumer practices, awareness and perception of food safety, Survey of consumers and value chain actors on practices, awareness and perception on nutritive value and other benefits of goat milk, Survey of consumers and value chain actors on practices, awareness and perception on nutritive value and other benefits of desai eggs

COMPONENT C: BUILDING RISK MITIGATION MECHANISMS

221. Risk is ubiquitous and inherent in all spheres of activity, including agriculture and agricultural supply chains. The risk mitigation mechanism refers to a systematic application of technology in order address potential risks. Marketing and trade in agriculture commodities faces several risks and it is necessary to address them in order to minimize losses and maximise profits. In addition to production risks, the farmers in the state are facing the following challenges post-harvest:
- a) high levels of post-harvest storage losses
 - b) inadequate real time commodity price information
 - c) lack of access to modern scientific warehouses and warehouse management systems (specially for small and marginal farmers)
 - d) lack of decision-making support, as to when to store and when to sell
 - e) no easy access to credit /loan against stored commodity (pledge loan)
 - f) lack of appropriate, market-based hedging tools for commodity price risk management
222. Component C, titled ‘Building Risk Mitigation Mechanisms’ tries to come up with a mechanism to mitigate several of the risks as mentioned above, so that the stakeholders across the supply chain benefit from resulting improved incomes and higher crop prices.
223. This component aims at seamless integration of small farmers /CBOs into agriculture trade ecosystem via efficient warehousing management system. The small farmers will receive real time price information and market intelligence and access to pledge finance, under the project. Trials are planned to carry out the feasibility of trading by farmers /CBOs on futures markets using derived financial products, like futures and options to manage their price risk. State government is also an interested party since it has a direct exposure to commodities. It routinely declares MSP in support of farmer and procures large quantities of cotton, soybean, pulses etc. during the season, for sale subsequently. The pilot studies will look into hedging as a way of mitigating price risk by participation on commodity exchanges.
224. The following risks are addressed under the proposed SMART Project:
- a) Market information and market intelligence (Sub-component C1)
 - b) Modern and scientific warehousing and WR /NWR Financing (Sub-component C2)
 - c) Price Risk Management Support (Sub-component C3)

Market Information and Market Intelligence: The aim is to help farmers make marketing and storage decisions based on market information and market intelligence thus avoiding distress sale at the time of harvest and realize better prices. Briefly, the component involves: collecting, analyzing and dissemination of real time market prices, predicting market prices in storage, building capacity of CBOs /farmers so that they in turn can correctly interpret the market information and market intelligence data.

Modern and scientific warehousing and WR /NWR Financing: Considering that most postharvest losses occur during storage, and the losses being high in traditional storages compared to storage in modern scientific warehouses, the increasing of storage capacity and

making access to warehouses for small and marginal farmers is an important measure to avoid or reduce postharvest losses and improve incomes. Issuance of WRs and NWRs, by professional collateral management services agency (CMA), the farmer gets access to pledge finance from FIs (Banks and NBFCs), which helps him avoid distress sale. The CMAs bring with them the up to date warehousing knowledge and operational skillsets that the CBOs lack. Once the CBO staff gets trained on the job with support from experts from MSWC, the warehouses would be self-managed by CBOs staff. This is expected to take 3 years or so. By end of 3rd year of operations, the CBO warehouse would be registered with Warehouse Development Authority (WDRA), with technical guidance from MSWC. The WDRA registration in turn empowers the CBO to issue NWR and eNWRs, which can thereafter be sold directly on e-market platforms like electronic – National Agriculture Market (e-NAM) or e-Commodity Exchanges linked through National Electronic Repository Limited (NERL), and used for availing pledge finance from FIs. The WRs (and NWRs) issued against crop stored, could receive up to 70-75 percent of the market value as loan from the FIs

Price Risk Management Support: Often farmers who facing the uncertainty of falling prices during storage due to unforeseen circumstances, can avoid or reduce their price risk by hedging on the commodity exchanges. Specifically, in some key agricultural commodities of importance to State's farmers like Cotton and Soybean that are actively traded on futures exchanges like Multi Commodity Exchange of India (MCX) and National Commodity and Derivatives Exchange (NCDEX). The futures exchanges selling of commodities for delivery at a future date. However, trading on futures exchanges is still in nascent stage and a concept that is not easily understood by most along the value chain let alone small and marginal farmers. Accordingly, it is proposed to carry out concerted efforts to build capacity by sharing knowledge and workshops followed up by handholding on Pilot basis. The pilot program will follow a detailed feasibility cum strategy study to be carried out by an experienced consultant. The actual hedging trials is expected to start in year 2.

225. Other support activities: Some other support activities that are proposed to be taken up under the project to help mitigate risk are provided below (again on pilot basis).

- a) **Use of IoT Devices:** Mainly to reduce the manpower costs of warehouse security and effectively reduce incidences of pilferage, theft or adulteration during warehouse storage. This will include installing of CC TVs, and burglar alarms. Computers would be used to support online monitoring of stocks and generate reports on type of crops stored, their quality and quantity, capacity utilization etc.
- b) **Quality Dispute Resolution:** Quality disputes between farmer /seller and buyer /trader does happen, especially when farmers send their crop for sale in distant markets. Often this has meant negative fallout in terms of reduced price and incomes for farmers. To address this problem, it is proposed to appoint agency/ies or representatives in important markets for fair and speedy quality dispute resolution on a pilot basis.
- c) **Rating of Buyers:** This is planned to forewarn farmers of unscrupulous or unsound buyers /traders in key markets across the State. The rating of buyers would be carried out by an experienced agency /consultant

Sub-Component C1: Market Information and Intelligence services

226. Present State of Market Information and Intelligence for agricultural commodities

Agricultural markets are today more volatile, complex and uncertain than ever before. This has increased the risk across all stages of trading, processing and marketing of the agricultural commodities.

227. At present, Department of Agriculture, Government of Maharashtra, through its service called “MAHAAGRI SMS” provides crop specific technical advisories to individual farmers.

228. Maharashtra State Agricultural Marketing Board (MSAMB), through its ‘MarkNet’ project, (<http://www.msamb.com/>) and AgmarkNet, a project of the Directorate of Marketing & Inspection (DMI), Ministry of Agriculture, Government of India, publishes data on daily prices and arrivals of several agricultural commodities in markets throughout the country on its website (<http://agmarknet.nic.in/>). The information is published daily, commodity-wise as also market committee-wise.

229. Some agricultural commodities are traded in Commodity Exchanges like NCDEX and MCX. The futures prices for these commodities are available on line; the daily summaries are published by all of them at the end of the day. The historical daily prices are also available on their web-sites (<https://www.ncdex.com>) and (<https://www.mcxindia.com/>).

230. Data for exports and imports are available on the websites of Agricultural and Processed Food Products Export Development Authority (<https://apeda.gov.in/>) and Marine Products Export Development Authority (<https://mpeda.gov.in/>). Most of these above sources provide price information.

231. The figures of acreage, production and yield are published by the Central and State Governments. They are generally made available very late and often not reliable. For other subjects like supply, demand, stocks, etc. there is either no reliable source or the available sources are varied and scattered. There is no agency or organization that provides market intelligence service for agricultural commodities in India.

232. Experience of Activities of CIAMI

In 2016, Maharashtra Agricultural Competitiveness Project (MACP), at the suggestion of the World Bank, established a pilot project called ‘Centre for Indian Agricultural Marketing Intelligence (CIAMI)’ with major objective of providing marketing and price intelligence to farmers and their associations.

233. Centre for Indian Agricultural Marketing Intelligence (CIAMI) was established under MACP in January 2016 and started functioning in April 2016 with major objective being collecting and analyzing agricultural prices and preparing and disseminating their forecasts.

234. The Centre selected initially five commodities: Soybean, Maize, Tur, Onion and Tomato. Since January 2018, it added two more commodities: Cotton and Gram. It published weekly bulletins, monthly reports, mobile SMS services, held farmer

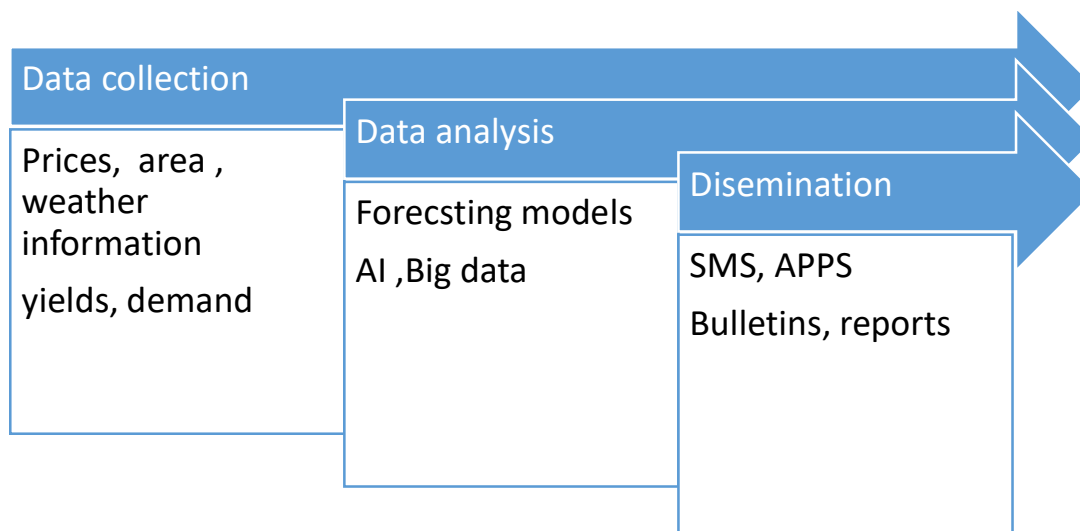
workshops, conducted commodity specific studies. The unit participated in various policy dialogues. The third-party evaluation of the Centre revealed that more than 50 per cent of farmers who it used were satisfied with its services. However, the spread of the services, was limited. To take forward from this earlier experience, major focus areas for improvement are reliable data on production, prices, training of the personnel, and participation of the stakeholders.

235. 2. Objectives of the Subcomponent SMARTCIAMI (S-CIAMI)

In this context, it is proposed to provide the services to the project stakeholders by strengthening the objectives, under the SMART Project.

- a) To strengthen the ability of farmers /farmer groups to take decisions based on business intelligence report
- b) b) To create business intelligence system that will enable farmers to maximize their earnings through a) achieving the right mix of crop, b) more effective crop care and c) better timings of sale of their produce.
- c) To create market information system to support the state’s capacity to design suitable policy interventions on supply, demand, stocks and export availability of select crops, especially in response to weather and price shocks as well as facilitation of food procurement management for stable price regime.
- d) To create strong, dynamic database for better predictions as well as effective monitoring of government policy

3. The process flow of the S-CIAMI



i) Data collection

The proposed S-CIAMI will be the marketing intelligence arm of the SMART project, coming under the Statistics Division of the DoA, and hosted on MahaAGRITECH platform.

The Marketing information to be collected will include:

- a) Price information (farmers prices, wholesale prices, futures prices, retail prices, prices at intermediary stages, input prices for production, processing and manufacturing, transport prices, storage prices, packaging prices, prices of by-products, etc.)
- b) Supply Information (Acreage, Yield, Production, Stocks, Imports, Government Procurement, Government Releases, Weather, Incidence of pests and diseases, etc.)

- c) Demand Information (Income, Consumption, Exports, Utilization, Exchange rates, etc.)
- d) Policy Information (Taxes and Duties on imports, exports, price controls – Minimum Support prices, Maximum Prices, Procurement Prices -, income support measures, distribution of commodities, etc.

236. S-CIAMI plans

- a) To collect data on production, arrivals, stock, trade, consumption, and prices of agricultural products from various sources, including appointing field staff and acquiring data from computerized auctions, e-NAM, remote sensing agencies and private data banks and service providers, farmers and their associations and stakeholders
- b) to suggest measures to improve the quality and accuracy of data originating from different sources

S-CIAMI will strive to collect consistent, accurate and timely agricultural market data from a variety of sources such as farmers, FPOs, Government departments, own field work, Remote sensing, Indian and international sources, discussions with the stakeholders, etc.

237. **ii) Major sources of data for S-CIAMI**

CBOs: in the most innovative way, CBOs will be active participants of the S-CIAMI data base. Support of CBOs and members would be a critical aspect of the intelligence gathering architecture. With over 1600 registered FPOs and several thousand PACS, CLFs in the State with an average 200 to 1000 farmer members in each CBO, could potentially participate in benefit from information shared. S-CIAMI would prepare formats for data points to be collected from farmers, prepare Apps for the purpose to collect the relevant data.

238. A structured data base deployed at these CBOs with capability to capture various data points of individual farmers such as land holding, crop plan, planting progress, crop establishment and progress through various stages. These would be a partial list of potential data points that could be gathered and churned into predictive outputs of expected arrivals of various commodities. In combination with aerial imagery services, it is possible to establish near accurate production estimates.

239. S-CIAMI will be working as a part of Agricultural Department in close cooperation with its other departments including MahaAGRITECH. It will share all the information it collects with them as also will take advantage of the data that will be collected by them. It will assist them in coordinating and warehousing the data as also disseminating the data through various platforms and media. With MahaAGRITECH and Mahavedh, it will share the data on rainfall; and construct commodity-specific rainfall indices. From MahaAGRITECH, it will obtain remote sensing data for making acreage and crop health estimates.

240. As explained above, S-CIAMI will work in close collaboration with these organizations. It will depend on them for some of the data or inputs; it will, in return, supply them with the processed or collated information. Table 1 shows the S-CIAMI relationships with these organizations

Table 1: Organizations Associated with S-CIAMI

Sr. No	Name	Input / Support received to S-CIAMI	Output / Deliverable Provided by S-CIAMI
1	Department of Agriculture (including horticulture, livestock, marketing, statistics)	Information on Area, Production, Rainfall, Procurement and Government stocks,	Price Analysis and Forecasts, Supply and Demand Estimates, Export Availability; Advise on Procurement and Distribution; Prices dashboards, Warning signals; Specific studies required by the Department; Assist develop Crisis Management Plans
2	MahaAGRITECH, Mahavedh	Area, Yield, Production, Rainfall Estimates obtained through remote sensing, AI; health of crops;	Price Analysis and Forecasts, Supply and Demand Estimates
3	Maharashtra State Agricultural Marketing Board; APMCs in Maharashtra	Arrivals, Prices, list of traders, buyers, processors, varieties traded; data generated through computerized auctions and eNAM trading	Price Analysis and Forecasts; Dashboards; Suggestions for improvement in quality of data of APMCs; APMC-specific studies for improvements in APMC services
4	Maharashtra State Commission for Agricultural Prices		Price Analysis and Forecasts; Market Analysis; Dashboards; Specific Studies required by the Commission
5	Farmers and FPOs; District Implementation Units (DIUs)	Area and production by individual farmers/groups; prices received by farmers;	Price Analysis and Forecasts; Market Analysis; supply estimates; Dashboards; FPO-specific studies for improvements in FPO services; Training in Risk Management

ii) Data Analysis and reports

S-CIAMI will enrich its analytical capability by developing appropriate tools in the fields of Artificial Intelligence and Big Data analytics in forecasting. It will prepare a dashboard for marketing information and update it daily.

S-CIAMI would analyze its data for providing more accurate, reliable and timely forecasts of price, supply and demand. The analysis will result

- a) Real-time (or near Real-time) estimates of crop area and production, as per reporting calendar specific for the selected crops depending on the respective planting windows, along with comparison of projected production volume in contrast to standard market demand.
- b) In the case of single sowing window crops, reports of prior seeding sentiment of farmers can show up the potential crop area allocation at a state level, can point out any excess/short acreages adversely impacting supply-demand equation at harvest.

This advance information throws up a possibility of reallocation of crop area before sowing is taken up, based on the synthesized reports fed back to the farmers.

- c) In the case of crops with continuous (or multiple) sowing windows, fortnightly reports highlighting any potential imbalances in supply-demand equation will help manage price stability. Vegetables which are planted multiple times over the year could benefit from intelligence system that can advise diversion of planting to other options on a real time basis.
- d) Analysis of build-up of cost and margins along the trade chain starting from the farmer sale point to the retail, for selected commodities (F&V items) which can determine the market efficiency and also to establish the movement in the share of farmer to the retail price on a near real time basis.
- e) Parity price analysis to determine the cost and margins build up in the case of commodities that are processed such as Paddy, Wheat, Soybean, etc. This analysis would throw up any widening disparity in the farmer paid price if it drops in relation to the farm produce based consumer products such as Rice, Wheat flour, Soya oil and so on.
- f) Advance avoidance signals for certain crops that end up with very un-remunerative prices for the farmers when planted in certain periods of the year, specifically in vegetable crops
- g) Study the futures markets and advise the FPOs for taking appropriate action in the commodity markets (like hedging, forward selling and buying, etc.)
- h) Prepare price discovery models for sellers and buyers for forward purchase/sale, contract farming arrangements, etc. to serve the interests of both and avoiding the potential conflicts. This should also serve the interests of ultimate consumers in providing them healthy products at fair and stable prices.

S-CIAMI will bring out various reports and bulletins, technical papers on the commodities selected in consultation with the stakeholders.

iv) Commodities selected for S-CIAMI

S-CIAMI will have a portfolio of 16 commodities. The list is given in Table 2

Table 2

Commodity Group	Sr. No.	Commodity
Cereals (2)	1	Rice
	2	Maize
Pulses (2)	3	Gram
	4	Arhar (Tur)
Oilseeds (1)	5	Soybean
Spices (1)	6	Turmeric
Fibres (1)	7	Raw Cotton
Vegetables (2)	8	Onion
	9	Tomato
Fruits (6)	10	Cashew nut
	11	Mango
	12	Pomegranate
	13	Orange
	14	Grapes
	15	Banana
Livestock (1)	16	Goats

To carry out analysis and other related activities CIMIE intends to undertake

iv) Capacity Building of S-CIAMI staff is necessary since the expertise to collect agricultural marketing data, analyse it by using different methods (econometric, time series, Neural Networks, etc.) and software, and writing reports is rather rare and likely to be absent in the staff appointed in S-CIAMI. This training will be provided by the subject experts drawn from outside. The course content will include basic concepts in Econometrics, Statistics, Mathematical Economics as also the software used (mainly R) in analysis and forecasting. [The detailed content will be finalized after taking into account the knowledge and experience of the S-CIAMI staff]. A course of 20 days will be conducted in the first year. Another course of 20 days will be conducted in the next year dealing with remote sensing and its applications to estimation of acreage, yield and production of crops in India as also the technologies of AI and Data Mining. In the subsequent years, an average of 5 days will be provided for refresher training. All the training will be provided by the outside experts at the rate of Rs. 20,000 per day at the premises of S-CIAMI.

It is also proposed that the staff of S-CIAMI undergoes training by United States Department of Agriculture (USDA). USDA is a well-known agency providing market intelligence both at international and national level and the training given by it either in USA or their experts in India will be very valuable. Two such training events are being planned for the purpose.

It is also proposed to provide hand-holding services to the staff of S-CIAMI by an outside expert who will be appointed as a Consultant to S-CIAMI. His/her services will be part-time and would mainly consist of on-the-job training, sorting out difficulties, guiding the staff in using appropriate tools, preparing training content, suggesting training institutions/persons, suggesting data sources, etc. He/she will be reportable to the Team Coordinator.

Since the subjects dealt with by S-CIAMI are not sufficiently covered in any of the courses of the Indian Universities, a training course in these subjects (as applied to the S-CIAMI activities) will be conducted for the staff.

v) Basic Study for each selected commodity

The detailed analysis of prices, arrivals etc. and their forecasts will require some **basic commodity-wise studies**. The scope of these studies will include:

- a) Number of APMCs/markets in Maharashtra dealing with the commodity
- b) Collection of daily data on arrivals and prices from these APMCs as also from all-India for the last ten years
- c) Analysis of arrivals and prices (for Trend, Seasonality, share in production – all-India, State and District, price volatility, market integration)
- d) Selection of markets for collection of data
- e) Survey of the selected markets in terms of volumes, varieties traded, market practices and market charges, infrastructure available, list of licensed traders, manufacturing/processing facilities in the surrounding areas, commodity flows, quality of data, improvements necessary in the data
- f) Preparation of formats of information to be regularly received from the APMCs and market functionaries

These studies will be outsourced, since there is no sufficient expertise available presently with the Government to conduct such studies. They can even be initiated before the staff for S-CIAMI is recruited.

The cooperation of APMCs and MSAMB will be required in the conduct of studies. Eight such studies are planned for the first year; studies for remaining eight commodities will be conducted in the second year.

vi) Dissemination of Output

This is a crucial part of the S-CIAMI. It proposes to make reports, information capsules as much readable and usable format. The output of S-CIAMI will be disseminated by the Department of Agriculture through its various wings at the divisional, district and farmer level.

The proposed dissemination activities will be

- a) To provide information/intelligence products (Announcements, Bulletins, Newsletters, Dashboards, etc.) to the stakeholders on a regular basis to enable them to take production and marketing decisions on a rational basis
- b) To disseminate data/information-products through SMS, Voice-messages, Chatbots, books, periodicals, newspapers, TV and Radio, Social media, etc.
- c) To hold seminars, web-seminars and workshops for stakeholders on marketing
- d) To conduct specialized studies for policy makers and other stakeholders from time to time
- e) To build archives of data and data products on marketing and prices of agricultural and allied commodities.

Table 3: Schedule of Outputs

Sr. No.	Activity Outputs	Periodicity	Remarks
1	Basic Studies on the behaviour of Commodity Prices during the last ten years (Two reports)	At the end of 4 months for year 1 and year 1	These studies will be outsourced and will be based on prices prevailing in different markets during the last ten years.
2	Online information on Spot and Futures Prices of Commodities in different Markets	Daily	Dissemination through voice and text messages, Apps, dashboards, website
3	Weekly Market Bulletin	Every Tuesday	Analysis of price behaviour during the last week (Monday – Saturday)
4	Weekly Reports on Area and production	Every Tuesday	Analysis based on the reports received from farmers, Remote sensing and Department of Agriculture
5	Monthly Market Bulletin	10 th of each month	Analysis of price, demand, supply, policy during the previous month, prospects for the next month, price forecasts for the next three months and their revisions
6	Annual Commodity Reviews	Annual; at the end of the marketing season for each commodity	Review of prices, supply, demand, exports, imports, policies, national and international events affecting prices, prospects for the future.
7	Price Monitoring and Alert System for sensitive commodities	Daily	The system will be established by way of dashboards, showing price behaviour and alerts. The dashboards will be on Apps and updated daily
8	Special Studies for Policy Makers	On Demand	Studies on procurement, distribution, import and export policies and impact of policies on the market prices, supply and demand.
9	Workshops, Webinars and video conferencing for farmers and FPOs	Two per month starting from the fourth month	These will cover topics like futures markets, forward trading, forecasts and interpreting forecasts, decision making based on price analysis and forecasts, price policies, answering farmer questions, etc.

vii) Staff of S-CIAMI:

S-CIAMI will be directed by Director of Market Intelligence, under the Commissioner of Agriculture, Government of India. S-CIAMI will have a full time Coordinator, 4 teams of a Research Associate and a Research Assistant (one team responsible for four commodities), 1 Communication Specialist, 1 Information Technology Manager and 1 Accountant. The total staff strength will be 12. The Coordinator will be at least a post-graduate in Economics, Business Intelligence or Data Management and 10 years or more experience in managing a department of such nature in private or public sector. His main job will be to guide the staff, coordinate the department's activity with other departments, understand the requirement of the SMART project and provide services in timely and effective manner. The four Research Associates will be minimum post graduate in Economics, Agricultural Marketing, Agricultural Prices, or Statistics with 10 years or more experience in data collection, analysis and report writing. The Research Assistants will have the same qualifications but less experience. They will work as team, collecting and collating information, experimenting with different forecasting models, preparing reports, conducting workshops and holding webinars. The Communication specialist will be post graduate in marketing, communication or media/public relations and will be responsible for understanding the requirements of 'clients' (different Government departments, SMART offices, FPOs), data providers, media and dissemination agencies. He will help preparing the Team easy to understand reports and messages both in English and Marathi. He will also arrange holding workshops, webinars, etc. The IT Manager will have a graduation in Information Technology with at least 5 years' experience in the relevant field. He/she will prepare suitable software for downloading the data from different published sources on the internet, manage subscriptions to data banks, warehouse the data in appropriate structure, make the data available to the team as and when available, prepare simple Apps and dashboards for data dissemination, coordinate with MahaAGRITECH, and arrange procurement and maintenance of the required computer hardware and software. The accountant will maintain accounts and satisfy the financial requirements of the SMART project. He/she will be suitably qualified with at least graduation in Commerce and Accountancy and some experience.

The salary structure of the staff is given below:

Sr No	Post	Number of Persons
1	Project Manager	1
2	Commodity Analysis Expert	8
3	Communication Specialist	1
4	Info. Technology Manager	1

For the first three years, there will be a need to appoint an Advisory Consultant to provide technical and theoretical advice to the Centre. His main task will be to build/assist building various analytical and forecasting models, hand-holding in reaching and understanding the requirements of stakeholders and assist the entire team in planning and executing the work. He is assumed to devote 20 days per year during the first two years and 5 days in the third year onwards. It is assumed that S-CIAMI will be fully functional thereafter. The man-day rate of the Advisory Consultant is taken upto Rs. 20,000 per day.

S-CIAMI will disseminate market information to farmers, FPOs and other stakeholders through Department of Agriculture by way of website, messages, call centres, publications, etc.

1. Cost of S-CIAMI

The total cost of S-CIAMI for seven years is estimated at Rs. 2106 lakhs, this will be supported by Grant from the project.

2. Institutional and implementation arrangements

S-CIAMI will be hosted by the Department of Agriculture, directly reporting, through its Director, Market Intelligence, to the Commissioner- Agriculture, Government of Maharashtra.

Sr. No.	Particulars	Unit	Quantities / Year								Cost (Rs lakhs)		
			1	2	3	4	5	6	7	Total	Unit	Total	
1	Basic Price Studies	No	8	8							16	5.00	80
2	Staff Training international	No	1	1							2	75.00	150
3	Staff Training domestic	No	20	20	5	5	5	5	5		65	0.30	20
4	Computers (including MS Windows 10 & MS Office 16)	No	16								16	1.00	16
5	Furniture	No	20								20	1.00	20
6	Computer Peripherals	l.s	1								1	4.00	4
7	Webinar Peripherals at head office for C1 and C3 tables	No	1								1	20.00	20
8	Consultancy and Advisory Services	l.s	1	1	1	1	1				5	25.00	125
	Sub-total Output 1												435
Recurrent Cost													
1	Project Manager (Overall management, liaison with departments, MahaAGRITECH)	Person/yr	1	1	1	1	1	1	1	1	7	22.00	154
2	Commodity Analysis Expert	Person/yr	8	8	8	8	8	8	8		56	12.00	672
3	Communication Specialist - communication with service providers, agri market specialist	Person/yr	1	1	1	1	1	1	1	1	7	12.00	84
4	Info. Technology Manager- dissemination, IT & software	Person/yr	1	1	1	1	1	1	1	1	7	12.00	84
5	Rent for C1 and C3 activities	l.s	1	1	1	1	1	1	1	1	7	12.00	84
6	Telephone and Internet	l.s	1	1	1	1	1	1	1	1	7	2.00	14
7	Statistical Software, & updates	l.s	1			1					2	20.00	40
8	Data Collection/Subscription, Journals/Periodicals	l.s	1	1	1	1	1	1	1	1	7	15.00	105
9	Travel cost	l.s	1	1	1	1	1	1	1	1	7	15.00	105
10	Webinar Charges	l.s	1	1	1	1	1	1	1	1	7	7.00	49
11	Value Chain Meetings, Workshops and Dissemination /Publicity, IEC	l.s	1	1	1	1	1	1	1	1	7	40.00	280
	Sub-total Sub-Output 2												1,671
	TOTAL												2106

Sub-Component C2:

Strengthening of Warehousing and Warehouse Receipt Financing System

241. This sub-component C2 focuses on mitigating risk by strengthening warehousing system and making available warehouse receipt (WR) finance against or negotiable WR or NWR. As production is seasonal, there is a requirement for large storage capacity across the country. An important and proven way of mitigating price risk is 'Warehousing and Warehouse Receipt Financing'. It holds immense potential for benefitting growers for variety of crops. Storage in modern warehouses following scientific storage practices can bring down the post-harvest losses to 1 per cent or less, adding to farmer's income. The reason for storage before sale is compelling. The difference in price received at the time of harvest and after storage for few months can be as high as 10 to 20 per cent. In addition to possibility of better prices, availability of pledge loan, lending against collateral (stored crop) can offer timely access finance.
242. In spite of such direct benefits, it is estimated that just 7⁴ per cent of farmers store their produce in modern warehouses. The major beneficiaries of warehousing are traders, processors, exporters and by State and Central agencies.
243. In addition, reluctance of FIs have resulted in slow progress of pledge finance. However, with the entry of a number of professional private warehouse operators /Collateral Management Agencies (CMA), the situation is slowly turning around with FIs coming forward to extend pledge finance.
244. Some key reasons for farmers *not* availing the warehouse facilities:
- a) Lack of awareness /handholding support specially for pledge finance
 - b) Lack of public warehouses close to producers' location
 - c) Need for cash to meet immediate expenses
 - d) Uncertainty about prices during off-season
 - e) Lack of market intelligence to help him take 'hold' or 'sell' decision
- 245. Present status of agriculture crop warehousing in the State**
The SWC is the largest warehouse operator in the State with an estimated 1.7 plus lakh MT capacity (2018-19). Of this 80 per cent or so are used for storage of agricultural crops by traders, processors and few large farmers. The facilities are mainly used to store commercial crops like Soybean, Tur and Gram, and essential food grains for public distribution. The average capacity utilization is around 70 per cent. The availed pledge financing was Rs 277 crores during 2017-18.
246. Besides there are also warehouses set up by MSAMB, Buldhana Urban Credit Cooperative Society and many Private companies. A number of warehouses are set up and or operated by Central agencies like CWC and FCI, who are involved in public procurement on behalf of Government and in distribution purposes.
247. A large number of Co-operatives in the State (out of a total of 21000) have small capacity warehouses (250 to 500 MT storages) with an estimated 4 lakh MT storage capacity at Village level. However, many of them are in bad state or unused or used for purposes other than storage of food grains. But there is scope to operationalize a

⁴ As per verbal communication from Maharashtra State Warehousing Corporation (MSWC), Pune.

number of these decentralized warehouse for use by small and marginal farmers with little investment. This is one of the priorities under the Project.

248. The following are the key objectives of the component:
- Benefit marginal and small farmers or Community Based Organizations (CBOs) to ‘Warehousing, Warehouse Receipts Financing’
 - Facilitate access by creating additional modern warehouse capacity at village level by operationalizing Co-operatives warehouses and or by setting up new warehouses.
 - Improve farmers holding capacity by making available pledge loan from FIs
 - Improve realization by farmers through better prices by holding and selling

Fig. 1. Overview of Plan

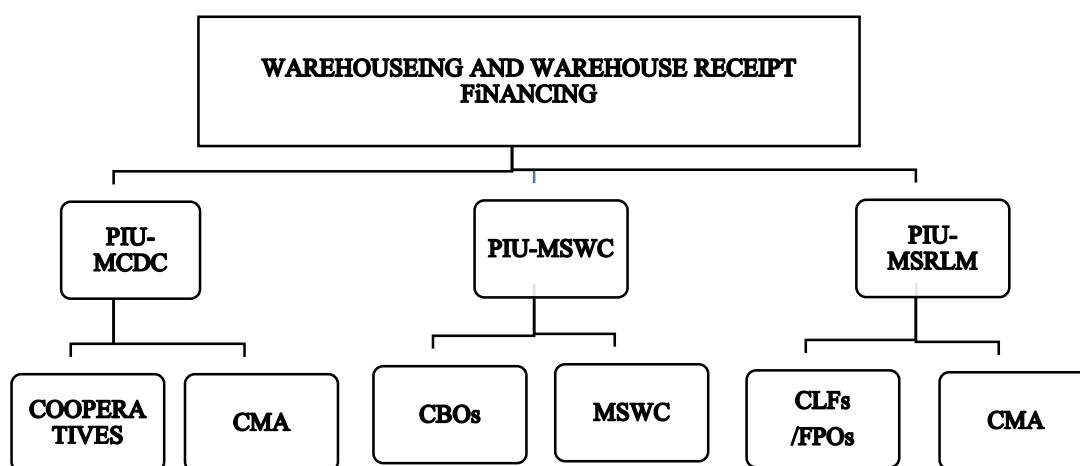


Table. 1. Overall plan of activities under Risk Mitigation Component (Warehousing and access to finance – Component C2)

No	PIU	CBO	Objective	Activity Phasing /Year	WH Service Provider
1	MCDC	PACS	Operationalization of 10 small cap. Warehouses	Phase I (Year 1) 10 PACS Pilot Operation	CMA
			Operationalization of 158 existing small capacity warehouses	Phase II (Year 2-5) 158 PACS Post Pilot Operation Plan based on results of Pilot	CMA
			New Warehouses 1000 MT cap. Each	Year 2 – 5 (Post Pilot Operation); 33	CMA
2	MSRLM	CLFs /FPOs	New Warehouses 250 MT cap. each 1000 MT cap. each	Year 1-3 10 No 10 No	CMA or MSWC*
3	MSWC	FPOs	Technical/ Warehouse Support to CBOs	Year 1-5 PACS, FPOs, CLFs	MSWC*
		Enterprise	New Warehouses 5000 MT cap. each or more	Year 1-3 3 No	MSWC*
		MSWC	Pilot Grain Silos at 2	Fulfill need of CBOs &	MSWC

No	PIU	CBO	Objective	Activity Phasing /Year	WH Service Provider
			locations; 2X5000 MT cap. at each location	Buyer; Year 2 – 5 10000 MT cap. at each at 2 locations).	

*MSWC considered a warehouse service provider/CMA; also extends technical support warehouse construction

249. Sub-Component C2.1

Warehousing and Warehouse Receipt Financing for PACS. (PACS – CMA – MCDC Partnership Plan)

1. Introduction

About 5500 Co-operatives warehouses were constructed in the State over many years. Many of them are used to store items other than grains (whereas they can be used for grain storage with some pre-storage operations), such as fertilizers, and many others have been shut down or under-used. The reason that the warehouses are not used for storage of local farmers crops is said to be lack of knowledge and trained manpower in proper scientific warehousing practices.

2. Key Objectives of the PACS Warehousing Plan:

- a) Operationalize existing closed /under-used warehouses of PACS.
- b) Make available more storage space at village level (near production centres).
- c) Demonstrate the feasibility of operating small sized PACS warehouses
- d) Benefit participating PCAC member farmers.

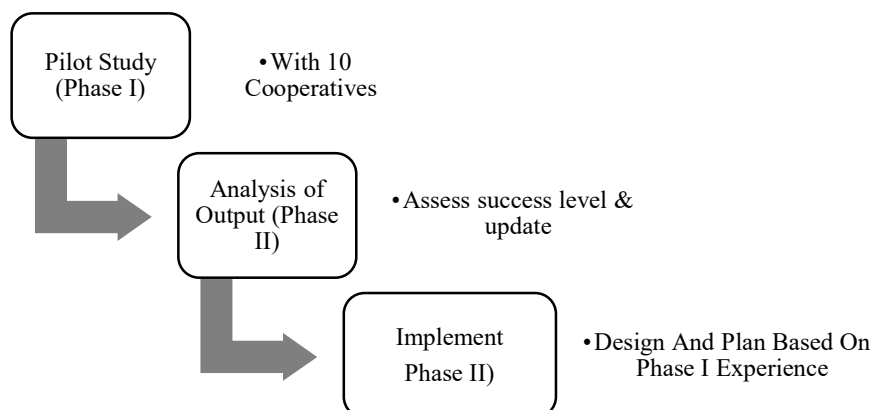
3. Process flow of Warehousing and Warehouse Receipt Financing System for PACS/CMA

This section outlines the process flow for the Warehousing and Warehouse Receipt Financing System for PACS-CMA sub-project.

250. Overview of the Plan

Phase	Period	Details	Remarks
I	Year 0-1	10 PACS	Pilot Study (small sized existing warehouses)
II	Year 2-5	158 PACS	Expansion
III	Year 2-5	33 PACS	Creation of additional WH cap. (33000 MT in all)

**Fig 2. Plan for Operationalization of PACS
Operationalization of existing PACS WHs**



A) Preparation and Approval stage of sub-project

B) For all the terms and its explanations used in this section please refer to Component B

C) The below table describes the procedure for operationalizing underused /idle PACS Warehouses with operational support from CMAs. In the first year MCDC will run a pilot with 10 PACS. (Please see Annexures for list of PACS and CMAs for Pilot Phase of Project). Based on the findings, evaluation of this Pilot project, the implementation will be scaled up further by 158 PACS.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1.	Publish Call for Proposals (CFP) to identify potential partners	PCMU, MCDC	MSWC	Through advertisement, wide publicity in national, state and local newspapers, and by making use of other media.
2.	To carry reach out activities to get response to Call for Proposal (CFP) for CMA/FIs	MCDC	MSWC	By conducting activities at state, regional level, seminars, focus group meetings to get response.
3.	Mobilization of PACS to get response to CFP	MCDC	RTSGs, DIUs	By conduct workshops, focus group meetings etc. at regional and district level to get response from CBOs and PACS. (Please see Annexure 2 -
4.	Match making of potential PACS and CMA	MCDC	RTSGs, DIUs	By facilitating workshops, joint meetings etc. at regional and district level to get response from PACS.
5.	To conduct training of stakeholders on preparation of PCN	MCDC	RTSGs	Stakeholders like PACS will be trained on developing PCN
6.	Preparation of Project Concept Note (PCN)	CMA, PACS	RTSG, DIUs	CMA and PACS develop PCN jointly. Eligibility criteria for PCN is given in the Annexure.
7.	Preparation and Submission of shortlisted the PCN to PIU-MCDC	CMA, PACS	DIU	As per the guidelines published
8.	Help PACS to improve PCN	MCDC	RTSG	MCDC with help of RTSG will modify / improve PCN as per suggestions of PCMU.
9.	Evaluation and approval of PCN	IAP		Based on the criteria as decided by IAP, PCNs will be evaluated and submitted to PCMU for approval

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
10.	Preparation of FPP of approved PCN	MCDC	STSG, RTSG	Based on the approved PCN, the FPP will be prepared by RTSG in prescribed format/ template. The RTSG will also prepare the proposal in a bankable form, and will assist in obtaining an in-principle approval letter from bank/ Financial Institution (FI)
11.	To guide and support in preparation of FPPs	PCMU, MCDC	STSG	MCDC and RTSGs will be provided guidance and support for preparation of FPP in bankable format.
12.	Review and coordinate their efforts in FPP preparation	PCMU, MCDC	STSG	PCMU or MCDC review and coordinate their efforts in FPP preparation.
13.	To support partners to submit FPP to FIs/Banks for appraisal	MCDC	RTSG	All necessary support will be provided to PACS/CBOs to submit FPP to FIs/ Banks for appraisal and get in-principle loan approval, if necessary.
14.	Evaluation of FPP	PCMU	STSG, Internal committee of MCDC, IAP	Technical evaluation of FPPs will be done by internal committee of MCDC, and the financial and overall evaluation will be done by STSG as per pre-decided criteria. As per these criteria, a score will be generated, and grading of the proposals will be done. See Annexure for Eligibility Criteria for FPP. List of activities that will be financed under the project is given in the Annex.
14.	Field Verification of FPP	MCDC	DIUs	MCDC and DIUs will verify the field details by visiting the specific area
15.	To revise the FPP based on comments from PCMU	PIU	RTSG, DIU	FPPs should be modified as per the comments received from PCMU and re-submit for further approval to PCMU
16.	To support PACS to submit loan application to FIs /Banks for approval	MCDC	RTSG	RTSG will submit the FPP to FIs/ Banks to get loan sanction of FIs/ Banks, if necessary.
17.	Approval of FPP and allocating to MCDC	PCMU	STSG	PCMU will review the FPP before submission to State Level Committee (SLC) for approval. Also, the PCMU will do verification as per checklist. SLC will give administrative approval and allocate subproject to one MCDC for implementation.
18.	Signing of the Grant Agreement for approved projects	MCDC	STSG	After approval of FPP, grant agreement will be signed between PIU (MCDC) and project partner (PACS/CBOs and CMA) in prescribed format.
19.	Engaging third party evaluation agency for pilot project of 10 PACS	MCDC	PCMU	As per World Bank procurement procedures
20.	Preparation and Submission of Pilot Project Evaluation Report on PACS and CMA	Third Party Agency	MCDC	Evaluation Study of the Pilot Project will bring out degree of success as well as Learnings to scale upwards

*Activities 19 and 20 will be done only for the first year of implementation.

D) Implementation of sub project

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Preparation of Operational Guidelines in English and Marathi	MCDC/MSWC	PCMU	Operational guidelines for effective implementation of the PP component in the field will be prepared in English and Marathi by PCMU and PIUs. Guidelines will define the roles of involved agencies at various levels.
2	Training on implementation, procurement, safeguards compliances, financial management, MIS, etc	MSWC	STSG, RTSGs, PCMU, MCDC	Training on implementation, procurement, safeguards compliances, financial management, MIS etc will be provided to PIUs, RIUs, and DIUs and other stakeholders.
3	Opening of Current account and ensuring beneficiary contribution	MCDC, CBOs/PACS	RTSGs	CBO will open Current account in the banks to handle the amount received from PCMU as grants as well as contributions from beneficiaries.
4	Release of first tranche	PCMU	MCDC	PCMU will release first tranche on the basis of demand received from CBO/ PACS once the fund flow norms are verified.
5	Technical Trainings for capacity building of CBOs/PACS and beneficiaries	MSWC	RTSG, MCDC	Technical trainings will be organized by technical knowledge partners as per requirement and as mentioned in the specific sub-project.
6	Handholding of PACS and CBOs for commodity transaction as per approved plan	MCDC	DIUs	Once the sub-projects are rolled out, PACS and CBOs and partners will be provided with handholding support by DIUs for seamless implementation and for commodity transaction as per approved plan to develop long term market linkage.
7	Formation of Procurement Committees at PACS and CBO level	CBOs, DIUs,	RTSG	As a part of procurement process, 'Procurement Committees' will be constituted at PACS & CBO level.
8	Preparation of Technical Specifications for equipment/ implements	CBOs, DIUs, MSWC	RTSG	Technical specifications for implements/ equipment to be procured as a part of sub-project activity will be prepared on the basis of requirement. Support of technical institutes like SAUs, ICAR institutes can be taken.
9	Empanelment of Architectural and Engineering consultant	MSWC	RTSG	Architectural and Engineering consultants will be empaneled to design, monitor and support to carry out activities in the sub-projects.
10	Preparation of Design, estimates, Bill of Quantities for Civil Works	DIUs, CBOs and PACS	MSWC, RTSGs	Architectural and Engineering consultants will prepare the design, detailed estimate of proposed work, help to get approved and also supervise the works, prepare bill of quantities for payments.
11	Procurement of Equipment and Civil works	PACS CBOs, DIUs,	RTSG	Various equipment/ implements/ machineries and civil works mentioned in the sub-project will be procured/ undertaken as process laid down in the Procurement Manual.
12	Supervision of works, recording of works and receipt of equipment and field visits to monitor the progress.	MCDC, and DIUs	RTSG	Consultant will supervise the works, provide necessary guidance, progress of work and receipt of equipment etc. will be recorded in measurement books and process for payments under the guidance of consultant, field visits by PIUs and RIUs will be undertaken to monitor the progress and attend the issue if any.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
13	Demand and release of second and third Tranches	PACS & CBOs, DIUs, MCDC & PCMU	RTSG and STSG	PACS & CBOs will demand 2 nd and 3 rd tranches after utilizing the funds released in 1 st and 2 nd tranches respectively with necessary compliances.
14	Submission of Utilization Certificates (UCs)	PACS & CBOs, DIUs, & MCDC	Consultant, RTSG	After spending the funds to carry out the activities, the necessary UCs will be submitted to PCMU through proper channel.
15	Implementation of Project	MCDC, and DIUs	RTSG, MSWC	Sub-project will be implemented by respective PIUs through RIUs and DIUs as per operational guidelines as well as institutional arrangements of implementation, funds flow arrangements at state, region and district level.
16	Subsequent evaluation of sub projects	PACS & CBOs, PCMU, MCDC		Impact assessment of the sub-projects will be undertaken at mid-term and end-term as per the M&E design of the project.
17	Monitoring & Evaluation	PCMU	GIPE, M&E Agency	Project implementation will be monitored at State level as per indicators developed.

Sr. No.	Activities	Indicative Unit Cost (Rs. Lakh)	Physical (No.)	Indicative Grant (Rs. Lakh)	Total Cost of Subprojects (Rs. Lakh)
1)	Renovation of Existing Warehouses (Pilot 10)	20.4	10	122.4	204
2)	Renovation of Existing Warehouses (Next 158)	20.4	158	1933.9	3223.2
3)	Construction of New Warehouses (New 33)	75	33	1485	2475
4)	Study of Pilot Implementation	Lumpsum	1	10	10
Total				3551.3	5912.2

251. Sub Sub Component C2.2

Warehousing and Warehouse Receipt Financing for CLFs/FPOs (CLF/FPO-CMA-MSRLM Partnership)

252. Warehousing and Warehouse Receipt Financing is an important part of the agri value chain. Storage in modern scientifically designed warehouses benefits the CLF /FPO and its women member farmers through reduced post-harvest losses and avoid distress sale at harvest time. Participation in warehousing and value addition activities by women farmers is even less common than men farmers. Though active at production stage, women farmers lack opportunity to participate in subsequent or higher levels of value chain. Ownership of land is one of the limiting factors that is a barrier for benefitting from women farmers currently in India.
253. Maharashtra State Rural Livelihoods Mission (MSRLM) society registered under Rural Development Department, Government of Maharashtra, and has mobilized more than 4 million households into self-help groups (SHGs) and federated them into institutions like Village Organizations (VOs) at village level and Cluster Level Federations (CLFs) at cluster level engaged in agricultural and agro-based production

activities. CLFs are working exclusively with women farmers across the State in diverse livelihood opportunities, including agriculture, livestock and poultry.

254. MAVIM is the state women's development corporation of the Government of Maharashtra. It organizes women through 97301 SHGs or Self Help Groups (including SHGs set up under Tejaswini, CAIM, MSRLM and Minority) across all 34 Districts and in 11326 villages. SHGs in turn are grouped into VLCs (8851) and VLCs into CMRCs (310). MAVIM has also operationalized as many as 3036 Micro Livelihood Plans (MLPs) with a total membership of 74658. Thus activities of MAVIM impacts a large number of women in the State and deserves all the support.
255. Many of the SHGs and CMRCs are engaged in a variety of agro-based food processing activities that is based on food grains, pulses and other agricultural produce. A number of the SHGs and CMRCs benefit from bulk purchase of raw materials that results in savings in terms of procurement, transportation and price advantage due to scale of operation. For this they need storage space or modern warehouses that reduces storage losses and in turn helps them improve their realization. The warehouses can also be used to store or distribution center for their finished products. Keeping this in mind, MAVIM which does not own any warehouse currently, plans to set up at key locations across the State. A detailed plan would be developed and shared for financial support under SMART Project.
256. Presently, very few CLFs/CMRCs are renting space in public warehouses in their vicinity to store their member farmer's crops. MSRLM aims to give better opportunities to women farmers under SMART Project in order for them to move up in the value chain. Making warehousing accessible to women through CLFs/CMRCs can be a pathway to women inclusion in higher value chains. Some of the constraints faced by CLF/CMRC member farmers:
 - a) Lack of access to warehousing facilities: For most CLFs/CMRCs access to modern warehouse storages is not easy, especially since CLF/CMRC member farmers have small marketable surpluses /volumes to store and find it costly to transport to distant public warehouse. Warehouses demand documentation such as land record for availing rental discount in MSWC warehouses.
 - b) Marketing of produce: Small crop volumes do not interest most traders with a result the women farmers end up selling to aggregators at low prices. This cuts into their possible profit or income.
 - c) Market Intelligence: Lack of real-time market intelligence often results in not knowing the real value of the crop and they end up selling at low or less than fair prices.

Objectives

- a) To improve access to storage in modern, scientific warehouses by CLFs/CMRCs and their member women farmers.
- b) To improve their access to credit through warehouse receipt financing
- c) To create women-friendly warehouse management system, which eases understanding of market parameters and facilitates their participation
- d) To add value to crops through creation of cleaning and grading facility/ies at or near warehouses.

257. Process Flow

This section outlines the process flow for the Warehousing and Warehouse Receipt Financing for CLFs/FPOs/CMRCs sub-project.

A) Preparation and Approval stage of sub-project

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Publish Call for Proposals (CFP) to identify potential partners	MSRLM, MAVIM	STSG & RTSGs	Through advertisement, wide publicity in, state and local newspapers, and by making use of other media.
2	To carry reach out activities to get response to Call for Proposal (CFP)	MSRLM, MAVIM	STSG	By conducting activities seminars, focus group meetings to get response from CMAs
3	Mobilization of CLFs/CMRCs to get response to CFP	MSRLM, MAVIM	RTSGs	By conduct workshops, focus group meetings etc at regional and district level to get response from CLFs/ CMRCs
4	Match making of potential CLFs/ CMRCs and CMAs	MSRLM, MAVIM, DIUs	RTSGs	MSRLM with the help of Technical Support Group (TSGs) & RIUs will do the match making of potential CLFs/ CMRCs. This will be continuous activity for first three years.
5	To conduct training of stakeholders on preparation of PCN	PCMU	STSG	Stakeholders like MSRLM/ MAVIM, RIUs, DIUs and RTSGs will be trained on developing the PCN.
6	Preparation of Project Concept Note (PCN)	Jointly by CMA & CLFs/ CMRCs	RTSGs	CMA & CLFs/ CMRCs jointly will prepare PCN. RTSGs will support for preparation of PCN.
7	To guide and coordinate efforts in PCN preparation	PCMU, MSRLM, MAVIM	STSG, RTSGs	PCMU will guide MSRLM/ MAVIM & RTSG for preparation of PCNs with the help of State Technical Support Group.
8	Validation and submission of PCN	MSRLM, MAVIM		MSRLM/ MAVIM with the help of Respective DIUs and RTSGs will validate PCN and submit to PCMU.
9	Help CLFs/ CMRCs to improve PCN	MSRLM, MAVIM, RIUs, DIUs	RTSGs	Respective MSRLM/ MAVIM with help of RTSG will modify / improve PCN as per suggestions of PCMU.
10	Empanelment of Independent Assessment Panel (IAP)	PCMU	STSG	The project will publish one or more Expression of Interest to establish a register of experts that can be drawn upon for the sub-project/proposal evaluation. Experts will be selected based on their merit in the different activities that the project is focusing on. The roster of experts will be updated whenever there is a need.
11	Evaluation and approval of PCN (Approval, Rejection, Modification)	PCMU	STSG, IAP,	Based on the marks obtained in the score sheet for the PCN, each concept note will be graded and those that clear the threshold will be approved by PCN approval committee. Rejected PCNs will be returned to partners along with the comments. If they wish, they can submit the revised PCN in subsequent rounds after necessary improvements.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
12	To conduct State level Trainings on preparation of Full Project Proposals (FPP)	PCMU	STSG	PCMU/STSG will conduct trainings of MSRLM/MAVIM/RIUs, RTSGs, and other stakeholders on preparation of FPP process, content and requirements.
13	Preparation of FPP of approved PCN	MSRLM, MAVIM, RIUs, DIUs	RTSGs	Based on the approved PCN, the FPP will be prepared by RTSG in prescribed format/ template. The RTSG will also prepare the proposal in a bankable form, and will assist in obtaining an in-principle approval letter from bank/ Financial Institution (FI)
14	To guide and support in preparation of FPPs	PCMU	STSG	MSRLM/MAVIM, RIUs, DIUs and RTSGs will be provided guidance and support for preparation of FPP in bankable format. Review and coordinate their efforts in FPP preparation.
15	To support partners to submit FPP to FIs/Banks for appraisal	MSRLM, MAVIM	RTSG	All necessary support will be provided to CLFs/ CMRCs to submit FPP to FIs/ Banks for appraisal and get in-principle loan approval, if necessary.
16	Evaluation/ Validation of FPP	PCMU	STSG, IAP	Technical evaluation of FPPs will be done by IAP, and the financial and overall evaluation will be done by STSG as per pre-decided criteria. As per these criteria, a score will be generated and grading of the proposals will be done.
17	Field Verification of FPP	MSRLM, MAVIM, DIU	RTSG	Field verification is undertaken for the FPPs, to verify the technical, economic, environmental, and social aspects proposed in the sub-projects.
18	To revise the FPP based on comments from PCMU	MSRLM, MAVIM	RTSG	FPPs should be modified as per the comments received from PCMU and re-submit for further approval to PCMU
19	To support CLFs/CMRCs to submit loan application to FIs /Banks for approval	MSRLM, MAVIM	RTSG	RTSG will submit the FPP to FIs/ Banks to get loan sanction of FIs/ Banks, if necessary.
20	To submit FPP along with draft Grant Agreements to PCMU	MSRLM, MAVIM	RTSG	PIU/RTSG will submit FPP along with draft Grant Agreements to PCMU.
21	Approval of FPP	MSRLM, MAVIM	STSG	PCMU will review the FPP for approval. Also the PCMU will do verification as per checklist.
22	Signing of the Grant Agreement for approved projects	MSRLM, MAVIM		After approval of FPP, grant agreement will be signed between MSRLM/ MAVIM and project partner in prescribed format.

B) Implementation of sub project

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Preparation of Operational Guidelines in English and Marathi	PCMU, MSRLM/ MAVIM		Operational guidelines for effective implementation of the PP component in the field will be prepared in English and Marathi by PCMU and MSRLM/ MAVIM. Guidelines will define the roles of involved agencies at various levels.
2	Training on implementation, procurement, safeguards compliances, financial management, MIS, etc	PCMU, MSRLM/ MAVIM	STSG, RTSGs	Training on implementation, procurement, safeguards compliances, financial management, MIS etc. will be provided to MSRLM/ MAVIM, RIUs, and DIUs and other stakeholders.
3	Opening of bank account and ensuring beneficiary contribution	MSRLM/ MAVIM DIUs, CLFs/ CMRCs	RTSGs	CLF/CMRCs will open bank account in the banks to handle the amount received from PCMU as grants as well as contributions from beneficiaries.
4	Release of first tranche	PCMU		PCMU will release first tranche on the basis of demand received from CLF CMRC once the fund flow norms are verified.
5	Technical Trainings for capacity building of CLFs and beneficiaries	MSWC/	MSRLM	Technical trainings will be organized by technical knowledge partners as per requirement and as mentioned in the specific sub-project.
6	Handholding of CLFs for commodity transaction as per approved plan	MSRLM/ MAVIM DIUs	RTSG	Once the sub-projects are rolled out, CLFs/ CMRCs and partners will be provided with handholding support by RTSG for seamless implementation and for commodity transaction as per approved plan to develop long term market linkage.
7	Formation of Procurement Committees at CLF level	CLFs, DIUs,	RTSG	As a part of procurement process, 'Procurement Committees' will be constituted at CLF/CMRCs level.
8	Preparation of Technical Specifications for equipment/ implements	CLFs, DIUs,	MSWC RTSG	Technical specifications for implements/ equipment to be procured as a part of sub-project activity will be prepared on the basis of requirement. Support from MSWC/ MAVIM be taken.
9	Empanelment of Architectural and Engineering consultant	MSRLM/ MAVIM	RTSG	Architectural and Engineering consultants will be empaneled to design, monitor and support to carry out activities in the sub-projects.
10	Preparation of Design, estimates, Bill of Quantities for Civil Works	MSWC/ MAVIM CLFs	RTSGs	Architectural and Engineering consultants will prepare the design, detailed estimate of proposed work, help to get approved and also supervise the works, prepare bill of quantities for payments.
11	Procurement of Equipment and Civil works	CLFs, DIUs,	RTSG	Various equipment/ implements/ machineries and civil works mentioned in the sub-project will be procured/ undertaken as process laid down in the Procurement Manual.
12	Supervision of works, recording of works and receipt of equipment and field visits to monitor the progress.	MSRLM/ MAVIM DIUs	MSWC RTSG	Consultant will supervise the works, provide necessary guidance, progress of work and receipt of equipment etc. will be recorded in measurement books and process for payments under the guidance of consultant, field visits by MSRLM/ MAVIM and RIUs will be undertaken to monitor the progress and attend the issue if any.
13	Demand and release of second and third Tranches	CLFs, DIUs, MSRLM/	RTSG and STSG	CLFs/ CMRCs will demand 2 nd and 3 rd tranches after utilizing the funds released in 1 st and 2 nd tranches respectively with necessary compliances.

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
		MAVIM& PCMU		
14	Submission of Utilization Certificates (UCs)	CLFs, DIUs, RIUs & MSRLM/ MAVIM	MSWC, RTSG	After spending the funds to carry out the activities, the necessary UCs will be submitted to PCMU through proper channel.
15	Implementation of Project	MSRLM/ MAVIM,	RTSG,	Sub-project will be implemented by respective MSRLM/ MAVIM through RIUs and DIUs as per operational guidelines as well as institutional arrangements of implementation, funds flow arrangements at state, region and district level.
16	Subsequent evaluation of sub projects	CLFs, PCMU, MSRLM/ MAVIM		Impact assessment of the sub-projects will be undertaken at mid-term and end-term as per the M&E design of the project.
17	Monitoring & Evaluation	PCMU	GIPE, M&E Agency	Project implementation will be monitored at State level as per indicators developed.

4. Cost tables

Sr. No.	MSRLM	Total Units	Total costs Rs in Lakhs	Grants as per cent of Total	Grant in Rs lakhs
1	Setting up of New Warehouse (1000 MT capacity each)	5	350	60 %	210
2	Setting up of New Warehouse 250 MT capacity each)	50	875	60 %	525
3	Establishment of Cleaning & Grading shed (2 TPH capacity)	5	105	60 %	63
4	Other Cost (Incl. IT Support Spiral Separator	55	275	60 %	165
6	Recurring - Salary – CMA	55	297	100 %	297
	TOTAL		1902		1260

258. Annexure 1

1) **Selection of the CBOs (CLFs/FPOs)** - Selection of the CBOs (CLFs/FPOs) for support under the sub-component will be based on following criteria:

- Membership base of the CBOs: For FPOs Minimum membership shall be 500 and for CLFs Minimum Membership shall be 1000
- Availability of Surplus production in targeted commodity for Storage
- Availability of own land or land on lease for construction of warehouse
- Turnover of the CBOs as per books of account

Based on above criteria CBOs will be evaluated and selected for support under the Project

2) **Selection of the CMA Partner** - Selection of CMA partner will be through call for proposal. The selected CBO/s would identify interested CMA, negotiate and finalize an agreement. In the process, the MSRLM may offer support. Negotiation for the Warehouse Management Charges charged by CMA agency will be done by identified CBOs directly with the CMA Partner.

3) CLFs /FPOs would engage the services of MSWC or other competent authority for technical support in designing of the warehouses, and possibly in monitoring the construction of the same.

259. Sub Component C2.3: Warehousing and Warehouse Receipt Financing for CBOs (CBOs - CM - MSWC Partnership Plan)

MSWC is a major warehouse operator across the State, with over 17 lakh MT storage capacity. They own and operate modern, scientifically designed 900 or so warehouse facilities from 190 locations that include district headquarters, major urban centers and market places and in few major production areas. They are used regularly by a large number of traders, processors and Government agencies like FCI, NAFED & some large farmers.

CBOs and small farmers use their storage facilities on small scale as only limited storage space is available at or near villages and for reasons attributed earlier. To encourage farmers, MSWC offers 50 percent discount in monthly rental, however farmers’ share is a mere 7 percent of the total availed capacity. Under the SMART Project MSWC proposes to partner with CBOs, CBO or CBO – led Small Enterprises and set up Silos at two locations on pilot basis for facilitating supply by CBOs to large processors.

MSWC plans to make all their warehouses available, especially the 240+ warehouses located at 112 locations that were renovated with support under the recently concluded WB-assisted Maharashtra Agriculture Competitiveness Project (MACP).

260. Key Objectives

The objectives of MSWC partnership with CBOs are.

- a) To bring small farmers to use modern, scientific warehousing to minimize postharvest losses and avoid distress sale.
- b) Make available Negotiable Warehouse Receipts (NWRs) and linking them with Banks for finance against collateral.
- c) Link warehouses to e-marketing platforms within and outside the State to facilitate ease of access to markets.
- d) Impart training, education and capacity building over a three-year period, so that the staff of CBO can themselves operate warehouses, and become eligible to receive WDRA accreditation (which enables them to issue eNWRs) by meeting required standards

261. Intervention Plan/ Implementation Plan/ Process flow

MSWC will primarily carry out the following four types of interventions Table1: MSWC – CBO Partnerships

Intervention	Details	Key MSWC Support Services
1A	WH owned by PACS	Civil Technical Support for renovation and Capacity Building
1B	WH owned by MSWC FPO stores its crop	Civil Technical Support for renovation and Capacity Building
1C	CLF sets up WHs	Civil Technical Support – Warehouse Design & implementation support (if requested)
2	Silo set up by MSWC for farmers to stores crops	Set up Silo on Pilot basis Partner with CBO and Buyer

Intervention	Details	Key MSWC Support Services
3	WH set up by MSWC for renting out to small enterprises	Set up WH in rural area Rent out space to small enterprises
4	Value chain Risk Management school	Nodal institute, creation and designing syllabus, audio visual material, technical support, coordination

C) Process flow of the implementation

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Civil Technical Support for renovation and Capacity Building to the selected CBOs, PACS, FPOs in SMART project	MSWC	STSG & RTSGs, DIU	With its own resources MSWC will support the CBOs with technical assistance at charge and engage in Capacity building activities for CBOs
2	Guidance for obtaining warehouse accreditation from WRDA for the identified project CBOs	MSWC	DIU	MSWC will give hand holding and document support in getting accreditation of WRDA
3	Commissioning detailed feasibility study for setting up Silo Storage Pilot Program	MSWC		As per Project Procurement Strategy document
4	Documentation such as DPR and other relevant	MSWC		State level approval committee
5	Mobilization of CBO, FPOs for Clio usages, and	DOA, DIUs	MSWC	DoA will encourage CBOs to participate in the state of art Silo facility created by MSWC
6	New construction of warehouses for small Agri enterprises, Bos selected by SMART project	MSWC	PCMU	MSWC will construct new warehouses as per demand of CBOs, Agri enterprises selected by SMART with proviso for minimum volumes
7	Development and Implementation of Integrated portal for availing bank finance	MSWC		As per Project Procurement Strategy document
8	Conducting feasibility study for logistical hub on Samrudhi Mahamarg Component after possession of Land	MSWC		As per Project Procurement Strategy document

B) Implementation of sub project

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Preparation of Operational Guidelines in English and Marathi	MSWC	PCMU	Operational guidelines for effective implementation of this component in the field will be prepared in English and Marathi by PCMU and MSWC. Guidelines will define the roles of involved agencies at various levels.
2	Training on implementation, procurement, safeguards compliances, financial management, MIS, etc	PCMU, MSWC,	PIU, RIU, DIU	Training on implementation, procurement, safeguards compliances, financial management, MIS etc. will be provided to MSWC, RIUs, and DIUs and other stakeholders.
3	Opening of bank account and ensuring beneficiary contribution	MSWC,	CBO, DIU	

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
4	Release of first tranche	PCMU		PCMU will release first tranche on the basis of demand received from MSWC
5	Technical Trainings for capacity building of selected CBOs and beneficiaries	MSWC,	DIUs	Technical trainings will be organized by technical knowledge partners as per requirement and as mentioned in the specific sub-project.
6	Handholding of CBOs for obtaining certification of warehouses	MSWC, RIUs, DIUs	RTSG	Once the sub-projects are rolled out, CBOs and partners will be provided with handholding support by MSWC & RTSG for seamless implementation and for warehouse management
10	Preparation of Design, estimates, Bill of Quantities for Civil Works for Silo	MSWC	DIU,	Architectural and Engineering consultants will prepare the design, detailed estimate of proposed work, help to get approved and also supervise the works, prepare bill of quantities for payments.
14	Submission of Utilization Certificates (UCs)	MSWC		After spending the funds to carry out the activities, the necessary UCs will be submitted to PCMU through proper channel.
15	Implementation of Project	MSWC,		
16	Subsequent evaluation of sub projects	PCMU		Impact assessment of the sub-projects will be undertaken at mid-term and end-term as per the M&E design of the project.
17	Monitoring & Evaluation	PCMU	GIPE, M&E Agency	Project implementation will be monitored at State level as per indicators developed.

262. MSWC Value Chain Development School for Risk management

Skilled manpower to handle scientific warehouse system is crucial requirement for an efficient scientific warehouse management. To create this important skill set, MSWC intends to host the value chain development school on risk mitigation.

With its vast experience and technical capacities, MSWC would like to launch course for warehouseman. It is expected that PACS, CBOs, CLFs participating in the SMART project will be using this opportunity to strengthen their manpower.

In addition to the training course, training and exposure visits for Board of directors of CBOs participation in component C2 is planned. This will be implemented by ATMA, DOA, with technical support such as information, activities designing done by MSWC.

Stakeholders meets involving FI s are arranged to boost the warehousing and finance, pledge finance linkages.

Process flow for Implementation for the value chain school on risk mitigation

Step No	Process Flow Steps	Responsibility		How
		Primary	Support	
1	Stakeholder workshop	MSWC	MCDC, MSRLM, PCMU	MSWC will engage in bringing together FIs, Banks and make aware them about the WR scenario
2	Conducting the Warehouseman course	MSWC	MCDC, MSRLM	MSWC will design suitable course that will build capacity for PACS/CBOs/CLFs to manage warehouses scientifically MCDC and MSRLM will identify suitable candidates for the course
3	Exposure visits of Board of directors of CBOs	DoA, ATMA	MSWC	MSWC with its knowledge of successful cases will indicate places of visits ATMA will coordinate the same
4	IEC and dissemination activities for farmers	MSWC	DoA, MCDC, MSRLM	MSWC will create suitable audio-visual content for farmer awareness for WR. DoA, MCDC, MSRLM will help in disseminating the same with their workshops, portals etc

All procurable items/activities in this component including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured by adhering to the World Bank Procurement Regulations and project procurement guidelines.

4 Cost Tables:

No.	MSWC	Rs In Lakhs
1	Silo Project Feasibility Study	10.0
2	Construction of Centralized Silos Storage	2000.0
3	Decentralized warehousing for small enterprises	1,200.0
4	Samruddhi Mahamarg Hub Feasibility Study	20.0
5	WDRA Registration Fees for CBOs	40.0
6	IT Support for MSWC	500.0
7	Value Chain Development School for Warehousing	214.0
	Total	3984.00

Sub-Component C3: Price Risk Management Support

263. The project has designed various interventions to mitigate price risks to farmers. They include strengthening of the warehousing system by involving CBOs and linking collateral finance through CMAs to the same under sub-subcomponents C2.1, C2.2, and C2.3. With these interventions, the project expects to enhance farmer participation in the organized financial sector.
264. An efficient warehousing system facilitates financial integration of its participants. It also offers more advanced risk mitigation tools such as trading in commodity futures, especially for globally integrated-commodities. Currently in the Indian future markets, there is hardly any presence of the FPOs or farmers. In addition to the price risk to farmers and CBOs, they also face payment default risks, quality dispute issues resulting in the less payment. The existing financial tools or mechanisms do not address these issues. The cost of warehouse security, can be substantial and getting 'good' security persons also could be an issue in remote and scattered warehouse locations or villages can be a problem. This has potential to hinder the possibilities of storage and trade and increase instances of fraud and theft. This is proposed to be addressed by having IoT devices like CC TVs, burglar alarm etc, which may also reduce the cost of security over the long run and in turn improve incomes.
265. The state government as a major actor in the agricultural trade system with macro goal of price stabilization, implements MSP program, manages Public distribution System. To carry out these functions smoothly it needs accurate and dynamic market data, analysis and appropriate tools such as early warning signals. With this background, this component would like to conduct following pilot interventions in increasing their involvement in the futures markets. These interventions are not covered in C1 or C2 sub-components.

Step No	Proposed Interventions	Responsibility		How/ brief description
		Primary	Support	
1	Setting up of Risk Mitigation cell/ Hedging desk	DoA	SMART S-CIAMI	Will prepare the Commodity wise Crisis management plans, based on supply demand forecasts, will give advisory to farmers as well to the state, for use of public procurement systems
2	Quality Price Dispute Resolution pilot	MCDC	MSAMB / DoM	MCDC appoints quality agencies/inspectors at key markets within and outside state who will visit the buyer, verify the facts and resolve the issues
4	Buyer Credit Risk Rating Mechanism	DOM		Carry out a survey and evaluate key buyers of perishable produce for credit risk. As per the World Bank procurement guidelines
6	Pilot Electronic Surveillance System	MCDC		As per the World Bank procurement guidelines
7	Study on Scope and constraints in promoting exchange traded instruments	PCMU	RMU	Study will be conducted by an agency that will be appointed as per the procurement guidelines of

Step No	Proposed Interventions	Responsibility		How/ brief description
		Primary	Support	
				the project
8	Pilot on CBOs and State agencies for participation in future market	DOA	PCMU	Technical support and handholding will be given to the CBOs and State agency/ies for their participation

266. Risk Mitigation Cell (RMC)

The Risk Mitigation Cell (RMC) is proposed to be set up as part of the overall risk management plan, hosted with MahaAGRITECH, Department of Agriculture. Its main purpose is to offer market-based risk management tool/s to CBOs /farmers and the State authorities, from time to time.

RMC will be responsible for preparation of crisis management plans (CMPs) for major commodities in the State. The CMPs will be ex-ante (price forecasts and advisories to farmers on when to store and when to sell) and ex-post (selling on futures platform, hedging for price risk management) and offering early warning advisories based on production and market demand forecasts, by SMART S-CIAMI and Hedge Desk, respectively, as relevant. The required market and price intelligence will be provided by SMART S-CIAMI.

RMC will operate Hedging Desk and also provide training to the staff of Line Departments and other stakeholders on Risk Mitigating Measures.

267. Hedging Desk

The Hedging Desk will consist of a small team of professionals with exposure to commodity exchanges, trade in futures and options. Their primary responsibility would be to study the futures markets, national and international, as applicable, continuously track of price discovery, price volatility and carry out fundamental analysis. It is also responsible for providing technical and handholding support in managing price risk using exchange traded instruments. This can form an alternative basis for farmers in taking informed decision while allocating acreage for crops grown in the state that are both integrated nationally and internationally. The latter includes, cotton, soybean, maize and few others. The actual scope and extent of activities would be firmed up once the proposed detailed study comes up with long-term price risk mitigation strategy (to be carried out by a professional agency, that is yet unidentified).

268. Training and Capacity building of staff

269. Training and Capacity building:

270. The activity envisages building of capacity of staff of various participating Line Departments, CBOs and its members through carrying out a variety of activities like workshops, webinars and discussion groups. The primary aim is to create awareness about the various risks faced by the stakeholders, ex-ante and ex-post, and the availability of a bouquet of risk mitigation solutions. The extension activities also

enhance stakeholders understanding of the various tools and make right interpretation of advisories (their benefits and limitations) issued from time to time by the RMC.

Special women-CBO-focused capacity building programs would be developed and delivered so as to bring them up to date with exchange traded risk mitigation measures and meet the inclusiveness requirement under the project.

The extension activities also enhances stakeholders understanding of the various tools and make right interpretation of advisories (appreciation of their benefits and limitations) issued by SMART S-CIAMI and RMC. A field level Agriculture Marketing Official is proposed at 25 District locations to help with implementation.

Special women CBO focused capacity building programs would be developed and delivered to bring up to date the women CBOs, so that they can be meet the inclusiveness requirement under the project.

Pilot risk mitigation program would be carried out and case studies prepared and made available in local language for the benefit of all stakeholders.

271. Composition of RMC

Position	Role and qualification	Nos
Advisor	To guide and lead the team initially to create framework and template for the working of the same, will give handholding to the staff He will be preferably PhD, acknowledged expert in agri commodity trade, experience with government agencies	1
Project Manager of Hedging Desk	A person with post graduation in commerce, economics, agriculture or such other relevant field, with 5 – 10 years of hands on experience in derivatives trade at one of the leading commodity exchange or consultancy /advisory firm or similar activity. Specific expertise in derivatives trade in agri-commodity is an advantage.	1
Senior Commodity Expert	A person with a degree / in commerce, economics, agriculture or such other relevant field, with 3 – 6 year experience in derivatives trade. Specific expertise in derivatives trade in agri-commodity is an advantage.	1
Junior Commodity Expert	A person with a degree / in commerce, economics, agriculture or such other relevant field, with 1 – 3 years experience in derivatives trade. Specific expertise in derivatives trade in agri-commodity is an advantage.	1
Accounts cum Administrative Assistant	Degree with 2 to - years relevant experience, good writing skillsets. Fluency in reading, writing and communication in English and Marathi. Responsible for all administrative, communication and coordination activities	1

Agri Marketing Officers (at District level – 25 in number in all):

The key responsibilities would include: a) supporting promotion of the concept of price risk mitigation using exchange traded instruments at the CBO level /field level including facilitation of holding of webinar/s for CBOs (wherever it is possible – because of issues of availability of electricity, internet connectivity and manpower at field level) and at DIU level (where all interested CBO office bearers or members are invited); b) Man phone to answer any clarifications related to price risk mitigation measures and market intelligence

for CBOs and farmers and if they are not able to answer because of technical complexity then forward the query to RMC /S-CIAMI as the case may be at MahaAGRITeCH and pass on the answers down below.

Overseeing the dissemination of knowledge and price data to all CBOs and their members in the District, would be a routine activity. Also take part in trainings as resource persons whenever possible. Also follow up with CBOs and see to it that farmer level data is collected and disseminated as accurately and completely as possible; and help with e-marketing, wherever possible and complement other intervention/s.

272. Cost Table:

S. No	Proposed Intervention	Amount (Rs in Lakhs)
A	INVESTMENT	
1	Pilot on Buyer Credit Risk Rating Mechanism	50.0
2	Electronic surveillance (IoT)	100.0
3	Quality Price Dispute Resolution Mechanism Pilot	50.0
4	Pilot on CBO & State Agency participation in Commodity Futures Market	400.0
5	Study of constraints and development of strategy for promoting exchange traded instruments for price risk mitigation by CBOS	50.0
6	Setting up of Risk mitigation Cell / Hedging Desk including Hardware & Software for HQ and field Staff	150.0
7	Training, Capacity Building, Exposure Visit of Staff and Stakeholders	60.0
8	Consultancy and Advisory service	130.0
	Subtotal	990.0
B	Recurring Charges	
1	Project Manager- Hedging Desk	154.0
2	Sr. Commodity Expert	84.0
3	Jr. Commodity Expert	56.0
4	Accountant cum Assistant	29.0
5	District Agri. Marketing Officers	750.0
6	Travel cost	35.0
7	Printing and Stationery	7.0
8	Webinar Charges	28.0
9	Dissemination/Publicity	35.0
	Sub-Total	1178.0
	TOTAL	2,168.0

COMPONENT D: PROJECT MANAGEMENT, MONITORING AND LEARNING

D.1 Project Implementation Framework

273. The project implementation framework is designed to promote Productive Partnerships between buyers and CBOs and support capacity building of CBOs in convergence with government departments. To improve the efficiency of the project staff, the project envisages to implement an IT driven MIS system. Project partners would be encouraged to use GIS based decision making tools to identify crops and CBO Clusters, infrastructure available and support from cafeteria of existing government interventions.
274. The SMART Project involves participation of seven line departments, viz. Agriculture, Agriculture Marketing, Cooperation, Animal Husbandry, Rural Development, Women and Child Development and Urban Development. At the State level, these departments are headed by respective Secretaries / Principal Secretaries / Addl. Chief Secretaries, viz. (i) Agriculture, (ii) Agricultural Marketing, (iii) Cooperation, (iv) AHD, (v) Rural Development, (vi) Woman & Child Development and (vii) Urban Development. The Department of Agriculture, headed by Secretary (Agriculture) is the Nodal Department for the Project. Each of these departments is required to implement and manage various activities proposed under various components under this project.
275. For overall monitoring and coordination of the SMART Project, an empowered Project Steering Committee (PSC) has been constituted under the chairmanship of the Chief Secretary, Maharashtra State. The Project Steering Committee (PSC) at the State level is chaired by the Chief Secretary of Maharashtra. Secretaries of Planning, Finance, CM Office, Animal Husbandry, Marketing, Cooperation, Rural Development, Women and Child Development and Water Conservation are members of the PSC along with Commissioner Agriculture / Project Director, SMART, PD-PoCRA, CEO-MSRLM, MD-MAVIM, Director Marketing, and CEO-VSTF. Experts and other officers may be invited with the permission of the Chair. The Project Director, SMART is the Member Secretary. The role of this committee is to monitor and coordinate the implementation of the project and also to take policy decisions within the framework of the decisions of Cabinet of Ministers. The Cabinet of the State has authorized the Steering Committee to approve minor changes in the design, budget, and administrative issues involved in implementation of this project.
276. The Cabinet of Ministers (Government of Maharashtra) in its meeting dated 09 September 2019 accorded approval to the project and also to register a Society for implementation of the project. 'State of Maharashtra's Agribusiness and Rural Transformation' SMART Society is registered for implementation of the SMART project. Governing Council of the SMART Society is headed by the Secretary Agriculture and Commissioner Agriculture is the Managing Director and Member Secretary of the Society.
277. A Project Coordination and Management Unit (PCMU) of SMART headed by the Project Director (ex-officio Commissioner Agriculture) is established as a Secretariat of the Society and for implementation of SMART Project.

278. A Project Support Unit (PSU) is established in the office of Secretary Agriculture for coordination and liaison with line departments on policy related issues with Under Secretary Agriculture as a Coordinating Officer on deputation from the government. One Assistant on deputation and One Data Entry Operator hired from the market on contract are placed as support staff in PSU.
279. Project Implementation Units (PIUs) headed by the heads of respective departments of all the participating departments have been established. A Technical Support Unit (TSU) at Regional level, headed by the Regional Joint Director of Agriculture and District Implementation Units at District level, headed by the District Superintending Agricultural Officer as Project Director ATMA are established for implementation.
280. The components / interventions of the project are implemented by the concerned line departments at various levels. Some of the components related to the CBOs function at the village level. There are some interventions/activities that take place at taluka and district places. PIUs of respective departments are supposed to implement the activities through District Implementation Units (DIUs). PIUs are set up within the department in order to co-ordinate with machinery effectively while the PCMU guides and directs the line departments in the implementation of the project. PCMU also acts as an interface between the Government and the PIUs of the line departments.
281. The PIU acts as a link between the PCMU and the final beneficiaries, through the concerned department. For this, the PIU gets the assistance of the concerned district officer of their department in order to ensure smooth implementation. The Nodal Officers and other staff in the PIU are identified by the respective head of the department and these officers work in PIU, which is located within the department for better coordination. The PIU periodically reviews the progress in each intervention and provides corrective actions as and when necessary for the effective project implementation. The management of the Project would mean periodical monitoring of the actual level of achievement corresponding to the proposed targets.
282. Each PIU is headed by the Head of the concerned department. The Nodal Officers of the PIU is a senior officer posted full time from the respective line department who will constantly liaise between PIU and PCMU. The officers and the support staff in the PCMU and the PIUs are selected either from the department on deputation or hired from the market on contract.
283. Implementation of activities related to CBOs and other field level activities happens at the District level through the District Implementation Units (DIUs). DIU is headed by the District Superintending Agriculture Officer (DSAO) and the Deputy Project Director (ATMA) acts as a full time Nodal Officer for DIU.
284. DIUs get technical support from the Technical Support Units (TSUs) established at Regional level in the office of the Regional Joint Director of Agriculture. Technical staff drawn from the line departments and/or hired on contract from the market posted in the TSU provides support to the CBOs and buyers for identification of clusters, preparation of business plans, partnership proposals etc. The overall project implementation framework is given in the diagram below:

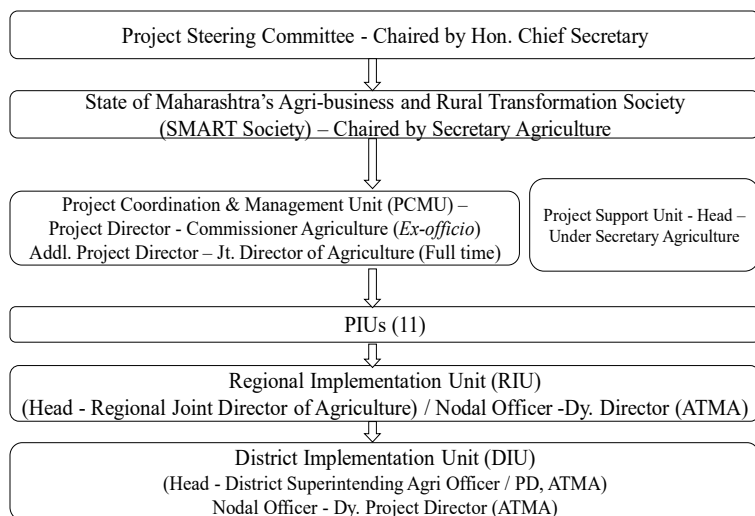


Fig. Representation of proposed project implementation framework

285. Project Governance

2.1 Project Steering Committee

As described in the earlier section, a high-level steering committee is constituted under the chairmanship of the Chief Secretary. Details of members of this committee and responsibilities have been outlined below.

Project Steering Committee Members:

Sr. No.	Designation	Designation
1)	Chief Secretary	Chairperson
2)	Additional Chief Secretary (Planning Department)	Member
3)	Additional Chief Secretary (Finance Department)	Member
4)	Additional Chief Secretary, (Chief Minister's Secretariat)	Member
5)	Principal Secretary, Animal Husbandry & Dairy Development and Fisheries	Member
6)	Principal Secretary, Marketing	Member
7)	Principal Secretary, Co-operation	Member
8)	Secretary, Rural Development	Member
9)	Secretary, Agriculture	Member
10)	Secretary, Water Conservation	Member
11)	Commissioner, Agriculture	Member
12)	Project Director, Nanaji Deshmukh Krushi Sanjivani Prkalp, (PoCRA)	Member
13)	CEO, Maharashtra State Rural Livelihood Mission, Mumbai	Member

14)	Director Marketing, Maharashtra State, Pune	Member
15)	CEO, Maharashtra Village Social Transformation Foundation, Mumbai	Member
16)	Invitees Technical Consultants & Other Members	With Permission of Chairperson
17)	Project Director, State of Maharashtra's Agribusiness and Rural Transformation Project (SMART)	Member Secretary

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

- a) Provide conceptual, strategic and policy guidance for the design and implementation of the project activities.
- b) Approve Annual Work Plan and Budget, ensuring adequate budget provision for the activities.
- c) Review the progress and approve minor changes needed to improve performance.
- d) Guide inter-departmental convergence and coordination.
- e) Review and resolves the issues arising out of field implementation.
- f) Undertake such tasks that may help the effective implementation of the project.

2.2 The State of Maharashtra's Agribusiness and Rural Transformation-SMART, Society - (hereafter referred as SMART Society) -

The SMART Society shall function as an apex autonomous body of the Government of Maharashtra for implementation, monitoring and coordination of World Bank assisted SMART Project. Primarily, SMART Society will focus on carrying out activities as laid down in the Project Implementation Plan (PIP) of SMART Project.

2.3 Governing Council of SMART Society –

Governing Council of the SMART Society does overall co-ordination among various implementing line departments and agencies, to coordinate & monitor the progress of implementation of SMART Project, and to discharge management responsibilities under overall guidance of the Project Steering Committee and to give directions or take decisions in an endeavour, whenever necessary, to achieve the development objectives of the SMART Project. Governing Council shall consist of the following as members:

Sr. No	Name & Address of the members	Designation in Society
1)	Secretary/ Principal Secretary / Additional Chief Secretary Dept. of Agriculture	Chairperson
2)	Project Director, Smart / Commissioner, Agriculture	Managing Director & Member Secretary
3)	Project Director, Nanaji Deshmukh Krishi Sanjeevini Prakalp (PoCRA, Mumbai)	Member
4)	Managing Director, Maharashtra State Cooperative Cotton Growers Marketing Federation (Mahacot)	Member
5)	Commissioner, Animal Husbandry, Pune	Member
6)	Representative of Principal Secretary (Urban Development)	Member
7)	Additional Commissioner (General), Pune Municipal Corporation (PMC), Pune	Member
8)	Managing Director, Mahila Arthik Vikas Mahamandal (MAVIM), Mumbai	Member

9)	Managing Director, Maharashtra State Warehousing Corporation (MSWC), Pune	Member
10)	Chief Executive Officer, Maharashtra State Rural Livelihood Mission (MSRLM), Mumbai	Member
11)	Director Marketing (DoM), Pune	Member
12)	Director, Agricultural Technology Management Agency (ATMA), Pune	Member
13)	Deputy Secretary, State of Maharashtra's Agri-business and Rural Transformation Project (SMART), Agriculture Department, Mantralaya, Mumbai	Member
14)	Additional Project Director, State of Maharashtra's Agri-business and Rural Transformation Project (SMART), Pune	Member
15)	Managing Director, Maharashtra State Agriculture Marketing Board (MSAMB), Pune	Member
16)	Chief Executive Officer, Maharashtra Village Social Transformation Foundation (VSTF), Mumbai	Member
17)	Managing Director, Maharashtra State Co-operative Development Corporation (MCDC), Pune	Member

286. Executive Committee of SMART Society –

An Executive Committee is established to review and monitor the progress of partnership proposals and market access plans being implemented under the project. This committee shall consider and approve project proposals of PP, MAP and EDP prepared jointly by the CBOs with their partner buyers or implementing agencies. The composition of the committee is as follows:

Sr. No	Name & Address of the members	Designation in society
1)	Project Director, SMART / Commissioner, Agriculture	Chairman
2)	Managing Director, Maharashtra State Cooperative Cotton Producers' Federation	Member
3)	Commissioner, Animal Husbandry	Member
4)	Additional Municipal Commissioner, PMC Pune	Member
5)	Managing Director, MAVIM	Member
6)	Managing Director, Maharashtra State Warehousing Corporation	Member
7)	Chief Executive Officer, Maharashtra State Rural Livelihood Mission	Member
8)	Director, Marketing, Maharashtra State	Member
9)	Managing Director, Maharashtra State Agriculture Marketing Board	Member
10)	Chief Executive Officer, Maharashtra Village Social Transformation Foundation	Member
11)	Managing Director, Maharashtra State Cooperative Development Cooperation	Member
12)	Director, ATMA	Member
13)	Additional Project Director, SMART	Member Secretary

2.4 Project Coordination and Management Unit (PCMU) -

The PCMU shall be responsible for the overall implementation and co-ordination of SMART. For the sake of administrative convenience and flexibility in functioning PCMU has been created as a part of the SMART Society under the direct control of the Governing Council chaired by the Secretary, Agriculture with the Commissioner Agriculture as a Managing

Director and Member Secretary. The PCMU oversees the implementation of the project which is headed by the Project Director, who reports to the Secretary (Agriculture), GoM. The headquarters of PCMU is kept at Pune as the heads of most of the line departments are located at Pune. PCMU will work under direct supervision and control of the Project Director of SMART.

The PCMU is headed by the Project Director, who is seconded by an Additional Project Director and assisted by Coordinators from participating departments and a number of experts in various fields, viz. Finance Specialist, Policy Analyst, Monitoring & Evaluation Expert, Administrative Officer, Technical Officers, Accounts Officer, Assistant Accounts Officers, Agribusiness and Value Chain Expert, Market Analyst, Livestock and Dairy Expert, Procurement Expert, Enterprise Development and Resource Generation Expert, Social Development Expert, Environment Expert, MIS Expert, Associate Experts among others and number of support staff. The staffing plan of the PCMU is given below:

Project Coordination & Management Unit (PCMU), SMART

Sr. No.	Position	No. of Posts	Type of Engagement	Cadre
1	Project Director	1	Additional Charge	Senior IAS / Commissioner Agriculture
2	Addl. Project Director	1	Deputation	Joint Director of Agriculture
3	Finance Specialist / Chief Finance Controller	1	Deputation	Dy. Director Finance
4	Asstt. Director (Audit & WB Compliances)	1	Deputation	Asstt. Director (Accounts)
5	Asstt. Accounts Officer	1	Deputation	Accounts Officer (Cl. 3)
6	Accountant	2	Contract	
7	Accounts Officer (Budget, Expenditure & Funds Flow)	1	Deputation	Accounts Officer (Cl. 2)
8	Accountant	2	Contract	
9	Coordinator - Agri (PP & MAP) (Exclusively for Comp. B)	1	Deputation	Suptd. Agri. Officer
10	Sr. Agri Value Chain Expert (B)	1	Deputation	
11	Agronomist (B)	1	Deputation	Tech. Officer
12	Horticulturist (B)	1	Deputation	Tech. Officer
13	Agri Value Chain Expert (B)	2	Contract	Appointed
14	Agri. Engineer (B)	1	Contract	
15	Market Analyst (A2F Expert) (B)	1	Contract	
16	A2F Associate (B)	1	Contract	
17	Cluster Coordinator (VSTF)	1	Contract	
18	Coordinator - Agriculture Marketing (DoM, MSAMB, MCDC, Mahacot & MSWC)	1	Deputation	Jt. Registrar (Coop Soc.)
19	Associate - Marketing	1	Deputation	MSAMB
21	Coordinator - RDD (MSRLM, MAVIM, VSTF)	1	Deputation	Dy. CEO
22	Coordinator - Animal Husbandry, PMC	1	Deputation	Dy. Commissioner AH
23	Coordinator - M&E	1	Deputation	Suptd. Agri. Officer
24	MIS Expert	1	Contract	
25	Associate (M&E)	1	Contract	
26	Coordinator - (Capacity Building)	1	Deputation	Dy. Director Agriculture
27	Technical Officer (Agri)	1	Deputation	Agri. Officer

29	Administrative Officer	1	Deputation	Administrative Officer
30	Associate - HR (Deputation)	1	Deputation	Asstt. Admin Officer
31	Procurement Expert	1	Contract	Appointed
32	Procurement Officer	1	Contract	
33	Market Field Engineer	1	Contract	
34	Environment Expert	1	Contract	Appointed
34	Social Development Expert	1	Contract	Appointed
35	Entrepreneurship Development & Resource Generation Specialist (B2)	1	Contract	Appointed
36	IT & GIS Expert	1	Contract	Appointed
37	Media & Knowledge Management Expert	1	Contract	
38	Associate	7	Contract	
39	Assistant	12	Contract	7 Positions filled
40	Messenger	7	Contract	3 posts filled
	Total	64	Addl. Charge - 1	

2.5 Role of Project Coordination and Management Unit (PCMU):

- a) Overall leadership, control, monitoring, and supervision of the project activities and staff.
- b) Ensuring implementation of Govt. orders and to make fund available to the field units/functionaries.
- c) Ensuring timely submission of reports to GoM and World Bank.
- d) Ensuring deployment of field staff, resource agencies, service providers and other functionaries.
- e) Coordination with line departments at state level.
- f) Ensuring consolidation of the annual work plan and budget of various units for submission to the state for sanction of the Budget.
- g) Ensuring approval of annual work plan and budget by Project Steering Committee.
- h) To receive the funds from additional sources for integration.
- i) Ensuring timely distribution of the funds to various field units and service providers as per the physical and financial targets and other deliverables.
- j) To submit Consolidated Statement of Expenditure to the World Bank for reimbursement of Claims.
- k) To monitor the activities and progress of works in project.
- l) To provide necessary guidance and coordination and ensure proper implementation of the Project.
- m) Conflict Resolution
- n) The Project Director is responsible for the implementation and coordination of SMART Project on behalf of the Government of Maharashtra with the help of PCMU, PIUs and all the organizations concerned.
- o) The Project Director signs all the contracts, MoUs and Productive Partnerships between SMART Project and various organizations.
- p) PCMU co-ordinates and facilitates the implementation of the project.
- q) PCMU monitors the progress and directs the line departments to attain the proposed physical and fiscal targets thereby ensuring a continuous and steady progress in the project.
- r) PCMU addresses the difficulties faced during the implementation of the project in the concerned line departments and seeks the guidance from the Steering Committee for policy, convergence and state level issues.
- s) It periodically appraises the progress of the project to the Steering Committee.

- t) The personnel in the PCMU assists and guides the line departments in the matters like procurement, market design, environment, and social development.
- u) It gets the records / accounts of the project and line departments audited every year.
- v) Any other matter related to implementation of SMART Project.

2.5.1 Project Support Unit (PSU) – Seven administrative departments and 11 directorates / agencies under them are participating in the project. In addition, coordination with Planning, Finance and other departments is needed at various stages. A Project Support Unit in Mantralaya, attached to the Department of Agriculture is established to facilitate inter departmental coordination. This unit is attached to the PCMU with an Inter Departmental Coordinator and support staff positioned in Mantralaya.

2.6 Project Implementation Units (PIUs)

The state has set up project implementation units representing each of the line departments and agencies under these departments. Department of Agriculture, Department of Marketing, Department of Animal Husbandry and Department of Rural Development are the four line departments participating in the project with eight autonomous agencies / undertakings namely MSAMB, MCDC, MSWC, VSTF, MSRLM, MAVIM, MahaCot and PMC. All PIUs are located in the respective department / agency and headed by the Head of the concerned Department / Agency to enable closer coordination.

Eleven Project Implementation Units (PIUs) have been setup within the 1) Department of Agriculture; 2) Department of Marketing; 3) Department of Animal Husbandry; 4) Village Social Transformation Foundation (VSTF); 5) Maharashtra State Rural Livelihood Mission; 6) Mahila Arthik Vikas Mahamandal (MAVIM); 7) Maharashtra Cooperative Development Corporation (MCDC); 8) Maharashtra State Warehousing Corporation (MSWC); 9) Maharashtra State Agriculture Marketing Board (MSAMB); 10) Maharashtra State Cotton Growers Cooperative Marketing Federation (MahaCot) and 11) Pune Municipal Corporation (PMC) to oversee the implementation of the department specific activities. These PIUs will be responsible for preparing, implementing and monitoring their respective annual action plans.

PIUs are headed by the respective heads of the departments and a nodal officer has been appointed by each department to effectively liaise with the PCMU. Besides the nodal officer, each PIU will be supported by technical specialists as needed. PIUs work under the technical and financial control of the Project Director while administrative control vests with the Head of the Department. The PD, SMART will have all powers to visit, inspect and call for any information, reports regarding the project work from all the PIUs and the field officers of the concerned line departments implementing the project.

The PIU of the line department functions under the overall guidance and control of the respective Head of the Department. It comprises of a Nodal Officer of the rank of Class-I officer drawn from the departmental cadre with the support staff. The Head of the Department will constantly monitor that the activities pertaining to the department are being implemented in accordance with the strict observance of World Bank guidelines and as per schedule of the project. The Nodal officer in each line department keeps constant liaison with the PCMU.

2.7.1 PIU-Agriculture - The PIU Agriculture is headed by the Head of the Department i.e. Director ATMA, assisted by a Suptd. Agri. Officer as a full time Nodal officer and supported by an Dy. Director (PP & MAP), Agronomist, Horticulturist and a Capacity Building Expert from the Department of Agriculture. Besides, PIU Agriculture will have a Financial Analyst, Agri Value Chain Expert, a Safeguards Expert, a Procurement Officer, a M&E Officer, an Accounts Officer, an Assistant having computer knowledge and two Messengers drawn from the department or on contract. The functions relating to accounts of PIU (Agri) will be looked after by the Sr. Accounts Officer. The work of PIU (Agri) will be closely monitored and supervised by Director, Agriculture Technology Management Agency (ATMA) under the overall control of the Commissioner, Agriculture.

2.7.2 PIU-AM - The PIU (Agriculture Marketing) is headed by the Director Marketing and will function under the overall guidance and control of the Dy. Director Marketing as a full time Nodal Officer. Nodal Officer is supported by Technical Officers for Capacity Building, APMC Monitoring, Agribusiness Reforms, Market Reforms, Ease of Doing Business & Grievances and other support staff. Majority of this staff is taken from market and some specialist and support staff is either taken on deputation or on contract. A Technical Support for Reforms Unit will also be set up in the PIU-AM by hiring of experts (Statistician, IT, Reforms etc.) and a technical service provider.

2.7.3 The PIU-AHD –

This PIU is headed by the Commissioner Animal Husbandry and will function under the overall guidance and control of the Addl. Commissioner, Animal Husbandry who will be the technical head of the department. An Assistant Commissioner AHD will be appointed as full time Nodal Officer. The Nodal Officer will be supported by a Technical Officer for Extension and Capacity Building activities and a Livestock Value Chain Expert / Coordinating Consultant and support staff for other activities like procurement, accounts and administration.

2.7.4 The PIU-VSTF – This PIU is headed by the CEO-VSTF and will function under his overall guidance and control. A Senior Agribusiness Expert and an Agribusiness Expert will provide necessary support to VSTF in collaborating with private sector and establishment of Stewardship Councils. A State Mission Manager will work as full time Nodal Officer, an Agriculture / Agribusiness Officer, a Private Sector Engagement Expert for Value Chain, Post-Harvest, Processing and Innovation, Procurement and other support staff. Majority of this staff is taken from market and some specialist and support staff is either taken on deputation or on contract.

2.7.5 The PIU-MSRLM - This PIU is headed by the CEO-MSRLM and will function under the overall guidance and control of the Dy. CEO-MSRLM as a full time Nodal Officer. The Nodal Officer is supported by an Agriculture Officer on deputation from DoA and support staff for procurement, accounts and administration. The PIU will also have 3 State Mission Managers to look after Agri Value Chain Development, Agribusiness Management and Business Development Services. Five Mission Managers for PP, MAP, CMA, BDS activities and Capacity Building and M&E and two Young Professionals are provided to support activities under PIU-MSRLM.

2.7.6 The PIU-MAVIM - This PIU is headed by the Vice Chairman and Managing Director of MAVIM and will function under the overall guidance and control of the State Mission Manager-MAVIM as a full time Nodal Officer. The Nodal Officer is supported by an Agriculture Officer, a Capacity Building O& M&E Expert, a Safeguards Officer and support staff for procurement, accounts and administration.

2.7.7 The PIU-MCDC – This PIU is headed by the Managing Director of MCDC and will function under the overall guidance and control of the General Manager-MCDC as a full time Nodal Officer. The Nodal Officer is supported by an Agri Value Chain Expert, a Collateral Management Expert and support staff for accounts and administration.

2.7.8 The PIU-MSWC - This PIU is headed by the Chairman and Managing Director of MSWC and will function under the overall guidance and control of the Jt. MD-MSWC as a Nodal Officer (additional charge). The Nodal Officer is supported by an Agri Extension Officer, and support staff for procurement, accounts and administration.

2.7.9 The PIU-MSAMB - This PIU is headed by the Managing Director of MSAMB and will function under the overall guidance and control of the General Manager-MSAMB as a Nodal Officer (additional charge). The Nodal Officer is supported by Managers for Exports and Urban Food Pilot and support staff for procurement, accounts and administration.

2.7.10 The PIU-MahaCot – This PIU is headed by the Managing Director of MahaCot and will function under the overall guidance and control of the General Manager-MahaCot as a full time Nodal Officer. The Nodal Officer is supported by a SMART Cotton Manager, Agriculture / Agribusiness Officer, Graders and support staff for procurement, accounts and administration.

2.7.11 The PIU-PMC - This PIU is headed by the Addl. Commissioner of PMC and will function under the overall guidance and control of the Asstt. Health Officer as a full time Nodal Officer. The Nodal Officer is supported by a Technical Officer, a Food Safety Expert and support staff for accounts and administration.

287. Role of PIUs:

- a) PIU functions under the general supervision, guidance and control of the respective Head of the Department.
- b) Nodal Officer of the concerned line department supervises and monitors the development of the project.
- c) Every nodal officer appraises the program prepared and implemented in the project to the Head of the Department and the PCMU.
- d) It prepares annual procurement plans for every subcomponent in the project period.
- e) The annual procurement plans are supplemented by the timelines of the activities to be undertaken in each sub-component.
- f) Supervise and monitor the activities that would be phased out into each Quarter of the respective year.

- g) Call for the tenders; finalize the tender with the participation of the implementing agencies as per the World Bank guidelines and which will be issued from time to time in this behalf by the World Bank.
- h) Make payments to the contractor for the civil works undertaken wherever responsibility is with PIU. The payments will be made only after the verification of the works so executed.
- i) Identify the CBOs to be included during the corresponding quarter with the help of a Service Provider.
- j) Monitoring of training programmes to be imparted by ATMA / SP is done by the concerned PIU of the line department and it co-ordinates with ATMA / SP and the beneficiary whenever necessary.
- k) It ensures that the physical as well as the fiscal targets for all the interventions are achieved during every quarter.
- l) The Nodal Officer of the PIU, may with the approval of Head of Department put forth the issues before the PCMU for its redressal.
- m) PIU updates the progress made in their concerned line department to the PCMU periodically.
- n) PIU plays the role of the coordinator between the various organizations involved in SMART the district officers of the concerned line department.
- o) Any other matter connected to implementation of components and sub components falling under the concerned Department.

288. Regional Implementation Unit –

The regional level unit is supposed to provide technical support in designing, implementation and monitoring of the sub projects. The Regional Joint Director of Agriculture heads the RIU and is supported by a Technical Service Provider. The structure of RIU is as follows:.

Regional Implementation Unit (RIU)		8 Regions	
Sr. No.	Position	No. of Posts	Type of Engagement
1	Head - Regional RIU	8	Additional Charge
2	Nodal Officer - RIU	8	Deputation
3	Sub Project Coordinator (B1)	8	Deputation
4	Procurement Officer (B1)	8	Contract
5	M&E Officer	8	Contract
6	Social Development Expert (B1)	8	Contract
7	Environment Expert (B1)	8	Contract
8	Market Field Engineer (B1)	8	Contract
9	Sub Project Manager (B1)	20	Contract
10	Regional Cluster Coordinator - VSTF	6	Contract
11	Accountant	8	Contract
12	Assistant	8	Contract
13	Messenger	8	Contract
Total		106	Additional Charge 1

289. District Implementation Unit

The district level unit is supposed to facilitate, collaborate, supervise and bring convergence. Overall leadership for project activities shall be provided by the District Collector who also chairs the district ATMA. Collector will chair the district level

steering committee for SMART. The district level structure for the project is as follows::

District Implementation Unit (DIU)

Sr. No.	Position	No. of Posts	Type of Engagement
1	Head - DIU : District Suptd. Agri. Officer	34	Additional Charge
2	Nodal Officer - Dy. Project Director, ATMA	34	Additional Charge
3	Asstt. Director, Animal Husbandry	34	Additional Charge
4	District Coordinator - MSRLM	34	Additional Charge
5	District Coordinator - MAVIM	20	Additional Charge
6	District Mission Manager - VSTF	20	Additional Charge
7	District Marketing Officer	34	Additional Charge
8	Agri Value Chain Expert	34	Contract
9	SMART Cotton Value Chain Expert	12	Contract
10	Multi Tasking Grader at Taluka Level	19	Deputation
11	Multi Tasking Grader at Taluka Level	41	Contract
12	Computer Operator	12	Contract
13	MIS Officer	34	Contract
14	Accountant	34	Contract
15	Assistant	34	Contract
16	Messenger	34	Contract
	Total	254	Additional Charge 210

290. 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 promotion of productive partnerships in the state between Buyers (Corporates / SMEs / Start-ups) and CBOs (FPCs/PACs/CLFs/CMRCs).

Preparation of partnership plans denotes the market oriented bottom up planning process from cluster upwards through micro-planning facilitated by ATMA to ensure dovetailing of existing interventions with need based, innovative components to be supported under the project. The twin goals are increased market access 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, marketing, rural development, VSTF, MSRLM, MAVIM, Animal Husbandry, social justice, tribal development, women and child development, and any other departments that have strong correlation with farming community, this project would serve as an ideal platform.

2.10.1 Agriculture:

A. Office of the DSAO

- a) DSAO will be the administrative head at the district level and responsible for smooth implementation of the project in the district.
- b) 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

- c) Coordinate with line departments at cluster, block, and district level and office of ATMA
- d) To provide technical guidance related to project components.
- e) Facilitate formulation of partnership proposal by the buyer and CBOs as per the project guidelines.
- f) Submit budget demand for the district to the PCMU based on the partnership plans.
- g) Monitoring of implementation of partnership plans by the buyers and CBOs.
- h) Disbursement of funds to the project partners.
- i) To consolidate expense statement.
- j) Timely submission of all reports to higher officers and monitor the progress.
- k) Field appraisal and to suggest alternatives in action plan.
- l) To resolve conflicts and grievances

B. Deputy Project Director, ATMA

- a) Liaison with SAMETI at State level and coordination between line departments including KVKs, SAUs, 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.
- a) Use of audio visual aids for awareness, publicity & effective program implantation
- b) Review of the project progress.
- c) Timely submission of all reports to higher officers and monitoring the progress.
- d) Field appraisal and to suggest alternatives in action plan.
- e) Provide guidance for effective implementation of Annual Action Plan.
 - i. Implementation of activities pertaining to Productive Partnerships and Market Access Plans: Agriculture Department, with the help of the field staff located up to taluka level will implement the activities. The active support and help of all the line departments in the district will be taken. Each ATMA is headed by the District Superintending Agriculture Officer (DSAO) as Project Director and the District Collector is the Chairman of ATMA which coordinates with all the departments. The Nodal officer from PIU (Agri) liaise with PCU and coordinates the implementation of various activities by VANAMATI, ATMAs, field staff of Department of Agriculture and other relevant entities.
 - ii. The project activities undertaken for Strengthening of ATMAs, Enterprise Development and Market Led Technology Transfer are coordinated, guided and monitored by the PIU (Agri). Regular meetings of the State Level officers of line departments are conducted for smooth and successful implementation of the project.
 - iii. ATMA acts as a facilitator between Community Based Organizations (CBOs) and the private sector partners. The ATMA appraises the needs of the buyers and identifies suitable CBOs in the district for fostering the productive partnerships. ATMA also supports implementation of productive partnership plans.
- a. Procurement of staff for PIU (Agri.) and ATMAs will be carried out by Commissioner Agriculture.

2.10.2 Animal Husbandry:

- a. The implementation arrangements for activities pertaining to AHD are handled by the PIU (AHD) with the help of the field officers from the AHD and ATMA. The selection of SP is done by PIU (AHD).

2.10.3 Agriculture Marketing:

a. The Directorate of Marketing is the main implementing agency for this subcomponent with the support and active involvement of the field machinery of the Department of Cooperation. PIU (Agri Marketing) will appoint SPs for Market Intelligence and Data Management for implementation of the agribusiness reforms component. PIU-Agri Marketing is responsible to coordinate the implementation of the Urban Food Pilot with the help of MSAMB and Urban Local Bodies.

2.10.4 Department of Cooperation :

- a) The program of agricultural risk through warehouse receipt development leveraging a network of MSWC, APMCs and CBOs warehouses is implemented by MSWC under the supervision of PIU, Cooperation.
- b) The activities pertaining to PACs, APMCs and MSWC are implemented by PIU-Cooperation. A Service Provider is appointed by PIU-Cooperation who plans, designs and implements the proposal of the PAC/CBO/APMC concerned. The monitoring of the works is handled by Market Field Engineers of PIU-Cooperation with the support of SP.

291. 2.11 Budget -

The activities which require funding in the Project for PCMU, PIUs, RIUs and DIUs broadly fall as under:

- a) Investment Costs: The setting up of PCMU requires refurbishment and setting up of furniture & fixtures and equipment.
- b) Recurrent Costs: These basically include the salary of the personnel, travel expenses, rent-rates-taxes and O&M.
- c) Consultancy Services - Consultants are selected to:
 - (i) Conduct M&E and MIS activity – The Project will on board following two external agencies for M&E and MIS. These agencies had been selected through single source process.
 - a) Gokhale Institute of Politics and Economics, Pune for M&E activities and
 - b) Tata Trusts for MIS designing, implementation and surveys.
 - (ii) Conduct internal and external audit - Internal audit of the entire SMART Project accounts is conducted by a firm of Chartered Accountants (CA) appointed by competitive bidding by PCMU. The external audit of accounts that are reflected through the BDS system are audited by the Accountant General (AG). Further, the external audit of beneficiary accounts maintained at the district level by the DIU are audited by the Chartered Accountant. The details pertaining to audit have been spelt out in the chapter of Financial Management.

All procurable items/activities in this component including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured by adhering to the World Bank Procurement Regulations and project procurement guidelines

292. Cost Table

Sr. No.	Item	Cost (Rs. Lakh)
1	PCMU/PIU/RIU/DIU refurbishment, furniture & fixtures and equipment	748.00
2	Recurrent Costs: (salary of the personnel, travel expenses, rent-rates-taxes and O&M)	19574.00
3	Consulting Services (M&E, MIS, Audit, Finance Consultancy and Immovable Audit Verification)	2028.00
4	Training of finance personnel in the Project	40.00
	Total	22390.00

D.2: Gender Strategy

293. Gender Strategy:

The project had undertaken the Social Assessment study to identify the social and gender issues in the project area. The Social Assessment has highlighted the following issues related to Women:

- a) Role of women in decision making process at the FPO level is negligible. Currently, decision-making bodies of the markets are dominated by male members.
- b) Women contribute significantly to agriculture and other economic activities besides undertaking most of the housework, but their contributions in either sphere are not acknowledged.
- c) Women have least access to and control of productive resources such as land (only 15 per cent in the State, most small or marginal holdings), technology, capital and agricultural services like credit and training necessary for increasing yields and moving from subsistence to market oriented production.
- d) Decision making: Traditionally women are not involved in the decision making of land, selection of crop, selection of inputs (seeds, fertilizers & pesticides), credit, extension and market. Access to technology: Mechanization of agriculture has resulted in confinement of women in the low paying traditional laborer role. There is little time or resource invested in making farm tools accessible to women or designing them in a way such that women farmers can operate them easily.
- e) Women have limited access and lack of exposure to up gradation of technical skills so more dependent on traditional skills due to this less contribution to commercial demand.
- f) Wage: Despite more work for longer hours when compared to male farmers, women farmers have much lower wage rates and at times remain unpaid.
- g) In all sectors, market is mainly taken care of by men. Women face lots of constraints to transport their products to the markets. All the wholesalers, big retailers and aggregators are men, only very few small vendors are women.
- h) Women membership and women board of directors in FPOs is limited to 20 percent each and the percent of women on signatory position is negligible i.e. 1 percent.

294. Substantial engagement of women has been observed in agriculture, livestock, and primary processing sector. Thus, engagement of women in the project activities is crucial. The project will promote gender inclusiveness through engagement of women in post-harvest management and marketing activities.

295. A Gender-focused strategy as below has been worked out for mainstreaming the gender issues and concerns in all interventions at every stage, across all institutions and processes for facilitating inclusion and participation of women farmers and entrepreneurs.

296. Strategic Approach

To increase women's participation in the higher levels of identified agri-value chains through inclusion in every component in the SMART Project.

297. Strategic Target

- a) Out of total CBOs of the Project, the project commits to target minimum 30 per cent all-women CBOs
- b) To ensure minimum 30 percent women membership (shareholders) and 20 percent women on the board of directors across all the FPOs selected to participate in the project by the end of the respective sub-project period.

The gender interventions and actions in the Project will focus on three major areas;

- A. Priority Gender Actions under SMART
- B. Gender Mainstreaming in the Project
- C. Ensuring enabling environment for women at workplace.

A. Priority gender actions under SMART

298. Technical “bridge support” to women-led CBOs: Maharashtra has a large pool of federated farmer and women’s Self-Help Group (SHG) organizations with more than 21,000 Primary Agricultural Cooperatives (PACs), 1,700 Farmer Producer Organizations (FPOs) and 800 women’s Community Level Federations (CLFs) and Community Managed Resource Centers (CMRCs).

A particular focus of the project is to improve participation of women-led CBOs/CLFs/CMRCs in HVA. To meet this objective and to enable transition of women-led CBOs/CLFs in PPs and MAPs, the project will provide “bridge” technical support to such CBOs. The bridge technical support intervention specifically targeting 400 women CBOs across the state will include a) handholding CMRCs/CLFs to register and meet compliance requirements, b) build their capacity on production and post-production activities for thirty high-value commodities and improve their participation in priority value chains and c) strengthen their capacity towards market transactions by engaging them in ag-tech demonstrations and value-chain schools d) capacity building of MSRLM and MAVIM staff on value chain development

299. Strengthening capacity of women beneficiaries through sub-projects: The project coordination and monitoring unit will work with Regional Technical Support Group to ensure that women CBOs that are in the process of registration apply for the call for proposals and participate in preparation of the proposals for sub-projects. Further, the Regional Technical Support Group partners will ensure that delivery of exhibits, ag-tech demonstrations; exposure visits at the regional level and knowledge transfer for the thirty commodities supported under the project take into account the needs of women farmers. The delivery of technology involving HVA, inputs such as seeds, fertilizers, information about product and market diversification will be gender-differentiated.

300. Gender-differentiated service delivery: The Department of the Agriculture (DoA) is the nodal department and has a total staff strength of approximately 30,000 ranging from village-level agricultural extension workers to supervisory staff at block, district and state levels. With increasing diversification into higher-value crops and integration into global value chains in the state, the DoA has identified the need to move from a scheme-implementation led approach to a longer-term, market-driven approach that focuses on technical and capacity building support to farmers and

agribusinesses, to sustainably enhance farmer incomes and private investment into the agricultural sector. As a part of this initiative, the gender interventions will include; 1) specifically supporting women farmers to enable their transition from agriculture to agribusiness involving high-value commodities; 2) improved access to market-intelligence services by women CBOs and women farmers and 3) building capacity of women extension workers (*pashu sakhis, krishi sakhis*) on product diversification, market diversification, monitoring adoption of agriculture technology, etc.

- 301. Pilot on “Land entitlement of women”:** Due to lack of land ownership, women don’t have access to extension services, credit, technology and Government schemes, farmer collectives etc. This "gender gap" hinders women’s productivity and reduces their contributions to the agriculture sector and the achievement of broader economic and social development goals. Closing the gender gap in agriculture would produce significant gains for society by increasing agricultural productivity, reducing poverty and hunger and promoting economic growth. If women had the same access to productive resources as men, they could increase yields on their farms by 20–30 percent. This could raise total agricultural output in developing countries by 2.5–4 percent, which could, in turn, reduce the number of hungry people in the world by 12–17 percent.⁵
302. Land entitlement is a key instrument to enhance women’s access to the productive resources. Hence the pilot on land entitlement will be undertaken in the selected districts in collaboration with select entities. One of the options could be - The resolution of Maharashtra Govt. named as “Laxmimukti” requires the consent of men to enroll the name of women as a co-owner on the land title. Though the resolution is under the influence of patriarchal norms, it could be the starting point for the land entitlement for women. Therefore the awareness about this GR, sensitization of men, liaising with Revenue department will be the strategy for this pilot. (relevant cost included in the cost table)
- 303. B. Gender Mainstreaming in the Project:** Gender Mainstreaming in each project component and sub-component will be ensured at every stage (viz. planning, implementation and evaluation). Gender Mainstreaming is envisioned to enhance women’s access to organized markets, finance, infrastructure, market intelligence services, and decision-making processes. It also envisions the capacity building of women on good agricultural practices, good animal husbandry practices, post-harvest management, marketing and preparation of commercial bankable proposals. Under Gender Mainstreaming the following interventions are envisioned;
- a) **FGDs and Social Mobilization:** In order to ensure that the needs and issues of women are well articulated, expressed and recorded, FGDs shall be conducted by the service providers using experienced community mobilizers/facilitators. Social experts of the Regional level/Regional Technical support group shall be responsible for coordinating capacity building and mobilization of CBOs. FGDs and meetings shall be scheduled as per the timings and locations feasible for increased participation of women. Such

⁵Report-State of Food and Agriculture FAO 2011

meetings shall be conducted at every stages of project intervention to identify the gender issues.

- b) **Involvement of women in social mobilization activities:** Provisions shall be laid down for inclusion of women in social mobilization activities along with men for facilitating faster outreach to targeted women beneficiaries, ensure adherence to selection criteria and facilitate involvement of eligible women beneficiaries in sub project interventions.
- c) **Appropriate eligibility criteria** will be defined for CLF/CMRC to create opportunity for them to access the project benefits like access to finance, pledge loan receipt etc. (e.g. at PCN level women CBOs, need not be registered entity. However they will be registered before sanctioning of FPPs. This will ensure women CBOs inclusion at PCN level.
- d) **Knowledge Management:** Product development like best practices, case studies, videos on gender mainstreaming will be developed.

The component wise gender integration will be as below;

- 304. **Component A:** Enhancing institutional capacity of the Department of Agriculture.
Objective: To create gender awareness and enhance the gender sensitivity of staff of DoA and to suggest gender sensitive reforms.
- 305. The Department of Agriculture (DoA) is the nodal department for implementation of SMART. It has staff from village level agricultural extension workers to supervisory staff at block, district and state levels. Extension is a major component of SMART (PP/MAP/Smart- Cotton). Hence, the project will undertake to train at least 20 percent department staff on gender issues to institutionalize the gender approach among the staff for gender inclusion at implementation level. Also, to create gender awareness and enhance the gender sensitivity among the project staff; gender sensitization training of PCMU, PIU, RIU and DIU will be organized. Institutional capacity building will also focus on enhancing the orientation and capacity of the DoA to target the increasing proportion of women farmers in the state and enhance their participation in HVA through embedding a gender focus in the development of training modules and in training and capacity building of staff; meeting state-mandated targets for the employment of women as last-mile agricultural extension workers; targeted outreach of extension services towards women farmers and farm workers; training and capacity building of Board of Directors of FPOs supported by the DoA on regulatory requirements and best practices on gender inclusion; and tracking and reporting of gender disaggregated data in the Management Information System (MIS) of the DoA.
- 306. The study will be undertaken to assess the agricultural policies/resolutions through gender lens and propose gender-friendly reforms.
- 307. **Component B:** Expanding Market Access and Supporting Enterprise Growth:
Objective: To improve women's access to organized markets, finance and to provide the technical support on business development. The specific activities for gender integration are as below;

308. B1. Market Access Support

- a) During the subproject preparation stage, the gender analysis for each PP/ MAP/Complementary Innovation Investments Subprojects /SMART Cotton will be done by the Regional Technical Support Group. Based on the gender analysis, the activities will be proposed in the respective Plans in such a way that both men and women will be benefited from the project interventions.
- b) While preparing the Plans (PP/MAP/SMART Cotton/ Complementary Innovation Investments Subprojects), the Technical regional support group will include women in the focused group discussions, household interview to identify the social risks related to them.
- c) All CBOs will be trained on gender analysis. The Gender Sensitization will be compulsory session in the trainings of CBOs to create awareness on importance of women's involvement in the FPOs.
- d) CLF/CMRCs/Women member and board of directors of FPOs will be trained on market-led production, Good agricultural practices, and certification and good animal husbandry practices. Out of total farmers, minimum 30% women will be covered under trainings, farmer field schools and exposures in Value Chain Development Schools related to Field Crops, Horticulture & Livestock. Based on gender analysis, separate Farmer Field Schools and trainings will be organized for women.
- e) Capacity building of women last mile technical service providers on market-led production, good animal husbandry practices i.e. Pashu Sakhi and Krushi Sakhi
- f) For the various infrastructures developed under this component i.e. cold storage, pack house, laboratories, warehouse etc. the labour management plan will be followed and the facilities for women like crèche, separate wash room, mechanism to address gender based violence etc. will be ensured.
- g) Special trainings to women work force employed in different infrastructure (MAP/PP/GNPT) on Good hygienic practices (GHP), Hazard analysis and critical control point (HACCP) etc.

309. SMART Cotton:

- a) In Maharashtra, nearly 15 percent women own the land and have 7/12 on their own name. In the cotton production, 60-80 percent tasks are performed by women. Women play a significant role in sowing, weeding, fertilizer application, harvesting and storage. Women play a role as a cultivator or labor. Still their role in cotton value chain is invisible and unrecognized. In the marketing part of value chain, women have a negligible role. The gender analysis of cotton is presented in the Appendix E of ESMF. To expand the opportunity of women to participate in SMART Cotton, it will not be necessary that women should have a 7/12 on their name. The cotton cultivating household will be participant in the SMART Cotton and for traceability the 7/12 of men or women of the respective participating household will be considered. This will result in creating opportunity for the women of CLFs and CMRCs from the cotton cultivating households to have direct access to the SMART Cotton Project and will be eligible to get the project benefits.
- b) During the project preparation stage, the gender analysis will be done by the Regional Technical Support Group or the team will refer the Gender Analysis Study done by other organizations (For Ex. Gender analysis study of cotton for Maharashtra is done by IDH, The Sustainable Trade Initiative, India) Based on the gender analysis, the activities in SMART Cotton will be proposed in such a way that both men and women will be benefited from the project interventions. For training manual preparation also the gender analysis (gender division of labor) will be referred. For ex women play a

major role in harvesting and storage, so they will be trained on proper harvesting and storage techniques for minimizing of trash and contamination. Women are majorly involved in weeding, so training of scouting, identification of pests to women could help in pest management

- c) Out of total lead farmers in SMART cotton, minimum 30 percent will be women lead farmer
- d) Gender sensitization training (including gender analysis of cotton value chain) to agricultural extension staff, supervisors and agriculture officers at different levels.
- e) At least 30 percent women will be ensured in Farmer Field Schools/trainings. Separate Farmer Field Schools for women on scouting, identification of pest, harvesting etc. will be conducted. To increase the women's participation in FFS/trainings, convenient time and place for women will be taken into consideration.
- f) Minimum 30% women will be ensured in exposures and in international exposure visits.
- g) For drudgery reduction, the kit including cotton picking bag and gloves will be introduced.

310. B2: Enterprise Development Support

Out of total beneficiaries under this component, 60 percent will be women

311. B3: Pilot Program on Urban Food Systems

- a) Women SHG/CMRC/CLF/FPO will be trained on GAP safe food protocol, traceability & healthy food
- b) Priority to Women Self Help groups/CLFs/CMRCs for provision of safe food to urban markets.
- c) Priority to Women Self Help groups/CLFs/CMRCs for Mid-Day meal scheme
- d) For provision of post-harvest infrastructure i.e. mobile vans, packing units etc. priority will be given to SHGs/CLFs/CMRCs.

312. B4: Access to Finance

The rating of women CBOs will be done along with FPO and the product will be developed for FPO and women CBO.

313. Component C: Building Risk Mitigation Mechanisms

Objective: To strengthen the mechanism for risk management and risk mitigation facilities for women CBOs and enhance their access to market information and intelligence services.

- a) Women CBOs/women will have access to market information & intelligence services.
- b) Women CBOs will have access to warehouse receipt finance
- c) Women CBOs will have access to Collateral Management Plan.
- d) Women CBOs will be trained on technical training on warehouse management.
- e) The labor management plan will be followed in case of warehouse renovation and construction and other infrastructure and the facilities for women like crèche, separate wash room, mechanism to address gender based violence etc. will be ensured.

314. Component D: Project Management, Monitoring & Learning

- a) **Gender disaggregated socio-economic baseline:** Disaggregated data shall be collected during baseline data collection by the M&E agency for subsequent usage in mid-term and end-term evaluation and achievement of KPI.
- b) **Gender disaggregated monitoring indicators:** Monitoring indicators shall be designed for disaggregating data on gender for evaluating the project during mid-term and end term. User Satisfaction / citizen feedback surveys shall lay emphasis on satisfaction of women farmers/entrepreneurs with project interventions, activities and processes. Monitoring shall be done on involvement of women in Grievance Redressal Mechanism.

C. Ensuring enabling environment for women at workplace:

- a) For creating enabling Environment for women, the internal committee to address sexual harassment at the workplace will be established and strengthened.
- b) The facilities as per Maternity Benefit Act (Amendment) 2016 will be ensured.

315. Implementation Arrangements

- a) *Staff and consultants:* The E&S management cell within the PCMU will be responsible for overall coordination and implementation of gender strategy across project components. Also, each PIU will have an E&S cell consisting of social /gender specialists from within the PIU's existing structure that will assist the implementation of specific actions on gender. The Social Specialist at the PCMU will be responsible for overall coordination with the PIUs on implementation of the gender strategy. Regional Social Specialist will be responsible for monitoring of gender strategy at regional level. Further, the regional technical support group will have a Social and Gender Specialist on the board.
- b) Specifically, MSRLM, MAVIM and MAHACOT will have identified nodal officers/consultants to coordinate the implementation of gender actions.
- c) The project will set aside funding for hiring of short-term consultants at PIUs/RIUs to support the gender actions.
- d) *Technical Support Agency:* The PCMU in coordination with MSRLM will hire a technical support agency to provide technical "bridge support" to three-hundred women-led CBOs.

316. Budget:

The Budget for this component is mentioned as below;

Sr. No	Description	Year	No of participants / units	Unit cost	Total Cost (Rs. Lakh)	Comment
1	Technical Bridge support to CLFs and CMRCs	1,2,3,4			19,00.00	The provision is made in Component B1.5
2	Pilot on "Land entitlement of women"	1,2,3,4			1,00.00	The provision is made in Component B 1.5

Sr. No	Description	Year	No of participants / units	Unit cost	Total Cost (Rs. Lakh)	Comment
3	State level One day gender sensitization training of PCMU technical experts, PIU coordinators & Regional Social Development Experts	1 & 3	50*2=100	2000	2.00	The provision is made in Component D
4	Regional level One day gender sensitization training of MSRLM, MAVIM, VSTF, Mahacot, Animal Husbandry, MDCD, MSWC, PMC, regional & District officers	1 & 3	250*2=500	2000	10.00	The provision is made in Component D
5	Two days training of 20 per cent staff of DoA; Dy Director of agriculture-42 Taluka Agriculture Officer-162 Agriculture Officer-333, Agriculture Supervisor-552 Total-1067					The provision is made in Component A1
5.1	Dy. Director of agriculture-42 Taluka Agriculture Officer-162 At VANAMATI	1,2,3	204	6000	12.24	
5.2	Agriculture Officer-333, Agriculture Supervisor-552 At RAMETI	1,2,3	855	5000	42.75	
5.3	4 days ToT for Master Trainer who in turns will train to CBOs At VANAMATI	1,2	25	12000	3.00	
	Total				2069.99	

D.3: Management Information Systems and Monitoring, Evaluation & Learning

317. Monitoring, Evaluation and Learning (M, E & L) is one of the most essential project management tools for all development projects. Its criticality is associated with tracking multiple activities and carrying out regular assessments so as to inform the project implementing agencies about corrective courses of action, during the project period.
318. Within the aegis of SMART, M, E & L activities will help the PCMU to monitor progress of the project, evaluate impact at mid-term and end-term and use the learnings from the evaluation to better project design and implementation. The challenge for M&E activities stems from the fact that there is a multi-departmental implementation framework for SMART. Tracking progress and carrying out assessments will be implemented at the sub-component level, but with a view towards identifying progress or gaps at a higher departmental level as well.
319. The Project M&E mechanisms will emphasize stakeholder participation and will be designed to facilitate rapid identification of shortcomings and problem areas, and facilitate the mid-term corrections, where necessary, to project design and / or implementation arrangements to enhance the prospect of the project meeting its development objectives.
- 320. The main interventions for M&E of the project comprise of:**
- a) Baseline Survey
 - b) Midterm Evaluation
 - c) End-term Evaluation
 - d) Six-monthly Monitoring Exercises
 - e) Environment and Social Management Framework Audit
 - f) Management Information System (MIS) framework
 - g) The Results Framework for the project including
 - h) Project Development Objectives (PDO) level Indicators
 - i) Intermediate Results Indicators
 - j) Input, Output and Outcome Indicators at Component and Sub-Component levels
 - k) Targets for the said Indicators

The said M&E interventions will also logically result in the identification of research themes for SMART. Some research studies might be relevant to identify baseline values pertaining to a few variables, whereas some could be necessary to bring out the nature of impact of the project.

321. Objectives:

The objectives of M&E are:

- a) To help the PCMU in measuring and assessing the outputs, outcomes and impacts generated by the project activity.
- b) To assess input delivery and conversion of the same into outputs.
- c) To assess whether the activities are reaching to the intended beneficiaries and providing recommendation (information) for improving implementation.
- d) To promote accountability in allocation and utilization of resources across the project area and activities.

- e) To bring out gaps, if any, in the implementation of components, so that PCMU can create strategies and design corrective mechanisms.
- f) To encapsulate the experiences and contribute to learning, document best practices, practices and promote policy dialogue

322. Design and implementation of the M&E and MIS framework

The Project Co-ordination and Management Unit (PCMU) will have the responsibility for planning and coordinating M&E activities and MIS management for the entire project. The project proposes a unique M&E and MIS system involving GIPE as the M&E knowledge partner and Tata Trust’s Data, Evaluation, Learning, Technology, and Analysis DELTA to implement the M&E activities and to design and manage the MIS platform. The following process flow describes the M&E and MIS interface of the project:

S. No.	Process flow steps	Responsibility	Details
1	Engage Gokhale Institute of Politics and Economics (GIPE) as M&E Knowledge Partner	PCMU	Following World Bank procurement procedure.
2	Engage Tata Trust as M&E Implementation Partner and for design of MIS	PCMU	Following World Bank procurement procedure.
3	Design the M&E indicators and set targets	GIPE	GIPE shall create the following indicators: 1. Input, output, outcome indicators at project and sub-project level. 2. Intermediate Results Indicators. 3. PDO level indicators. 4. Set targets for the said indicators through iterative interactions with respective PIUs.
4	Design the MIS System	Tata Trust/ Identified Agency	Tata Trust shall use its Data, Evaluation, Learning, Technology, and Analysis platform i.e. "DELTA" as the MIS platform for SMART
6	Hire Sub-project Officers at RIUs	PCMU	Sub-project Officers at RIUs, together with their other responsibilities, will oversee the process of data generation at CBO level and shall collate the data at the Regional level. The Officers at the RIU will submit the collated data to the respective PIUs
7	Hire M&E Officers at PIUs	PCMU and respective PIUs	Each PIU shall hire an M&E Officer, who will validate the data submitted by the RIUs. Fully validated and coded data will be submitted to the PCMU.
8	Appoint M&E Coordinator at PCMU	PCMU	PCMU shall appoint a full time M&E Coordinator supported by an M&E Associate for carrying out following activities: 1. Receive the fully validated and coded data from the PIU M&E Officers and offer data-generation queries from DIUs, RIUs or PIUs. 2. Re-validate 10 per cent of the data at the PCMU level. 3. Generate reminders if data is not generated/ submitted on time.

S. No.	Process flow steps	Responsibility	Details
			4. Liaise with Tata Trust to resolve issues, if any, with the MIS design/implementation. 5. Submit the fully validated data to GIPE and liaise with GIPE to resolve issues, if any, with the MIS design 6. Support GIPE for any additional data required for generating six-monthly Monitoring Reports 7. Handle any query from GIPE on any data generated from the field
9	Finalize the M&E activities	GIPE and PCMU	Baseline, Mid-term and End-term assessment studies will be needed to capture project impact. Six-monthly monitoring will be conducted through the MIS to track progress of the project.
10	Design MIS support system	GIPE	1. GIPE shall identify the variables that need to be tracked through the project period for the purpose of Monitoring 2. It shall design questionnaires that necessarily lead to capturing values of the relevant variables at the six-monthly monitoring intervals through the MIS.
11	Training of the DIU-level, RIU-level, PIU-level and PCMU-level MIS and M&E Officers	Tata Trust/ Identified Agency and GIPE	Tata Trust shall train the DIU, RIU, PIU and PCMU Officers on use of the MIS platform. GIPE shall give training on the variables to be generated through the platform.
12	Training of the CBOs for generation of data	Tata Trust/ Identified Agency	Directors of the CBOs shall be trained by Tata Trust to generate the CBO and farmer level data
13	Generation of six-monthly monitoring reports	GIPE	GIPE will generate six-monthly monitoring reports based on the data generated through the MIS
14	Design Baseline, Midterm and Endterm Evaluations	GIPE	GIPE shall design the sampling frame, sample sizes and the questionnaires for the Baseline, Midterm and Endterm Surveys to capture project impact. Specific tasks pertaining to Baseline, Midterm and Endterm Evaluations are given below.
15	Implementation of Baseline, Midterm and Endterm Surveys	Tata Trust/ Identified Agency	Tata Trust will carry out the surveys as per the sampling considerations and questionnaires designed by GIPE. Quality checks of the data will be carried out by GIPE.
16	Generation of Baseline, Midterm and Endterm reports	GIPE	GIPE will generate the Baseline, Midterm and Endterm reports based on the survey conducted by Tata Trust
17	Presentation of the data analysis and learnings to the World Bank	GIPE	GIPE shall present the data analysis and the learnings from the Baseline, Midterm and End-term surveys to the World Bank.

323. Specific tasks related to Baseline, Midterm and Endterm Surveys are as follows:

- a) Developing an appropriate sample design (this will include developing the sampling methodology, sampling stages & strata, the sample frames, the system

for selecting the sampling units and the procedures for the calculation of the expansion factors for the sample to the universe

- b) Develop and finalize baseline survey questionnaires; survey questionnaires will be administered at a household level, though some CBO level variables will also be tracked through the survey.
- c) Arranging for the questionnaires to be translated into relevant languages (Marathi)
- d) Field test the questionnaires;
- e) Incorporating revisions to the questionnaire after field testing the questionnaires;
- f) Hiring and training the field supervisors and enumerators;
- g) Planning the field work logistics;
- h) Conducting a pilot survey and revising the questionnaire based on the findings of the pilot survey;
- i) Preparing survey implementation and questionnaire documentation;
- j) Supervising survey implementation and ensuring quality control;
- k) Developing the data entry program, supervising the project database and arrange for data cleaning and entry
- l) Analyze and report the findings of the survey and provide datasets and final documentation.

324. Apart from the Baseline, Midterm and Endterm Evaluation exercises, M&E activities will also include:

a) Six-monthly Monitoring Exercises:

Field level process implementation will be captured by MIS developed for the project. GIPE in its six monthly monitoring exercise will focus on measuring inputs, activities as well as the progress of output indicators.

b) ESMF Audit:

The environmental and social impacts of the project need to be assessed towards the end of the project intervention. This will be done in accordance with the Environment and Social Management Framework detailed in the PIP.

c) Identification of Thematic Studies

GIPE will identify the scope for carrying out thematic studies for relevant topics. These might be relevant to identify the baseline values of some variables. Sometimes, such studies might be necessary to bring out qualitative analysis of the project impact.

325. Timeline for the M&E Activities

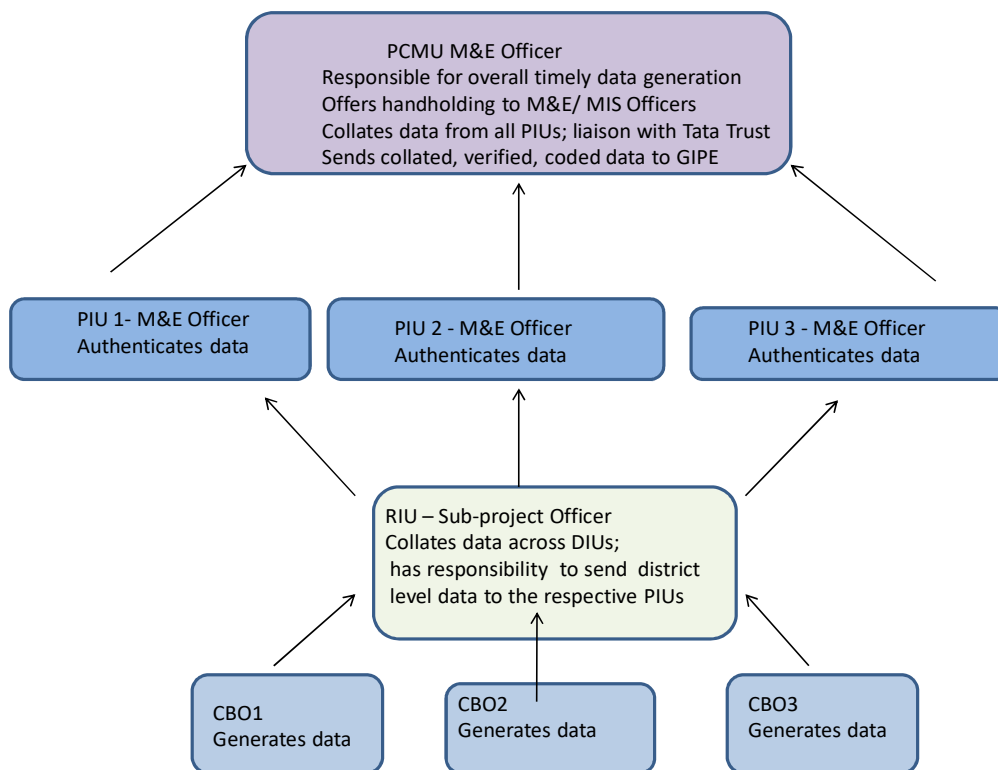
Tentative dates for completion of M&E interventions are indicated below. However, the exact dates for the same will be finalized by the PCMU prior to commencing each of the tasks.

S. No.	Tasks	Schedule
1	Baseline Survey	Commence in February 2020 and completed by April 2020
2	Midterm Assessment	Commence in January 2023 completed by March 2023
3	Endterm Assessment	Commence in January 2026 completed in March 2026
4	Six Monthly Monitoring	10 Six-monthly monitoring programs to be conducted in January and July of relevant years; First six-monthly in July 2020 and last in July 2025

326. About the SMART Management Information System (MIS)

The MIS is an important tool for project management and serves as an important plug-in for the M&E activities under the project. MIS creates the information platform for conducting input and output monitoring. A well-designed and comprehensive Management Information System (MIS) will be used for the reporting system of the progress and achievement under different activities. The online flow of information through MIS from the beneficiary organization to RIUs, from RIUs to PIUs and from PIUs to PCMU will help to regularly monitor the execution of the projects as well as to track and evaluate project results. Design and implementation of MIS is to be handled by Tata Trust.

The following flowchart indicates the data-flow through the MIS.



327. Research for SMART

SMART will also generate research studies on various relevant themes. Research studies maybe required to identify the values of a few variables and/or processes even before Baseline commences. For example, for every commodity whose value chain is to be enhanced through market access interventions, it might be necessary to create documented understanding of the current marketing practices, export markets in which the commodity is being sold, reasons for inability to penetrate some specific markets, price differential between prices of Indian commodity vis-à-vis prices of the commodity from competing destinations etc.

It is expected that M&E interventions themselves will automatically translate in the identification of further research themes as the project progresses. Within the aegis of SMART, it is envisaged that small and big research projects will be carried out to document, assess and develop the narrative of SMART in a scientifically robust manner.

The identified research studies will be carried out by GIPE in its capacity as a knowledge partner to SMART. The actual content, scope, design and the timeline of the studies will be finalized by the PCMU, as and when the need for such a study arises.

D4: Fiduciary Arrangements - Financial and Procurement

D 4.1: Financial Management

328. Sources of Funding

SMART will be a World Bank assisted Project, with counterpart funding from the Government of Maharashtra and from the Private Sector. The following table shows the funding pattern from each of the agencies involved:

Sr.No.	Funding Agency	Amount in US\$ mn	Amount in Rs Crores	Funding Proportion
1	World Bank (IBRD)	210	1470	70.00%
2	Government of Maharashtra	80	560	26.67%
3	Village Social Transformation Foundation (VSTF)	10	70	3.33%
	Total	300	2100	100%
4	Beneficiary (estimated) Contribution		500	

Note: The exchange rate of dollar to rupee has been considered 1\$=Rs.70/-

329. Funding by the World Bank

The World Bank (through the International Bank for Reconstruction and Development or IBRD) shall provide a loan to the Government of Maharashtra through Government of India for financing the developmental activities under this Project. Project funds will be received by the Central Government in the Consolidated Fund of India. The office of Comptroller of Aid, Accounts & Audit (CAAA) will play the role of the fund handling agency. Funds from the World Bank will be made available to Government of Maharashtra (through the GoI) under the standard terms of on-lending between GoI and the States.

330. Funding by the Government of Maharashtra

Based on the annual work plan of the Project for the financial year, Government of Maharashtra (GoM) shall make budgetary provisions under two budgetary heads opened for the Project purpose:

Particulars	Account Code
External Share	2401969
State Share	2401951

The project shall be pre-funded by the State Budget. Accordingly, GoM shall make funds available in tranches to the Project through BEAMS portal.

331. Funding by VSTF/Corporates

Funding by Corporates through Village Social Transformation Foundation (VSTF) will be one of the sources of funding to the Project. These will be in nature of Corporate Social responsibility (CSR) funds. An amount of ten million dollars raised from Private sector has been committed by VSTF throughout the Project period. The activities identified by VSTF to be undertaken through these 10M USD fall under the

component B1 and other identified components. These activities have been showcased as a separate line in the cost table for SMART.

332. Funding through Beneficiary Contribution

The beneficiary contribution based on viability gap funding will be a pre-requisite for release of Project Grants for the sub-project proposals. The details of beneficiary contribution to be contributed for each sub-project shall be established as per the individual Grant Agreement.

333. Drawal of Funds at PCMU SMART level

As per Government Resolution of Agriculture Department dated 27th May 2019, Finance Specialist of SMART Project has been declared the Drawing and Disbursing Officer (DDO) for the Project. Accordingly, the DDO bank account will be opened at the PCMU level.

The DDO in the office of PCMU, SMART shall access the BEAMS portal and submit bill to Treasury in format MTR 44 and under the Government specified object code. After receiving the funds in lump sum from Treasury, these funds will be deposited in a DDO bank account opened at the level of PCMU as per the GR dated May 2019.

The Drawing and Disbursing Officer in the office of PCMU, SMART, will be duly authorized to draw and disburse the funds from the bank account. In order to avoid blockage of government funds under the Project, the drawal from treasury will be in tranches as per the Project requirement.

334. Accounting Centers under SMART:

Accounting Centers are the offices where accounting related to financial transactions for the Project activities shall be carried out. There are 55 accounting centers as per the funds flow arrangement for various components and sub components under the Project.

335. List of Accounting Centers

Department	No.
AGRICULTURE DEPARTMENT	
PROJECT CO-ORDINATION AND MONITORING UNIT (PCMU)	1
PROJECT IMPLEMENTING UNIT- AGRICULTURE (PIU-AGRI)	1
REGIONAL IMPLEMENTING UNITS(RIUs)(JOINT DIRECTOR OF AGRICULTURE)	8
DISTRICT IMPLEMENTING UNIT – (DIU-ATMA)	34
Vasantrao Naik Sate Agricultural Extension Management Training Institute (VANAMATI)	1
Sub-Total (AGRI)	45
AGRI MARKETING DEPARTMENT	
PROJECT IMPLEMENTING UNIT- AGRICULTURAL MARKETING (PIU AM)	1

MAHARASHTRA STATE OF AGRICULTURAL MARKETING BOARD (MSAMB)	1
MAHARSHTRA CO-OPERATIVE DEVELOPMENT CORPORATION (MCDC)	1
MAHASRHTRA STATE OF WAREHOUSING CORPORATION (MSWC)	1
MAHARASHTRA COTTON FEDERATION (MAHACOT)	1
Sub-Total (AM)	5
ANIMAL HUSBANDRY DEPARTMENT (AHD)	
PROJECT IMPLEMENTING UNIT-ANIMAL HUSBANDRY PIU-AHD	1
Sub-Total (AHD)	1
RURAL DEVELOPMENT DEPARTMENT	
MAHARASHTRA STATE RURAL LIVELIHOODS MISSION (MSRLM)	1
VILLAGE SOCIAL TRANSFORMATION FOUNDATION (VSTF)	1
Sub-Total (RDD)	2
WOMEN AND CHILD WELFARE DEPARTMENT (WCWD)	
MAHILA ARTHIK VIKAS MAHAMANDAL (MAVIM)	1
Sub-Total (WCWD)	1
URBAN DEVELOPMENT DEPARTMENT (UDD)	
PUNE MUNICIPAL CORPORATION (PMC)	1
Sub-Total (UDD)	1
TOTAL	55

336. Transfer of Funds from PCMU to various Implementing Units through Public Financial Management System (PFMS):

In tune with the institutional arrangements, a three-level fund flow arrangement has been proposed. The three levels are as follows;

A) First level - PCMU

B) Second level - PIUs

C) Third level - Regional (RJDA) & District level field machinery.

Based on learnings of other world-bank funded Projects, a system has been adopted wherein the fund allocated to a particular accounting centre/spending unit, do not get blocked at their level. This will enable better control, flexibility in fund management and timely availability of funds.

a) In this system, PCMU will open a 'Central Pool Bank Account in a bank approved by the Project. This bank account will be attached with PFMS system.

b) Each accounting center will open a zero-balance bank account in the same bank (attached with PFMS) where PCMU has the Central Pool Bank Account. PCMU will give a fund limit to each accounting center (through PFMS) as per their requirement.

The Project adopts the Public Financial Management System (PFMS) wherein transfer and payment of funds will be tracked even at the lowest level of implementation.

The bank account (in a bank as directed by the Project) of each accounting centre of the Project will be tracked in this system. Likewise, the facility of fund control in PFMS through Central Pool -Zero Balance Bank Account concept will be adopted.

337. Role of PCMU

a) Head quarter level i.e. PCMU level will be responsible for overall coordination and monitoring of funds flow in the Project. Project Director, SMART will be the custodian of the total project funds.

b) Each accounting center under the Project will have a zero-balance bank account with fund limit allocated to each accounting center.

c) The bank account will be operated under joint signatures i.e. to be signed jointly by more than one officer.

d) The PCMU will have viewing right of transactions of all the bank accounts of all accounting centers.

e) On the basis of quarterly fund demand proposals submitted by the PIUs to PCMU and the RIUs and the DIUs to PIU (Agri); PCMU and PIU (Agri) respectively will fix a fund limit for respective accounting centers under their jurisdiction. This limit will be intimated to each PIU/RIU/DIU through PFMS.

f) The PCMU and PIU (Agri) will monitor the actual utilization of allocations on a quarterly basis through PFMS. In case, if it is found that the fund limit at a particular accounting center is not being utilized within the stipulated time frame, Project Director SMART shall have full powers to reallocate the fund limit allocated to a particular accounting centre.

338. Role of PIU

a) Each PIU will open a zero-balance child account in the same bank (attached with PFMS) where PCMU has the Central Pool Bank Account. The bank account will

- be operated under joint signatures i.e. to be signed jointly by more than one officer.
- b) The execution, implementation and monitoring of major Project activities namely Productive Partnership Plans, Market Access Plans, Innovative Partnerships etc. will be at the RIU and DIU level or district implementing machinery of the respective PIU.
 - c) However, the major payments for these activities will be done from respective PIUs. Release of tranches to Beneficiaries will be done at the respective PIU level based on the documentation uploaded /submitted by the regional and district level authorities. PIU on due scrutiny will release the Project Grants directly to the bank account of the Beneficiaries involved in the Project through PFMS.
 - d) Thus, a major proportion of the expenditure for Project related activities is expected to be incurred at the PIU level.
 - e) For soft interventions i.e. training, capacity building, demonstration etc. which would be executed by District Implementing Unit i.e. DIU(ATMA), PIU will provide funds to DIUs in the form of separate budget line item and the expenditure will be booked at the level of DIU(DIU being an accounting centre under SMART)
 - f) There may arise a situation, wherein a particular activity or program e.g. training, capacity building, demonstration etc. is to be implemented not at the DIU level but at the district level machinery of the respective department which is already in existence. For e.g. Deputy Commissioner Animal Husbandry (DDC) in case of Animal Husbandry Department is the district level machinery which can implement the activity. For soft interventions i.e. training, capacity building, demonstration etc. which would be executed by district level offices, PIU will provide funds to districts level offices in the form of advance. In such a case, advance will be provided to such an institution through PFMS by respective Project Implementing Unit. The advance will be settled within one month of completion of the event with proper documentation being submitted to the respective PIU, which will be an accounting centre for that expenditure.

339. Banking arrangements in PIU-VSTF:

VSTF will open two separate bank accounts, one as a Zero Balance Bank Account for receipt of overall Project Grants i.e. Bank Account No.1 and second one for deposition and spending of CSR funds i.e. Bank Account No.2.

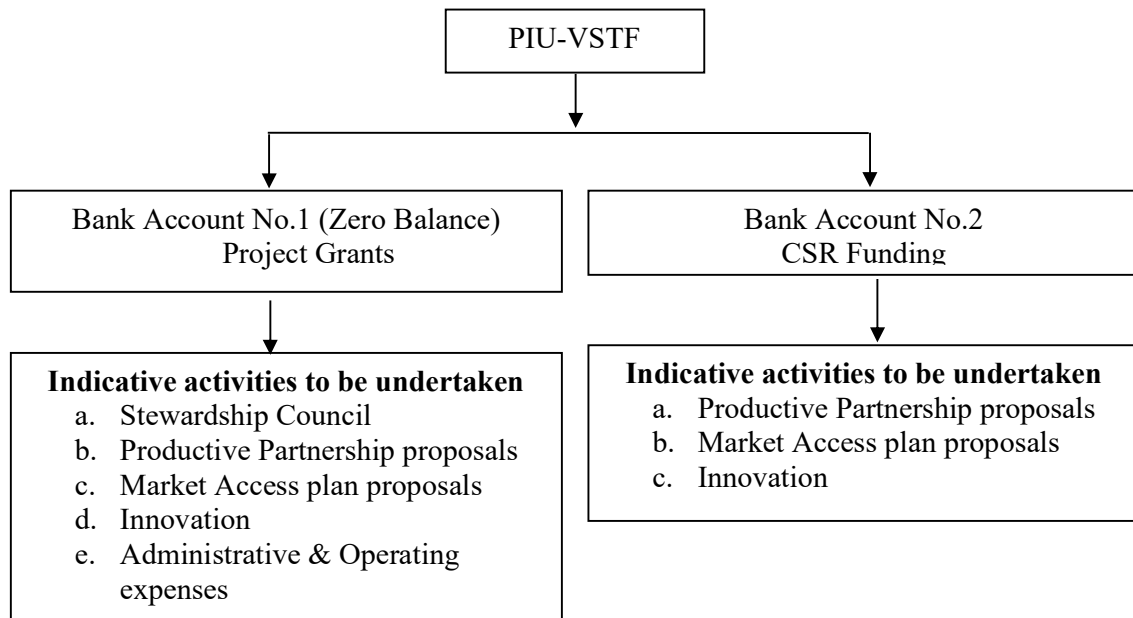
340. Bank Account No.1 (Project Grants):

VSTF is one of the Project Implementing Units under SMART and Project funds for VSTF will flow to Bank Account No.1 which will be in the form of Zero Balance Bank Account for the receipt overall Project Grants.

341. Bank Account No.2 (CSR Funds):

- a) VSTF will separately identify the activities under Component B and any other components of the Project to be undertaken and exclusively funded through this 10M USD. These activities will be showcased as a separate line in the cost table for SMART.
- b) Any kind of administrative and operating expenses will not be incurred through CSR funds.
- c) The expenses incurred through CSR bank account i.e. Bank Account No.2 will not be claimed by the Project from the World Bank.

- d) Two separate companies for recording of expenditure incurred through project grants and through CSR funds will be maintained in the computerized accounting software.



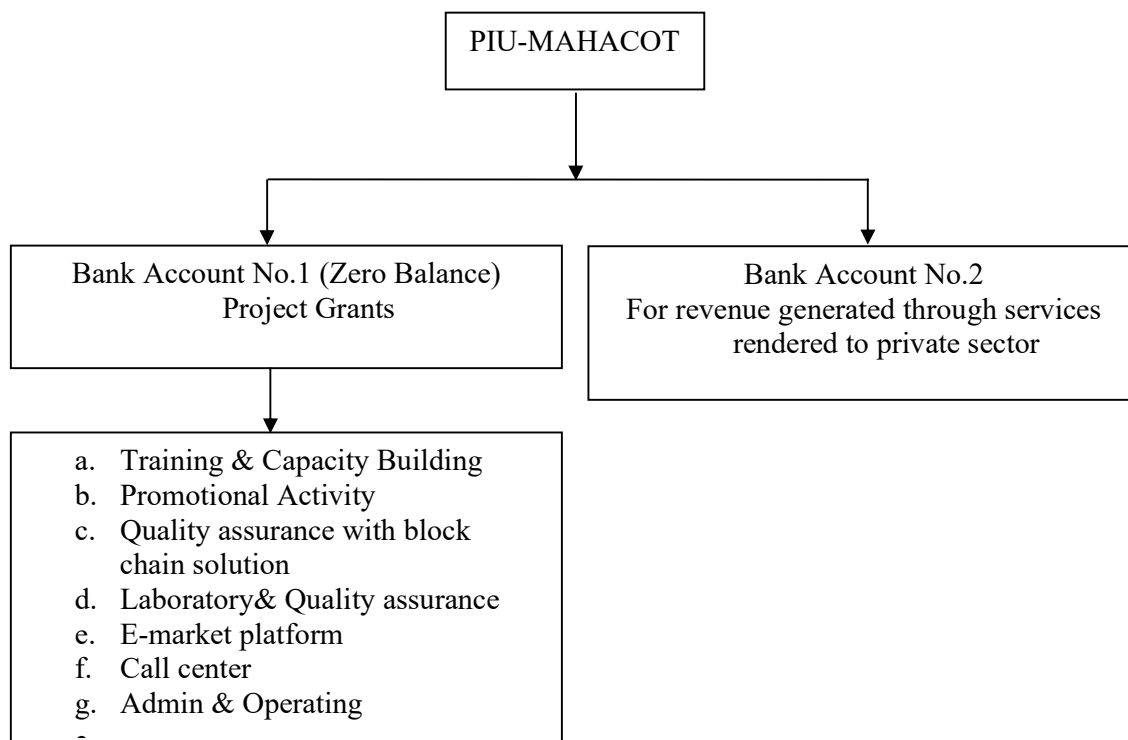
342. Fund flow arrangements in PIU-MAHACOT

MAHACOT is one of the project implementing units under SMART project, which aims at developing SMART COTTON.

- a) With a vision to make activities of MAHACOT under SMART self-sustaining, model is so designed that it creates the revenue through the services rendered to the private sector components to the cotton value chain.
- b) The revenue generated will be utilized for SMART project activities throughout the project period.
- c) Fund flow to PIU MAHACOT will be based on quarterly annual action plan submitted to PCMU. The quarterly demand to be submitted by PIU-MAHACOT should take into consideration the revenue generated mentioned above, for the preceding quarter.

343. Banking arrangement

Besides the zero bank balance account i.e., SMART-MAHACOT Bank a/c no.1, when the revenue generation (through the services rendered to the private sector components to the cotton value chain) starts, a separate bank account only for revenue generated will be opened at the level of PIU-MAHACOT with the prior permission of Project Director, SMART. This revenue generated will be deposited in SMART-MAHACOT Bank a/c no.2.



MAHACOT PIU will claim the difference between expenditure incurred and revenues generated in IUFRR.

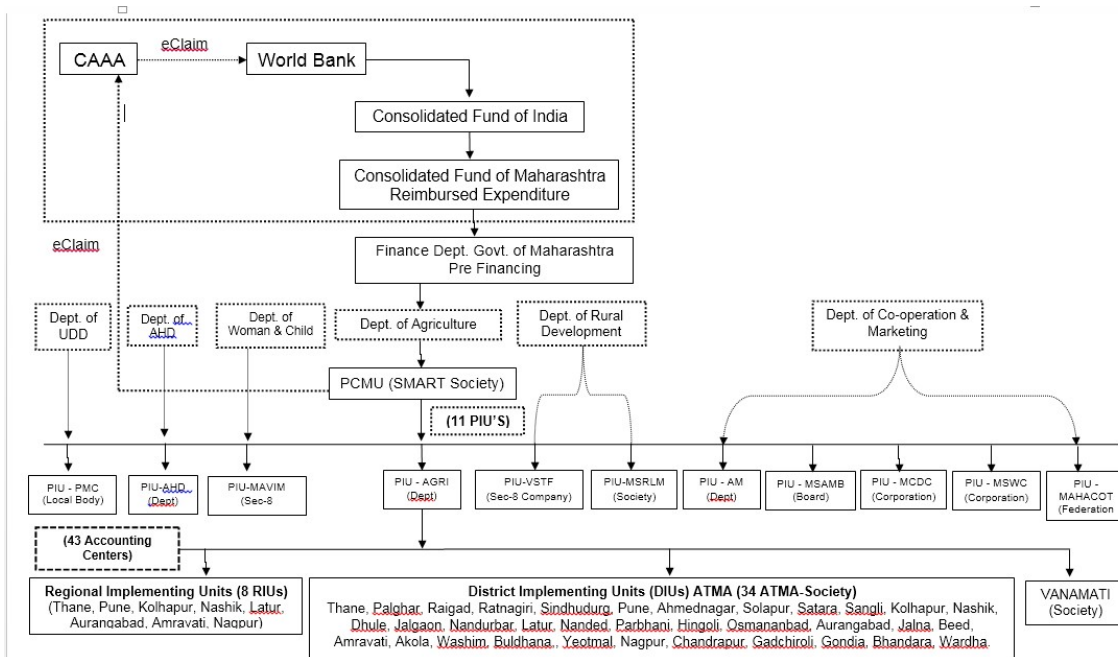
344. Role of RIU and DIU:

- a) Each Regional Implementing Unit (RIU) and District Implementing Unit (DIU) at regional and district level respectively will open a zero balance bank account in the same bank (attached with PFMS) where PCMU has the Central Pool Bank Account. The bank account will be operated under joint signatures i.e. to be signed jointly by more than one officer.
- b) Major expenditure at RIU and DIU level will be for routine administrative; operating expenses. PIU Agriculture will make available fund limit for these activities as per the request of RIU and DIU through the PFMS system.
- c) In case, PIUs other than PIU (Agri) want to execute soft interventions (training, capacity building etc.) at the level of RIUs/DIUs, respective PIU will make fund available to RIUs/DIUs in the form advance through the PFMS system. After the advance has been recouped on completion of event and submission of documents, the expenditure will be booked at the level of respective PIU.

345. Modality of operation of PFMS system:

Payment to beneficiary group/contractor/or any third party will be made by each accounting centre only through PFMS system. Each beneficiary/contractor/service provider will have to be registered on PFMS system. The detailed procedures for execution of PFMS will be elaborated in a separate PFMS Manual.

Overall Fund Flow Arrangements in SMART Project



346. Planning & Budgeting:

The fund requirement for the Project will flow through the budget of the GoM. Both the World Bank share and counterpart share of GoM will be budgeted under separate budget heads in the Government of Maharashtra's budget under the Department of Agriculture.

The Budget Head opened by GoM for Project purpose is as follows:

Particulars	Demand No.	Major Head	Sub-Head	Account Code	Object Code
External Share	D3	2401	115	2401 A 969	32 Contributions
State Share	D3	2401	115	2401 A 951	32 Contributions

The time line for submitting annual budget/revised budget by PIUs to PCMU and PCMU to GoM has been laid down in detailed in the Finance Management Manual,

347. Quarterly Work Plan (QWP):

- a) Regional Implementing Units and District Implementing Units will prepare a quarterly work plan for the ensuing quarter and submit the same to PIU (Agriculture) 30 days before the commencement of the quarter.
- b) PIU (Agriculture) will consolidate quarterly work plans of RIUs, DIUs and PIU (Agri) itself.
- c) PIU (Agriculture) and other PIUs will submit the quarterly work plan of the ensuing quarter to PCMU 20 days prior to commencement of the quarter.
- d) Based on the quarterly work plan submitted by PIUs, PCMU will allocate funds through PFMS in the first of week of quarter.

348. Book-Keeping & Accounting System in SMART:

Double entry system of accounting will be followed in the Project. Books of accounts will be maintained in the single accounting software as decided by PCMU on a real time basis by all the accounting centres. Cash basis of accounting system will be followed in the Project. Accounting centres will report expenditure in the form of 'Monthly Expenditure Statements' to the Nodal Officer and PCMU in the pre-specified formats.

349. Internal Control Mechanism:

In order to mitigate financial risks associated with the Project, following internal control mechanisms will exist-

- a) Officers from Maharashtra Finance and Accounts Services will be taken on deputation at level of PCMU and PIUs, who will exercise due diligence in financial management.
- b) The approval of Finance In charge will be a pre-requisite before making the payment of every expenditure to be incurred in the Project at each accounting center.
- c) Quarterly Internal Audit will be done by CA firm as per the World Bank procurement procedure. The corrective actions will be taken by the Project based on professional recommendations of Internal Auditor and M&E learnings.
- d) Training and capacity building of finance team with special emphasis on procurement training will be given to personnel at Head Quarter and accounting centre level. For

- the training and capacity building of finance staff external agency will be hired in the initial phase of the Project.
- e) Monthly reporting of expenditure and quarterly submission of IUFRRs will be done by all accounting centres. The details have been elaborated in Finance Management Manual.
 - f) Monthly reconciliation of bank accounts will be done by all accounting centres.
 - g) An annual external audit of financial statements will be conducted for all accounting centres.
 - h) Assets purchased by the Project will be recorded in a Dead Stock Register as per the format given in the FMM Annexures. Each asset purchased will be numbered and tagged. Annual report of Assets purchased through the Project Grants needs to be submitted by each accounting centre along with the Project Financial Statement in a specific format (given in FMM). Internal Auditor appointed by the Project will physically verify the assets purchased under the Project.
 - i) If there are Unspent grants in the Project at the end of the financial year, then the Government of Maharashtra will be the competent authority to approve the utilisation of unspent grants in the consecutive financial year. If such a permission is not received from Government of Maharashtra, these grants will have to be surrendered to the government.
 - j) If any Bank account opened for the Project has to be closed for any reason, then after reconciliation, the unspent balance will be deposited in the Government Treasury.
 - k) Following are the brief internal control mechanism at CBO level:
 - i. A separate Bank Account will be opened for the Sub-Project Proposal and operated through Joint Signatories.
 - ii. Cash above Rs.5000/- cannot be withdrawn from bank.
 - iii. Payment to Sister concern units, i.e. firms/Companies of Directors/Members or the Director/Member, can be done only when they have been selected through WB procurement procedure.
 - iv. The tranches will be released only on submission of documents as detailed in the Community Operation Manual.

350. Audit:

a) Internal Audit

The Project will appoint independent Chartered Accountant firms appointed through the World Bank procurement tender process for carrying out internal audit of the Project. Internal Auditor will conduct the audit of all accounting centers of SMART on quarterly basis. The details have been elaborated in Finance Management Manual.

b) External Audit:

Project will approach the Comptroller and Auditor General (CAG) to undertake External Audit. In case CAG is unable to execute this request, external audit will be undertaken by appointing an independent Chartered Accountant firm appointed through WB procurement procedure.

For external audit, heads of all accounting centers will prepare and submit their annual accounts on or before 30th June of the following year to PCMU. PCMU will check and submit consolidated annual accounts of the whole Project to External Auditor. The

external audit report will be submitted to the World Bank within the stipulated time frame. The details have been elaborated in Finance Management Manual.

351. **Project Audit Review Committee:**

A constant monitoring of the audit program is absolutely essential for regular and timely completion of the external and the internal audit. For this purpose, the Project Audit Review Committee headed by the Project Director has been constituted in the PCMU-SMART.

This Committee will consider the key audit issues and monitor timely follow-up and corrective actions. The Audit Committee will hold quarterly meetings to carry out the above functions. The details have been elaborated in Finance Management Manual.

D 4.2: Procurement Management

Overview:

352. The procurement entities under the project are the PCMU headed by Project Director and the 11 PIUs constituted under Line Departments and their Institutions /Organisation. SMART Project is mainly a community-based demand-driven project, wherein the eligible Community based Organizations (CBOs), selected on competitive basis will undertake procurement as Sub-Project Proposals primarily for Productive Partnerships (PP) or Market Access Plans (MAP), approved for grant as per viability gap funding (VGF) guidelines. It comprises of major part of the procurement for setting up of infrastructure besides procurement for project implementation, management, innovation support and strengthening of the implementing agency/ies.

353. Applicable Procurement Regulations of the World Bank:

Procurement under the project will be done by adhering to the provisions of the World Bank Procurement Regulations for IPF Borrowers (Regulations) July 2016, Revised subsequently in November 2017 and August 2018, which are mandatory for Procurement under Investment Project Financing (IPF) of Goods, Works, Non-Consulting and Consulting Services, to the extent of the provisions stipulated in the Legal Agreement with the World Bank. The project will be subject to the World Bank's Anticorruption Guidelines of October 15, 2006, and subsequently revised in January 2011 and July 2016; the "Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants". In case of any discrepancy, the provisions in the Legal Agreements to be signed with the World Bank shall supersede the provisions in this PIP. All procurable items/activities in the project including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured by adhering to the World Bank Procurement Regulations and project procurement guidelines.

354. Project Procurement Strategy for Development (PPSD):

The Project Procurement Strategy for Development (PPSD) has been developed to determine the optimum procurement approach to be adopted for SMART to deliver the right procurement result. Extensive market analysis has been carried out for different packages of procurement through consultations with prospective bidders, previous experiences of project implementation agencies & other government agencies implementing similar developmental projects, web-search, etc. It has also taken into consideration the operational context and the risk potential. The PPSD describes the procurement approach in detail for all procurement to be undertaken during the first 18 months of the Project. On the basis of findings of market research, consultancy contracts have been framed and packaged in terms of the scope of services and period. Also, decisions on packages have been finalized for civil works to ensure adequate participation of bidders.

355. Community Driven Development:

Out of total projected Project cost of Rs 2652 Crore, about Rs 1299 Crore would be towards grants for CBOs under Sub projects for productive partnerships, Market Access Plans and Innovative Pilots, and activities for Warehouse strengthening and Urban Food

Pilots. The procurement under grant supported activities will be carried out by established CBOs which are legal entities that are registered under the Companies Act or Co-operative Societies Act, it is proposed that the Community Driven Development (CDD) method under the WB Procurement Framework Regulations be followed. This will involve procurement of civil works, goods and non-consulting services or consultancy services for establishment or development of common facilities. As per the community level threshold limits for CDD, either Request for Quotation (RFQ) or Local Competitive Bidding (LCB) procedures will be followed by the CBOs for procurement of goods and works. For Procurement of consultancy services of Consulting Organizations the mostly Consultants' Qualification Based Selection Method will be followed. Also Selection of Individual Consultants method will be followed for hiring services of individuals for Technical Services. For carrying out procurement at CBO level, all necessary procurement and technical support will be provided by respective DIU and concerned Technical Support Group engaged as consultants by the project.

356. The selection of the procurement method will depend upon the nature and value of the procurement, and a set of detailed guidelines and standard bidding document of RFQ and LCB and model agreement will be shared with the CBOs, for standardizing documentation of procurement process. A Community Operation Manual (CoM), under development, will detail out the full CDD process. The roles and responsibilities of CBOs, DIUs, RIUs, PIUs and PCMU will be listed in CoM.
357. The CBOs shall ensure that their beneficiary contribution is collected as stipulated in the approval given by the Project to sub-project proposal. The CBOs shall also see to it that they undertake all procurement by adhering to the guiding principles of public procurement, i.e. accountability, competition, consistency, effectiveness, efficiency, fair-dealing, integrity, informed decision-making, responsiveness and transparency and also by adhering to the basic tenets of good procurement viz., appropriate quality, sufficient quantity, exact timing, reasonability of rates and proper authority for procurement of goods, works and services. At CBO level Procurement Committee will be formed consisting of minimum five members, with Head of CBO as Chairperson, and Secretary of CBO as Member secretary and other three community members, by ensuring that at least one woman and one SC/ST person are the members of committee and also ensuring that the Small and marginal farmers are duly represented. Capacity building of the CBO Functionaries will be undertaken by the Project to ensure capability to undertake responsibility of procurement as per WB's Procurement Regulations. The community should decide the specifications of the goods or works and quality of services required before procurement to ensure appropriate quality of the goods /materials and services and should select the suppliers /contractors /skilled labours on the basis of prescribed procedures using standard formats. The Project will provide technical support to the CBOs through State and Regional Technical Support Group (TSG). Further, the District level Project Staff (DIU), will supervise the procurement activities being undertaken by the CBO.
- 358. Procurement planning.**
The need for pre - qualification, estimated costs, prior review requirements, and time frame will be reflected in the initial 18-month Procurement Plan, and as well as in

subsequent revision/s, as agreed between the Project and the WB. The Procurement Plan will be uploaded in STEP. For sub project, a suitable procurement method for goods /works/ consultant will be followed. The Procurement by CBOs under Sub-Project Grants will be monitored through MIS and Excel based system and not on STEP.

359. Procurement Plan:

Based on PPSD, a Procurement Plan has been prepared for the first 18 months of the Project and the activity wise procurement plan will be approved by the WB prior to negotiations, which will include contracts that are to be procured under advance contracting or under retroactive financing. The Procurement Plan will be updated every 12 months or earlier, if needed, which will be reviewed and approved by the WB. Items to be procured under the Project will be as per the Procurement Plan agreed to with the WB through the **STEP (Systematic Tracking for Exchanges in Procurement) systems**, a planning and tracking system for procurement activities. The details of all the procurement activities, prepared and updated in the Procurement Plan shall be entered by Implementing Agencies (IAs) in the STEP system. Already, training has been imparted to procurement staff of the IAs on operating of STEP system. Additional procurement staff will also be provided training in STEP system. WB will monitor procurement performance through STEP. Operating Costs Activities under Operating Costs will not a part of procurement plan.

360. E-Procurement:

The PCMU and PIUs under GoM are using the National Informatics Centre (NIC) e-procurement system (NIC platform). An assessment of the NIC e-procurement system has been done by the World Bank in accordance with Multilateral Development Banks (MDB) e-Governance projects requirements and accepted for use for procurement under the WB - funded projects. Hence, the IAs will be using the same NIC e-procurement system for all International Competitive Bidding (ICB) / National Competitive Bidding (NCB) procurements at their respective levels under the Project, thus increasing the efficiency and transparency of procurement. The implementing agencies will use the e-procurement system for all contracts above Rs. 3 lakh (about US \$ 4285). However, for procurement of Consultancy Services related to REOI and RFP will be carried out through manual procurement process as agreed by the WB.

361. Procurement Risk Assessment:

The World Bank procurement risk assessment reviewed the IAs’ organisational structures and the current operating environment for implementing expected procurement transactions under the Project. Significant procurement - related risks were identified by the WB team and in turn they suggest mitigation plan as given in Table 1. Considering the probability of occurrence of various events, as well as their likely impact, the WB determined the overall procurement risk as ‘substantial’, which will then be reviewed based on performance and periodically updated.

362. Table 1: Assessed Procurement Risks by Bank and suggested Mitigation Measures

Risk Factor	Mitigation Measure
Limited capacity and inefficiencies resulting in delays in procurement and	a. Use of skilled procurement staffs for procurement activities b. Monitoring through the Procurement Plan and quarterly reports c. Use of e-Procurement

contract management processes	d. Participation in trainings and workshops e. Contract monitoring and management through MIS
Noncompliance with agreed procurement arrangements	a. Training and hand - holding provided by the World Bank b. Prior and post reviews by the World Bank c. Internal and external audits
External interference in the procurement process	a. Disclosure of procurement-related information b. Disclosure through STEP c. Appropriate handling of complaints

PCMU and all IAs will implement the risk mitigation measures suggested by the WB for enhancing procurement performance, while adhering to the guiding procurement principles.

363. Procurement Methods:

As far as thresholds for procurement and procurement methods are concerned, the provisions as laid down in the Procurement Plan, including amendments, as agreed to by the WB shall prevail. Most of the civil works and purchase of goods will follow National Competitive Procurement (NCP) and Request for Quotation (RFQ), but a few packages may also involve the use of International Competitive Procurement (ICP). Based on the packages already identified, for the most part the NCP method would be used. As per the PPSD, the implementing agencies will primarily use Open National /International Approach for Goods, Works and Services with Standard Procurement Documents for RFB and RFP. RFQ will be used for small value and limited approach procurement. The project does not envisage using Best and Final Offer (BAFO), Competitive Dialogue and Negotiations. CBOs are most likely to use RFQ method under Community Driven Development for majority of community level procurement and may use LCB under CDD for high value procurement of Goods and Works exceeding the threshold for RFQ. Considering the procurement risks and market analysis, the category-wise procurement is likely to be carried out by the Project using various selection methods during project implementation for the procurement of goods, works, non-consulting and consulting services financed by the loan as given in the table below:

364. Table 2: Procurement Methods

Departments	Category	Description	Selection Methods and Market Approach Options
PCMU/PIUs	Works	Including supply and installation works	RFB-National; RFQ-National
	Goods	Vehicles, Computers and accessories, software and related items etc.	RFB-International, RFB-National, RFQ- National, Government e Marketplace; a few may be Direct Selection [DS]
	Consultancy	ESMF, PMC, State and Regional Technical Services Providers for Productive Partnership and Market Access Plans, Internal Audit, Monitoring and Evaluation, Environmental Assessment etc. and Research Activities, Capacity Building activities	QCBS, LCS, FBS, CQS, QBS, a few may be DS

Note: CQS = Selection based on Consultant’s Qualifications; FBS = Selection under a Fixed Budget; LCS = Least-Cost Selection; QBS = Quality Based Selection; QCBS = Quality- and Cost-Based Selection; RFB = Request for Bids; RFQ = Request for Quotations.

365. Thresholds for procurement methods:

For various procurement methods to be used for activities financed by the loan, the thresholds indicated in Table 3 will apply to the initial 18 months of implementation and may be modified during project implementation based on procurement performance. These procurement thresholds shall be as per the Procurement Plan, approved by the WB.

366. Thresholds for Procurement

Procurement Approaches and Methods	Thresholds (US\$ Equivalent)
Open international (goods, IT, and non-consulting services)	> 10 million
Open national (goods, IT, and non-consulting services)	> 100,000 and up to 10 million
National request for quotation (goods/works)	Up to 100,000
Open international (works)	> 40 million
Open national (works)	> 100,000 and up to 40 million
Direct selection	No threshold; For goods /works /non-consulting services: According to paragraphs 6.8–6.10 of the Regulations; For consultants: According to paragraphs 7.13–7.15 of the Regulations
Shortlist of national consultants	Up to 800,000

367. Thresholds for Procurement Prior-Review by the Bank.

The Bank will prior review contracts above the threshold indicated below:

- a) Works: All contracts more than US\$10 million equivalent
- b) Goods and IT: All contracts more than US\$2 million equivalent
- c) Non-consulting services: All contracts more than US\$2 million equivalent
- d) Consultants: All contracts >US\$1 million equivalent for firms and >US\$300,000 equivalent for individuals

368. Specific National procurement procedure conditions.

Procurement procedure conditions assigned by the Bank are specified below:

National competition for the procurement of goods, works, and non-consulting services as per established thresholds will be conducted in accordance with paragraphs 5.3–5.5 of Section V of the Regulations and the provisions contained in the loan agreement and the following provisions:

- a) Only the model bidding documents agreed with the WB (and as amended from time to time) shall be used for bidding.
- b) Invitations to bid shall be advertised in at least one widely circulated national daily newspaper (or on a widely-used website or electronic portal with free national and international access along with an abridged version of the said advertisement published in a widely circulated national daily, among others, giving the website /electronic portal details from which the details of the invitation to bid can be downloaded) at least 30 days before the deadline for the submission of bids.

- c) No special preferences will be accorded to any bidder either for price or for other terms and conditions when competing with foreign bidders, state-owned enterprises, small-scale enterprises, or enterprises from any given state.
- d) Extension of bid validity shall not be allowed with reference to contracts subject to the WB prior review without the prior concurrence of the WB (i) for the first request for extension if it is longer than four weeks and (ii) for all subsequent requests for extension irrespective of the period (such concurrence will be considered by the WB only in cases of force majeure and circumstances beyond the control of the purchaser /employer).
- e) Re-bidding shall not be carried out with reference to contracts subject to the WB prior review without the prior concurrence of the WB.
- f) The system of rejecting bids outside a pre-determined margin or 'bracket' of prices shall not be used in the project.
- g) To improve efficiency and transparency of small value purchases in WB financed projects, the WB has agreed to allow the use of GeM as follows: (i) Use of GeM is allowed in lieu of shopping up to US\$ 30,000 in catalogue mode; (ii) Use of GeM is allowed in lieu of shopping up to US\$ 100,000 provided there are at least 3 suppliers for the item on GeM and the Purchaser uses RFQ (mini competition or bidding among suppliers) feature on GeM to discover the final price; (iii) In both above cases Borrowers will record their assessment on reasonableness of price; and (iv) GeM is not to be used in lieu of NCB.
- h) No negotiations are conducted, not even with the lowest evaluated responsive bidders.
- i) Two or three envelope system will not be used except when using e-procurement system assessed and agreed by the Bank.
- j) All procurable items/activities which costs upto Rs. 20,000 in the project including goods, works, non-consultancy services, consultancy services and all other items under operating expenses such as trainings, workshops etc. shall be procured directly without competition.

369. Institutional Partnership through Direct Selection:

As a departure from the conventional project approaches, SMART proposed to make concerted efforts in bringing in clean and climate resilient technologies and consider economic, social and environmental sustainability as one of the main objective of the program. The project will support agriculture and livestock productivity (including value and incomes) inter alia through transfer of essential climate resilient technology and practices in production and improved post-harvest and market operations, and support financing modalities to support entrepreneurship and agri-business. In order to achieve the above objectives, project planned will consider strategic partnership arrangements with reputed national and international institutions for training, technical backstopping, setting up centres of excellence or implement innovative technological solutions, identified through extensive market research as service providers or institutional partners. A long list of such identified strategic partners including justifications for DS has been included in the PPSD and will be updated with clearance from the WB as per the requirement. Further *Justifications for DS if required or desired by Bank will be provided at respective specific approval stages.*

370. Procurement management:

- a) PCMU will be responsible for ensuring compliance with the WB procurement regulations and reporting to the WB in a timely manner. While, both the PCMU and PIUs will carry out the procurement at respective level and will undertake contract management, the PCMU will oversee all procurements related to the Project.
- b) The PCMU will have dedicated procurement staff conversant with WB procurement guidelines and experience of working in Bank - funded Projects considering the responsibility of keeping oversight in the procurements by the line departments /agencies. According to the quantum of procurement to be managed by respective PIUs, dedicated procurement staff will also be appointed at PIU level.
- c) At each project level a Procurement Committee shall be constituted to assist to the competent authority for planning procurement, approving what to buy and when to buy, finalise technical specifications for goods and works, finalise terms of references for consultancies, opening of bids / proposals, evaluation of bids/proposals, award of contract, supervision and contract management, while adhering to procurement principles and regulations.
- d) The procurement committee comprising of minimum five members shall be formed at each Project-Unit level. The Procurement Committees at PCMU at PIU level will have minimum following members as given in following Table and as per implementation requirement Technical Officers or Experts will also be included as additional members:

Position	PCMU level	PIU level
Chairperson	Project Director (SMART)	Commissioner / Director / Head of the Institution
Dy. Chairperson	Additional Project Director	Nodal Officer
Member- Finance	Chief Financial Controller	Account Officer
Member Procurement	Procurement Expert	Procurement Officer
Member Secretary	Coordinator /Technical Officer (Concerned)	Technical Officer (Concerned)

Under National Competitive Procurement limit, Standard Bidding Documents /Request for Proposals /Request for bidding documents as finalized by the ‘Government of India Task Force’ and as amended from time to time, shall be applicable for procurements.

- a) Procurement under project involves many new and innovative aspects, in particular, those related to PP, MAP etc., which will be more challenging than the previous WB funded projects in this sector. Apart from delays in procurement process, contract management delays and disputes are potential problem areas, which will be addressed by the respective IAs.
- b) Contract awards should be finalized within validity periods of the Quotation / Bid / Proposal.

371. Procurement capacity building

Besides, the appointed procurement staff in PCMU, additional procurement staff to be based in PCMU and PIUs will likely to have limited prior experience in handling procurement functions following the recent WB’s Procurement Regulations. For enhancing procurement capacity, agreed mitigation measures with the WB are upskilling of procurement staff, availing training and on-going support from the WB. Key procurement staff will be sent for training at one of the Procurement Training Institutes

i.e. the Indian Institute of Management (IIM) Lucknow; ASCI, Hyderabad; and National Institute of Financial Management (NIFM), Faridabad.

372. Record Keeping:

All records pertaining to procurement including the award of contract, bid notification, register pertaining to sale and receipt of bids, bid opening minutes, bid evaluation reports; and all correspondence pertaining to bid evaluation, communication sent to /with the WB in the process, bid securities, approval of invitation /evaluation of bids by the PCMU would be retained by the concerned IAs.

373. Disclosure of procurement information.

Adhering to 'Procurement Regulations', the following documents will be disclosed by the PCMU & IAs on the project /State websites: (i) a Procurement Plan and updates; (ii) an invitation for bids for goods and works for all contracts; (iii) request for expression of interest for selection /hiring of consulting services; (iv) contract awards of goods and works procured under international and national procedures; (v) a list of contracts /purchase orders placed under shopping procedures on a quarterly basis; (vi) a list of contracts under DC on a quarterly basis; (vii) a monthly financial and physical progress report of all contracts; and (viii) an action taken report on the complaints received on a quarterly basis.

Further the following details will be sent to the WB for publishing on the United Nations Development Business (UNDB) and the WB external website: (a) an invitation for bids for procurement of goods and works using open international procedures, (b) contract award details of all procurement of goods and works using open international procedure, (c) request for expression of interest (EoI) for consulting services with estimated cost more than **US\$300,000**, (d) contract award details of all consultancy services with an estimated cost of more than **US\$300,000** and (e) a list of contracts /purchase orders placed following DC procedures on a quarterly basis. Further, IAs will also publish on their websites any information required under the provisions of 'suo moto' disclosure as specified by the Right to Information (RTI) Act.

374. Delegation of Procurement Powers:

- a) The Delegation of Technical and Financial Powers shall be as approved or revised by the Steering Committee (time to time) and specified under Financial Management Manual.
- b) The Project Director (SMART) has full powers to procure works, good and equipment, non-consultancy and consultancy contracts valued upto Rs 5 Crore; all contract above Rs 5 Crore to Rs 10 Crore with the approval from Secretary (Agriculture) and all contracts above Rs 10 Crore with the approval of Steering Committee.
- c) The power to procure works, goods and equipment, non-consultancy and consultancy contracts at PIU level as per approved PIP, is delegated to Heads of the concerned PIU.
- d) Considering the procurement risk assessment carried out by the WB across the implementing agencies and delegation of technical & financial powers, all Procurements above **Rs.10.00 lakhs under respective sub-implementation units (if**

- any) and CBOs will be prior reviewed by the respective PIUs. The procurement of all the contracts valued above **Rs. 10.00 lakhs under PIUs, their respective sub-implementation units (if any) and CBOs**, will be prior reviewed by the PCMU.
- e) As per the above specified limits, the PIUs will invariably obtain prior clearance of the PCMU against all the bid documents and the bid evaluation reports for all goods & works and also against the TOR, EOI, shortlists, RFPs and technical & combined (technical & financial) evaluation reports, the minutes of negotiations and the draft contract agreement before award of contract.
 - f) All procurement plans by PIUs will be prior reviewed by PCMU before submitting to the WB for clearance.
 - g) Also, for all the procurement with WB prior review as specified through approved Procurement Plan by the WB, prior review will be done by PCMU before submitting any related information to the WB.

375. Grievance Redressal Mechanism (GRM):

- a) The project will implement a robust and responsive grievance handling mechanism with an objective to put in place grievance-redress (GR) systems which are transparent in functioning and accessible by all. The details are given in Chapter on GRM.
- b) A robust GRM to address any procurement complaints received by the PCMU /PIU will be put in place by the Project.
- c) Upon receipt of complaints, immediate action would be initiated to acknowledge the complaint and to redress it within a reasonable timeframe.
- d) In order to deal with the complaints about or received from the contractors/ suppliers or about tender evaluation/award of contract effectively, all complaints would be handled at a level higher than that of the level at which the procurement process is being/was undertaken or the decision was taken and the allegations made in the complaints would be enquired into.
- e) All complaints about tender evaluation from contractors / suppliers would be addressed within the period as specified in the tender. If a complaint is received after award of contract, its enquiry / investigation would be conducted and its report would be communicated to the concerned departmental head and the PD.
- f) If allegations are found correct, appropriate remedial measure would be taken by the higher administrative authorities.
- g) The PCMU will establish a mechanism to receive and facilitate resolution in terms of, complaints, and grievance from CBO level project beneficiaries with respect to procurement at CBO level.
- h) A Centralized Control and Monitoring System (CCMS) will be established to provide the adequate platform for the Grievance-redress and system will be streamlined to address concerns & issues (related to implementation of project, procurement, financial management, environment, social-equity, etc.) of all the relevant stakeholders of the project like CBOs, local community, contractors, suppliers, etc. in a time bound and effective manner.

376. Procurement Audit:

All contracts not covered under prior review by the WB will be subject to Procurement Audit, post review /audit by the WB and also by the PCMU through auditors appointed for the purpose. Review of Procurement at PIU level will be included under audit by

Internal Auditor. The procurement at CBO level will be audited through Procurement Audit Agency.

377. Procurement Manual:

Further details are provided in the Procurement Plan, Procurement Manual and Community Operational Manual for the Project.

D.5: Safeguards – Environment and Social Management

378. D5.1: Environment Management

As a part of project preparation, an Integrated Environmental and Social Assessment Study (ESA) was undertaken with an aim to provide inputs into the design of the SMART Project in accordance with the World Bank's Operational Guidelines and Policies. It involved identification of key environmental and social issues arising out of the proposed project activities and mainstream the environmental and social management measures in all stages of the project cycle. Based on the ESA study, Environmental and Social Management Framework (ESMF) has been developed to ensure that:

- a) Environmental considerations are fully mainstreamed in project planning, implementation and monitoring; and
- b) The potential adverse impacts are adequately mitigated and potential benefits of the project are further enhanced to improve the effectiveness and sustainability of the project.
- c) All activities under all the component and subcomponents of the SMART project will be implemented in accordance with the provisions and mitigation measures given in the ESA/ESMF document.

The ESMF follows the principles of participation, transparency, accountability and lays emphasis on Integrated Pest Management (IPM), food safety, Maximum Residue Level (MRL) compliance, resource use efficiency, waste and wastewater management, Greenhouse Gas (GHG) emission reduction, environmentally and socially sound construction management, biosafety, and good industrial practices. Through the framework, the project will ensure that the project's implementation is in compliance with the policies, laws, rules and regulations of the Government of India, State Government (enlisted in the "Chapter 3: Review of Environmental and Social Legislation and Policies" provided in the ESMF report) and the Operational policies of the Bank related to the Environmental Safeguards, i.e. Environment Assessment (OP/BP 4.01) and Pest Management (OP 4.09). The SMART project's potential adverse environmental impacts on human populations and agro-ecosystems are mostly less adverse & more limited, fewer, site-specific and are likely to be reversible. It could be prevented, minimized, mitigated, or compensated to improve the environmental performance through site specific environmental protection & conservation measures. The ESMF has been disclosed on the website of the SMART project as well that on the World Bank's website.

379. Environmental Impacts and Risks

The SMART sub-project interventions are related to the production enhancement and efficiency improvement of the post-harvest segments of the agricultural value-chain which are likely to have environmental impacts and risks in the following areas:

- a) The productivity enhancement interventions like use of agricultural machinery, agro-chemical usage, and seed varietal selection may have impact on agro-ecology, human health, biodiversity and environmental resources.

- b) The interventions pertaining to the civil works like construction of warehouses, grading & sorting units, cold storage, markets, etc. and also the renovation of the existing ones are likely to pose environmental risks due to site modification, construction, demolition, clearing of green cover, and related operations.
- c) The agricultural processing related interventions in the value chains like grading, polishing, cleaning, boiling, washing, etc. may lead to pollution of air, land & water and may lead to increased water & energy consumption and release of organic waste & microbes in the local ecosystems.
- d) The livestock related interventions may lead to pressure on fodder and water resources and may pose environmental risks due to improper manure management, disease control and maintenance of hygienic conditions.
- e) The construction and/or renovation related activities of slaughterhouse may lead to the land, water and noise pollution. The activities related to the operation of the slaughter house may lead to environmental pollution from the organic load rich abattoir waste and waste water generation and its improper disposal and management.
- f) Construction of port exit level infrastructure for supporting exports, viz., warehouses, cold storages, etc. and related waste & waste water generation may lead to pollution in the marine environment.

The ESMF of the SMART project has helped in developing environmental screening format and checklist for all the subproject proposals at Project Concept Note (PCN) and Full Project Proposal (FPP) stage. The SMART project will provide Business Development Services (BDS) for “Component B: Supporting Enterprise Growth and Expanding Market Access” subproject proposals, which will include Environmental and Social Safeguard Specialists.

380. Scope for Improving Environmental Performance

The overall assessment of the SMART subproject proposals in terms of environmental considerations is positive due to project’s emphasis on IPM & INM practices, Good Agriculture Practices (GAP), MRL compliance, food safety, Organic Certification, resource use efficiency, GHG analysis of the value chains, Good Animal Husbandry (GAHP) Practices, etc. The assessment shows that while there is low to moderate risk of negative environmental impacts, there are high positive opportunities to enhance the environmental performance through the project. Summary of the findings are as follows:

a) Environmental:

- i. Majority of the interventions proposed are not new, efforts are to improve the existing practices and consequently spatially and temporally limited impacts may occur. Mitigation measures are proposed in the ESMF report to contain / minimize / reverse any adverse impacts.
- ii. Sites proposed for infrastructure are in close proximity to the center of production, processing and accessible through all-weather roads.
- iii. Land required for the project does not include conversion of forest to non-forestry activities, protected area and natural water bodies. The upgrading of agricultural assets or services will not disturb any natural habitat outside the protected areas.

- iv. Improved access to the potential new markets could witness increased farm produce being traded and is likely to create issues related to management of solid /organic waste and waste water. Measures have been proposed in the ESMF report to address management of solid / organic wastes.
- v. Better access to markets could drive on farm practices that increase yields resulting in increased use of fertilizers and pesticides. An Integrated Nutrient Management (INM) and Integrated Pest Management (IPM) strategy has been developed and included in ESMF for the SMART project. The project will provide training and carry out capacity building of 100 percent CBOs under SMART in the IPM and INM practices.
- vi. Opportunities exist to enhance the positive environmental impacts by using alternative and environmentally friendly materials and approaches for conservation of natural resources.

381. Environment Management Framework (EMF)

As per the requirement of OP/BP 4.01, an Environmental and Social Assessment (ESA) study was conducted which involved carrying out of field visit surveys and stakeholder consultations in relation to the SMART project interventions and to understand & identify the potential negative impacts/risks on the environment. The EMF as a part of ESMF provides guidance to the SMART PCMU and Respective Line Department PIUs/RIUs/DIUs under the project for integration of environmental considerations and related mitigation measures into the SMART's subproject preparation namely Productive Partnerships (PPs), Market Access Plans (MAPs), Innovation Plans, and Collateral Management Agency (CMAs) Proposals, etc. EMF provides guidance in subproject's environmental screening, appraisal, preparation, implementation, monitoring and reporting of the Environment Management Plans (EMPs) in compliance to the applicable environmental legislations and World Bank's safeguard operational policies. EMPs outlines the avoidance, mitigation, monitoring and administrative measures to be taken during the SMART project implementation to avoid or mitigate negative environmental impacts in a feasible and cost-effective manner to the acceptable levels. EMPs lays out a system of environmental appraisal to be carried out for all the SMART's sub-project proposals for ensuring:

- a) Inclusion of environment management guidelines/best practices into the sub-project proposals
- b) Adherence to providing filled-in templates/formats/checklists (included in the annexure) for environmental appraisal of the sub-projects
- c) A negative list of activities to be dropped from the project components as per the India's legal and regulatory framework and World Bank safeguard operational policies included in the ESMF
- d) Mitigation measures/clauses to be included in the bid document
- e) Institutional arrangements
- f) Capacity building plan
- g) Monitoring plan

382 Environmental & Social Screening of the Subproject Proposals and Activities

The process of Environmental Screening will be used to decide on the appropriate level and type of Environmental Assessment (EA) required for a given project on the basis of its likely environmental impacts. For identification of sensitive sub-projects with respect to the environmental issues a screening and review process is presented below.

This exercise will be a useful tool to identify the environmental issues and integrate them into the project preparation, and not as an exclusion criterion for avoiding environmental impacts. The PIU/RIU/DIU will carry out screening exercise for all proposed subproject interventions (department wise) to be further identified in the subsequent stages of the SMART project prior to initiation of the activities. The screening criteria will include the following environmental factors but not limited to:

- a) Use of banned/restricted agrochemicals, if any
- b) Overuse of agrochemicals
- c) Interventions in sensitive areas, natural habitats, protected areas, marshy areas, etc.
- d) Felling of trees and clearance of vegetative cover in the subproject area
- e) Presence of water bodies (pond, lake, rivers, etc.) and diversion of its natural course
- f) Crop residue burning
- g) Vulnerability to natural hazards, landslides, erosion, flooding, etc.
- h) Use of banned veterinary drugs in the livestock rearing, if any
- i) Use of energy intensive outdated machineries and polluting vehicles

Please refer to the template for the Environmental Screening Checklist provided in the Annexure C to be filled in by the safeguards officers of the PIU/RIU/DIU for its consideration by the safeguard vertical of the PCMU. If the project activities are proposed near environmental sensitive areas / protected areas, the general condition of the EIA notification dated 14th September, 2006 shall be referred for the type of Environmental Assessment requirement.

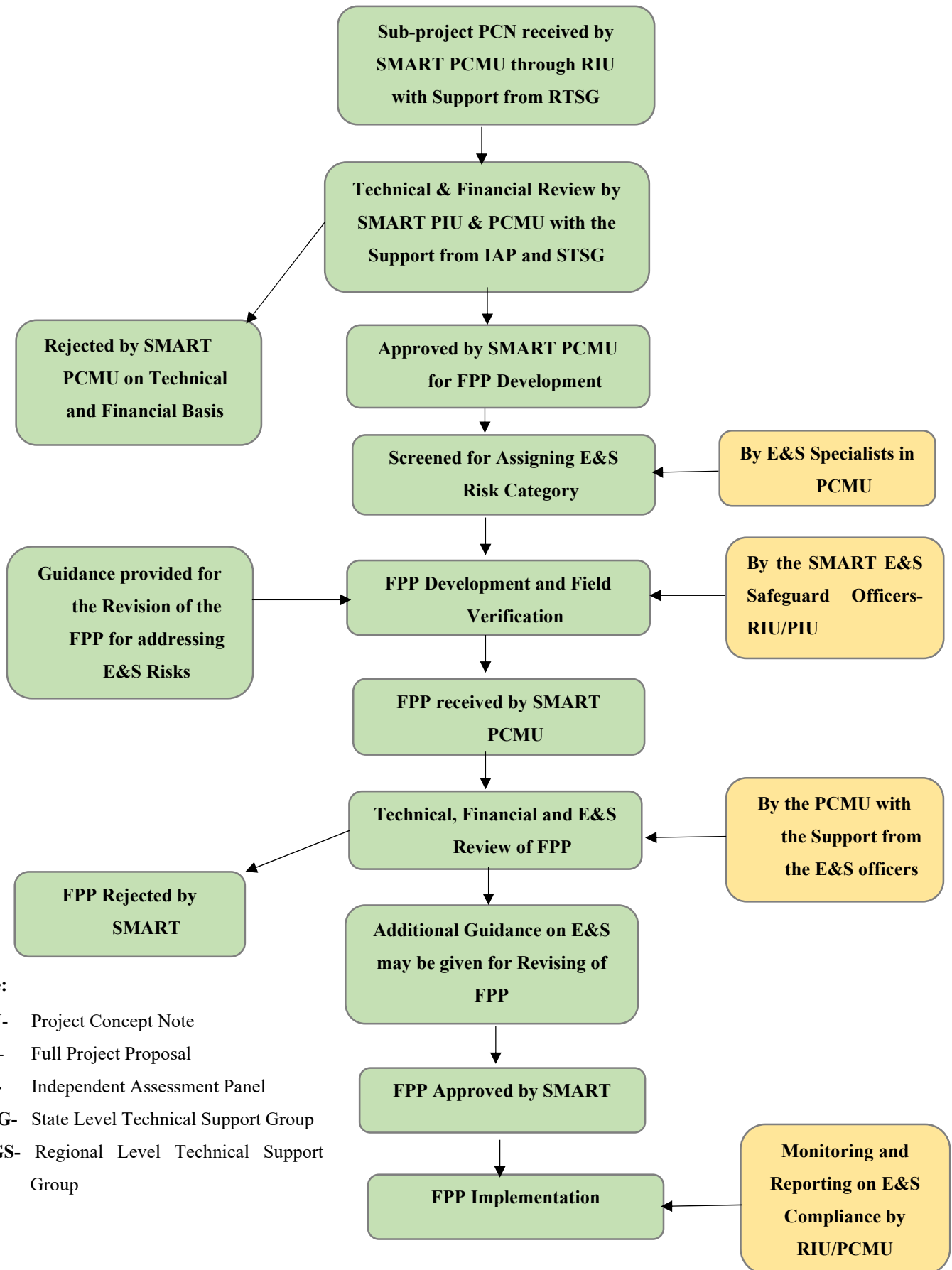
In view of the World Bank Safeguard Policies, with an exemption to Component A, C and Don Enhancing Institutional Capacity, Building Risk Mitigation Mechanisms and Project Management respectively, the remaining Component B on Expanding Market Access and Supporting Enterprise Growth is likely to have low to moderate environmental impacts related to agriculture value chain related production & processing activities, infrastructure development and its operation in the subproject areas. Hence the subproject activities/ interventions shall be categorised and the type of EA requirement shall be decided based on the significance of the environmental Impacts which is detailed as follows:

Project Category	Evaluation Criteria	Indicative List of Projects
A	Significant adverse impacts that are sensitive, diverse, or unprecedented, or that affect an area broader than the sites or facilities subject to physical works. Conversion / alteration of natural habitats. Significant quantities of hazardous materials.	Large scale agro industries, production & processing units, solid waste collection and disposal, hazardous waste management and its manufacturing and large-scale use of pesticides.
B	Potential impacts are less adverse & more limited,	Small-scale agro industries, production

	fewer, site-specific, likely reversible. Mitigation measures can be more easily designed/implemented.	& processing units, rural development projects, solid waste collection and disposal.
C	Expected to have no adverse environmental impacts, or only minimal impacts easily and fully mitigated through routine measures	Projects with no to negligible impacts and green in nature viz., biomass energy production, silage (fodder) making, etc.

In addition to the technical and financial screening & approval of the sub-project proposals under SMART, approval will be taken for safeguards as per the following process:

Process Flow Diagram for Environmental & Social Safeguards (E&S) Inclusive Screening and Approval of the SMART's Sub-project Proposals



Note:

- PCN- Project Concept Note
- FPP- Full Project Proposal
- IAP- Independent Assessment Panel
- STSG- State Level Technical Support Group
- RTGS- Regional Level Technical Support Group

In relation to SMART, the Environmental Management Plan (EMP) identifies the key environmental issues across the design, construction, commissioning, operation and maintenance phases of the subproject proposals. It provides strategies and plans for managing environmental impacts/risks effectively to the acceptable levels and suggests compensatory measures if mitigation measures are not feasible.

The plans and guidelines developed for the Environmental Management are:

- a) Pest Management Plan (PMP)
- b) Construction Management Guidelines for the Construction/Up-gradation of Post-harvest Infrastructure, viz., Warehouse, Slaughter houses, Food Processing Units, etc.
- c) Good Industry Practices for the Slaughter Houses
- d) Guidelines on Clearance Procedure for Food and Agricultural Materials Imports to India
- e) Greenhouse Gas (GHG) Analysis of the Selected Agri-Value Chain Subprojects

384. Pest Management Plan (PMP)

As per ESMF, SMART Project triggers OP 4.09 for Pest Management and hence PMP has been prepared as part of its safeguard (ESMF) document. The PMP suggests measures on Integrated Pest Management (IPM) practices to be adopted by CBOs members supported under SMART. It suggests a guided acquisition, storage, handling and application of pesticides permitted by Central Insecticides Board & Registration Committee (CIBRC), Government of India where such a need is inevitable. The PMP addresses relevant stakeholder concerns about pests and pesticides. It intends to increase project stakeholder awareness on pesticide-related hazards and good practices for safer pesticide usage, use of organic inputs including bio-control agents as well as to provide relevant training and information dissemination activities. It stresses on the need to monitor and mitigate negative environmental and social impacts of the SMART project. It emphasizes on the need for adoption of an integrated approach to the management of pests in line with Govt. of Maharashtra's strategies on IPM adoption as well as World Bank requirements on pest management. For more details, please refer to the related Chapter 14 of the ESMF. Trainings and workshops on the IPM through the Farmer Field Schools (FFSs) will be conducted throughout the SMART project in the 01st-06th year of project implementation by the service providers.

385. Targets under PMP

- a) To do 100 percent IPM demonstrations for all the SMART related agri-commodities within initial 01-02 years of the project initiation.
- b) Target to bring minimum of 50 percent of the SMART project's area under the IPM practices by the end of the project.
- c) Provide training and capacity building to all the CBO representative on IPM practices for the SMART related agri-commodities through FFSs within initial 01-02 years of the project initiation.

386. Construction Management Guidelines (CMG) for the Construction/Up-gradation of Post-harvest Infrastructure

As per ESMF, SMART Project triggers OP 4.01 for Environmental Assessment for supporting post-harvest civil work based infrastructure, viz., Construction of Warehouses, Grading & Sorting Units, Cold Storage, Markets, etc. and also for the Expansion of the existing ones. In this connection, as per the requirement of OP 4.01; the clause for giving “Environment Management Plan (EMP)” beforehand by the civil work contractors on the anticipated environmental risks likely to happen during the implementation of the SMART’s sub-project activities would be included in the Contract Bid Document.

The construction & demolition waste, waste water and noise pollution generated during the construction activities under SMART would be required to be managed as per the EMP guidelines indicated in the CMG of the ESMF Report. The concerns related to occupational health and safety of workers and post construction clearance is also required to be adhered to as per the CMG of ESMF. To ensure to the strict adherence to the CMG, review of the civil work contract proposals by the SMART’s Environmental Safeguard Officer(s) and taking his/her signature both during the contract approval stage and wind up stage has been made mandatory. For more details, please refer to the Chapter 11 of the ESMF.

387. Good Industry Practices (GIP) for the Enterprises & Slaughter Houses

As per ESMF, SMART Project triggers OP 4.01 for Environmental Assessment for supporting activities linked to livestock (small ruminant) slaughtering and also related to meat processing based infrastructure, viz., Construction of the New Slaughter Houses and/or Expansion of the Existing Ones and related Abattoir Waste and Waste Water Management (Effluent Treatment Plant) Facilities. Environmental baseline information on the existing and/or proposed slaughter house site topography, economic activities linked to land use, layout & livestock holding area, environmental parameters- air, water & soil characteristics, abattoir waste & waste water generation & treatment, effluent discharge, energy requirement, traffic & transportation management, meat testing facility, safety of workforce and pest management would be required to be given by agencies interested to construct/expand the slaughterhouse infrastructure. Documentary evidence on legal compliance, viz., a copy of the NOC from Maharashtra Pollution Control Board (MPCB), Food Safety and Standards Authority of India (FSSAI) License for slaughterhouse under the Food Safety (License and Registration of Food Business) Regulation 2011, technical specifications of planned Abattoir Waste Management/Rendering Plant, Effluent Treatment Plant Up-gradation and Treatment facility would be required to be annexed with the slaughter house proposals to be supported by the SMART project. Also, the clause for providing “Environment Management Plan (EMP)” beforehand by the interested civil work agencies would be included in the Bid Document during invitation of the related proposals.

The construction & demolition waste, waste water and noise pollution generated during the slaughter house related construction activities under SMART would be required to be

managed as per the EMP indicated in the Construction Management Guidelines (CMG) of the ESMF Report. The concerns related to Occupational Health and Safety of workers and Post Construction Clearance is also required to be adhered to as per the CMG.

Medical officer of health and veterinary superintendent, PIU-PMC under the urban food pilot subproject will screen the proposed slaughter house proposal for E&S risks and impacts. This would be followed by review of the same by the E&S safeguards officers of the PCMU through the support of the Business Development Service (BDS) provider. To ensure the strict adherence to the CMG, review of the civil work contract proposals by the SMART's Environmental and Social Safeguard Officer(s) and his/her signature both during the contract approval stage and wind up stage has been made mandatory. For more details, please refer to the Chapter 12 of the ESMF.

388. Guidelines on Clearance Procedure for Food and Agri-Materials Imports to India

Food and Agricultural imports to India are regulated by FSSAI's Food Safety and Standard (Import) Regulation Act, 2017 and Plant Quarantine (Regulation of Import to India) Order 2003 with requirements of certification process to be complied by the importers. In case of import related to founder varieties of seeds, saplings and plant propagation material from foreign countries, viz., citrus, grape, etc., SMART project would follow the Guidelines on Clearance Procedure for Food and Agri-Materials Imports to India given in the ESMF Report. The guidelines gives details about the Licensing Requirements of the Food Importers, Clearance Process, Storage and Sampling, Laboratory Analysis of the Imported Samples, Prohibition and Restriction on Imported Articles, Powers and Duties of Food Authority Officers, Disposal of Rejected Food Consignment and Treatment of Unclear and Unclaimed Food Articles/Materials. For more details, please refer to the Chapter 13 of the ESMF.

389. Greenhouse Gas (GHG) Analysis of the Selected Agri-Value Chain Sub-project proposals

In the ESMF, Greenhouse Gas (GHG) Emission estimation of selected value chains of sub-projects on pilot basis has been carried for the agricultural and allied sector commodities namely Cotton, Soybean, Banana, Okra, Turmeric and Goat Rearing using Food and Agriculture Organization's Ex-Ante Carbon-balance Tool for Value Chain (EX-ACT VC). Actual datasets sourced from the CBOs and Agri-Processing Enterprises of the concerned 06 number of sub-project entities on agricultural inputs, farm waste management practices, processing activities, transportation and related prices was collected and entered into the EX-ACT VC, an excel based value chain tool using the standard units.

GHG Mitigation dimension of the Value Chain in tCO₂-e per year and Carbon footprint at the different levels of the Value Chain- Production, Processing and Transportation Level in tCO₂-e per tonne of product has been calculated based on the current (without SMART) and upgraded scenario (with SMART). It has been envisioned to achieve 05-10 % efficiency in energy consumption, use of chemical fertiliser and other resource utilisation in the upgraded scenario (with SMART) by the end of SMART project. The

area of sowing in most of the sub-project plans remains the same as SMART does not have direct influence at the production level and focuses primarily on the post-harvest segment of the value chain. For more details, please refer to the Chapter 6.10.2 on Greenhouse Gas Emission Analysis of the ESMF. If required, similar exercise would be conducted for the selected agri-commodities brought under the SMART project.

390. Training and Capacity Building Plan on ESMF

As a part of Environmental Safeguards, training need assessment of the SMART project stakeholders has been carried out during the Environmental and Social Assessment (ESA) study. Based on it, specialized training's as per the project training calendar decided by the SMART PCMU would be provided to the representatives of CBOs and Enterprises through the FFSs on Environmental Legislation, GAP, IPM, INM, FSSAI-MRL Standards, Composting of Agri-waste, Energy Efficiency, Waste & Waste Water Management in APMCs, Preventive Vaccination, Good Industrial Practices- Slaughter house, Environmental Monitoring & Reporting, and Grievance Redress Mechanism (GRM). Trainings will be undertaken for the SMART CBOs, PCMU, PIU, RIU and DIU staff and related value chain actors. In relation to environmental safety aspect, under the behavioral change modules proposed by Pune Municipal Corporation (PMC) run slaughterhouses; training on MRL of meat, adoption/strengthening of Hazard Analysis and Critical Control Points (HACCP), Good Manufacturing Practice (GMP) and Good Hygienic Practices (GHP) in the slaughter houses will be provided to the PMC PIU stakeholders and butchers. Training modules and materials prepared will be made available on the project website for use by PIUs, RIUs and DIUs, as appropriate. The PCMU, PIUs & Regional offices would implement most of the capacity-building activities through VANAMATI, RAMETI & ATMA, among others.

391. Targets for Monitoring and Evaluation (M&E)

Apart from the targets highlighted in PMP, the overall target for the SMART project M&E at PIP level will also include measures undertaken by the SMART project for the reduction of GHG Emissions and foster Climate Co-benefits which are as follows:

- a) To train 21,500 number of producers in the adoption of Climate SMART Technologies by the end of the project.
- b) Carry out trainings and demonstrations of 10 number of Climate SMART Technologies related to agriculture and livestock rearing to the producers and value chain actors by the end of the project.
- c) To bring 70,000 ha. land area under Climate Smart Agriculture (CSA) technologies promoted by SMART by the end of the project.
- d) Facilitate adoption of at least 30 % of Climate SMART Technologies by the producers of SMART by the end of the project.
- e) GHG emission reductions at least by 10 % in the selected value chains of SMART sub-project's from the baseline scenario (without SMART).
- f) Replacement of coal-based electricity in kWh by renewable energy sources (solar) by 50 % in the new warehouses and by 25 % in the existing warehouses.

392. Monitoring Plan

Supervision, monitoring and auditing requirement has been suggested in the ESMF to assess the efficacy and efficiency of the proposed SMART project interventions for the environment management. Indicators for evaluation have been developed and presented in the PMP and M&E section to ascertain the sustainability of the subproject interventions. For evaluation of implementation, an external audit mechanism is planned.

393. Grievance Redressal Procedure:

If any issues regarding environmental impacts and risk management will arise during the sub-project implementation, those will be addressed as per the Grievance Redressal Mechanism (GRM) of the SMART PIP. For details, please refer to the PIP chapter D.6.3. on Grievance Redress Mechanisms and Complaints Handling.

394. Institutional and Implementation Arrangements

Project Coordination and Management Unit (PCMU), Department of Agriculture (DoA) is responsible for the technical aspects and overall execution of the Project in coordination with the 11 PIUs of the SMART project. The PCMU, within DoA will be responsible for screening of sub-project proposals vis-à-vis impact categorization and would oversee overall implementation and monitoring of sub-project proposals. The environmental safeguard specialist, PCMU will oversee the environmental safeguard aspects and will be assisted by environmental specialists placed at PIU/Regional levels. Following is the proposed implementation arrangement for the SMART project:

Sr No.	Levels	Implementing Units	Human Resource / Agencies
1.	State	PCMU	Environmental Safeguard Specialist
2.	State	11 Numbers of PIUs	Nodal Officers of the PIUs who would be responsible for Environmental Safeguard Compliance
3.	Divisional	08 Number, Placed at Joint Director of Agriculture (JDA) Office of the State	Divisional level Environmental Safeguard Officers located at Thane, Pune, Kolhapur, Nashik, Latur, Aurangabad, Amravati and Nagpur will ensure and monitor the environmental safeguard compliance at divisional level.
4.	District	District Level PIU Units	DIU-Head will be responsible for Safeguard Compliance at district level. Sub-project Manager will be responsible for Safeguard compliance at PP/MAP/CMA level

395. ESMF Audit

Two types of environmental audits will be performed including (i) Internal Audit and (ii) External Audit to check the impact of the subproject interventions as mentioned below:

- (i) **Internal Audit** is an independent, objective assurance and consulting activity designed to add value and improve an organization's operations. It helps an organization to accomplish its objectives by bringing a systematic, disciplined approach to evaluate and improve the effectiveness of processes. Internal audit will not be done for the execution of SMART activities (project interventions). It is for advising management (PCMU, RIU, DIU) regarding how to better execute their responsibilities. It is recommended that at the end of first year one internal audit

should be carried out by the Environmental Specialists of the SMART PIUs, RIUs and DIUs under the supervision of PCMU for effective and smooth operation of the project.

- (ii) **External Audit** - An Independent external audit will be conducted twice during the project duration—one at the end of the second year and another at the end of the fourth year. An external environment agency will be hired by the SMART in accordance with the World Bank’s procedures for procurement.

396. Negative list of Activities as per the SMART’s ESMF Report is tabulated below:

The sub-project proposals will be screened for the activities/interventions tabulated below at the PCN and FPP level and if found in the subprojects, it will be dropped from the SMART Project.

Intervention Stage	Activities Not to be Supported
Primary Production	<ul style="list-style-type: none"> • Use of pesticides banned by GoI, pesticides listed in Class Ia, Ib, Class II of WHO. • Use of pesticides from sources not licensed for the same. • Use of uncertified seeds or non-Truthfully Labelled seeds. • Burning of crop residue • Use of high energy consuming equipment’s and vehicles like polluting DG sets, outdated tractors, outdated harvesters, outdated reefer van etc.
Back yard poultry and rearing of Goat and Sheep	<ul style="list-style-type: none"> • Open grazing of Goat or Chicken Birds in the forest areas is prohibited completely. • Allowing non- vaccinated animals or diseased /ill animals to enter and range freely in the forest areas.
Market / Retail / Slaughter House	<ul style="list-style-type: none"> • Activities involving unsanitary disposal of solid waste generated in the market. • Markets without proper drainage facility. • Operating Slaughter house without abattoir waste management and ETP facility.
Forest Protection	<ul style="list-style-type: none"> • Diversion of Forest Land to the purpose of the project is completely prohibited. • Extraction, transportation, processing and sale of forest produces, or any commodity selected under SMART and produced in forest land shall be completely prohibited.
Others	<ul style="list-style-type: none"> • Release of genetically altered organisms into the natural environment • Use of Radioactive products • Tobacco, unmanufactured or manufactured • Support to the Tobacco processing machinery

397. Budget for the Environmental Safeguards

The Budget Proposed for the cross-cutting aspect of “Environmental Safeguards” is **Rs. 97,34,22,000/-** which would be covered under Component A: Enhancing Institutional Capacity (DoA), Component B: Supporting Enterprise Growth and Expanding Market Access. The cost of publication of IEC materials on environmental safeguards and consultancy agency for environmental audit is included in the Component D: Project Management, Monitoring and Learning. The overall budget is tabulated below:

Sr No.	Proposed Activity	Unit Type	Unit Cost (INR)	Total Units	Total Cost (INR)	Proposed Year of the Intervention	PIP Costing Head	
Support for GAP and Organic Certification, MRL Testing, Training and Capacity Building- Environmental Safeguards and ESMF								
1.	Increase in area under India GAP standards	Lump sum	6,00,00,000	7	42,00,00,000/-	01 st – 07 th	Cost provision included in Component A1 on Enhancing Institutional Capacity (DoA), PIU-Agriculture	
2.	Weekly training to Farmers through the Farmer Field Schools on GAP, MRL, Organic, etc. by PIU-Agriculture	Numbers	32,000	2,424	7,75,68,000/-	01 st – 06 th	Cost provision included in Component B1 on Market Access Support-Extension activities for value chain development by PIUs- Agriculture and Horticulture in catchment area of PPs & MAPs	
3.	Training on Market Led Crop Demos for GAP / Organic and Traceability by PIU-Horticulture	Numbers	6,000	30,600	18,36,00,000/-	01 st – 06 th		
4.	Service Provider for GAP and Food Safety Certification to 8,500 Farmers by PIU- Horticulture	Numbers	3,00,00,000	1	3,00,00,000/-	01 st		
5.	Service Provider for Organic Farming Certification to 4,000 Farmers by PIU- Horticulture	Numbers	2,00,00,000	1	2,00,00,000/-	01 st		
6.	Weekly training to Farmers through the Farmer Field Schools on GAP, MRL, Organic, etc. by PIU-Horticulture	Numbers	32,000	1012	3,23,84,000/-	01 st – 06 th		
7.	Service Provider for Pest Free Area Certification Program	Numbers	20,00,000	10	2,00,00,000/-	02 nd – 04 th		
8.	Traceability and Food Safety Interventions activities based on recommendations of Knowledge Partner, short term consultancy	Lump sum	3,96,00,000	1	3,96,00,000/-	01 st – 02 nd		Cost provision included in Component B1.4 (c) on Technical Assistant Support-Livestock

Sr No.	Proposed Activity	Unit Type	Unit Cost (INR)	Total Units	Total Cost (INR)	Proposed Year of the Intervention	PIP Costing Head
9.	Comprehensive Capacity Building and Training for BoDs of CBOs (Environment and Social Safeguards, Governance, leadership, business management, and Gender) which is residential for 05 days	Numbers	10,000	5000	5,00,00,000/-	02 nd -04 th Year	Cost provision included in Component B. 1.5 on Capacity Building of CBOs
10.	Market Led Crops Demos for GAP, Organic Certifications / Traceability	Numbers	8,000	1000	80,00,000/-	01 st – 03 rd	Cost provision included in Component B3-Urban Food Pilot Program
11.	MRL Testing	Numbers	7,500	1500	1,12,50,000/-	01 st – 06 th	
12.	Training for GAP / Organic, Traceability and Food Safety (1 day)	Numbers	2000	1000	20,00,000/-	01 st – 03 rd	Cost provision included in Component B 3-Urban Food Pilot Program
13.	Training for food handlers on food safety (street vendors, hoteliers, slaughter house staff, Meat Traders, FPOs, Mid-Day Meal workers,).	Numbers	1000	8000	80,00,000/-	01 st – 03 rd	
14.	Capacity building workshops for food handlers on food safety (street vendors, hoteliers, slaughter house staff, Butchers & Meat Traders, FPOs, Mid-Day Meal workers,) (Rs.150/participant/day)	Numbers	150 (participant/day)	20000	30,00,000/-	01 st – 03 rd	
15.	Capacity building, Workshops, Seminars for staff (environment & social safeguards, technical, finance, procurement, and gender inclusion)	Lump sum	1,00,00,000	1	1,00,00,000/-	01 st – 06 th	Cost provision included in Component D-Project Management PCMU

Sr No.	Proposed Activity	Unit Type	Unit Cost (INR)	Total Units	Total Cost (INR)	Proposed Year of the Intervention	PIP Costing Head
Subtotal					91,54,02,000/-		
Human Resource for the Environmental Safeguards							
16.	Hiring of the 01 Nos. of Senior Environmental Safeguard Specialist at PCMU level	Numbers	1,75,000 * 7 Years of Project	1	1,47,00,000/-	01 st – 07 th	Cost provision included in Component D on Project Management- Recurrent Costs at PCMU
17	Hiring of the 08 Nos. of Environmental Safeguard Officers at the Regional (JDA) Level	Months	60,000 * 8 Regional Officers at JDA Level	84	4,03,20,000/-	01 st – 07 th	Cost provision included in Component B.1 on Technical Staff at RIUs
Subtotal					5,50,20,000/-		
Publication of IEC Material and Hiring of Environmental Audit Consultancy Service Agency							
18.	Environment Safeguards- Publication of IEC Material on Sustainable Agricultural Practices	Lump sum	500000	1	5,00,000/-	02 nd -03 rd	Cost provision included in Component D on Project Management- Investment Costs
19.	Short term consultancy and midterm and end term audits	Lump sum	2500000	1	25,00,000/-	01 st – 04 th	
Subtotal					30,00,000/-		
Total Cost					97,34,22,000/-		

Training and Capacity Building Calendar on Environmental Safeguards

Legend	Tasks	Sub Component of the SMART Project	Responsibility	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7
	Weekly training to 2,424 farmer producers through the Farmer Field Schools on Field Crops - MRL Compliance, GAP, Organic Production, On farm Waste Management, Composting, Food Safety, Traceability, etc.	B1: Market Access Support. (PP, MAP and Innovations) Value Chain Development Schools - Field Crops	PIU Agriculture							
	Training to 30,600 farmer producers on Market Led Crop Demos for GAP / Organic farming and Traceability	B1: Market Access Support. (PP, MAP and Innovations)	PIU- Horticulture/Agriculture							
	Weekly training to 1,012 farmer producers through the Farmer Field Schools on Field Crops - MRL Compliance, GAP, Organic Production, On farm Waste Management, Composting, Food Safety, Traceability, etc.	Value Chain Development Schools - Horticulture								
	Traceability and Food Safety Interventions activities based on recommendations of Knowledge Partner									
	Comprehensive Capacity Building and Training for BoDs of CBOs on Environment and Social Safeguards	B.1.: Capacity Building of CBOs	PCMU/PIU/RIU							
	Market Led Crops Demos for GAP, Organic Certifications / Traceability	B3: Urban Food Pilot Program	PCMU/PIU/RIU							
	Training for GAP / Organic, Traceability and Food Safety (1 day)									
	Training for food handlers on food safety (street vendors, hoteliers, slaughter house staff, Meat Traders, FPOs, Mid-Day Meal workers,).									
	Capacity building workshops for food handlers on food safety (street vendors, hoteliers, slaughter house staff, Butchers & Meat Traders, FPOs, Mid-Day Meal workers,.) (Rs.150/participant/day).									
	Capacity building, Workshops, Seminars for staff (environment & social safeguards, technical, finance, procurement, and gender inclusion)	Component D: Project Management PCMU								

D 5.2 Social Management

- 398. Social Assessment:** The project has undertaken a Social Assessment (SA) study to ensure that the potential social issues, risks and impacts for SMART are identified and adequate mitigation measures are taken in the context of World Bank's Social Safeguard Policies on Involuntary Resettlement and Indigenous Peoples and the corporate policies on gender, citizen's engagement and vulnerable groups. The study adopted random sampling method for the baseline survey and ensured that the social issues applicable to the project are adequately captured, and covered primary stakeholders in the value-chain, especially small, marginal and women producers, tribal communities, CBOs, agribusiness enterprises, APMC retailers and traders, commission agents, goat rearing farmers/cooperatives, private buyers, Bank officials, in nine agro-climatic zones covering twenty-four Agri-commodities. Meetings and consultations were also held with participating implementing agencies.
- 399. Key Social Issues:** The key social safeguard/development issues highlighted by the SA exercise are: (i) inclusion of small and marginal farmers, specifically scheduled tribes (STs), scheduled castes (SCs) and women in project benefits; (ii) ensuring project outreach and socially and culturally compatible benefits to scheduled tribes; (iii) mitigation and management of adverse social impacts arising from post-harvest infrastructure; (iv) ensuring sustained stakeholder engagement and beneficiary feedback; and (v) enhancing women's participation in agriculture technology, post-harvest activities, farmers collectives and agri enterprises and commodity markets.
- 400. Key Safeguard Policy: OP 4.10 on Indigenous Peoples is applicable.** The state has high presence of tribal population, and 13⁶ project districts being covered under the project account for 76% of the state's indigenous population. Majority of the indigenous people depend on agriculture for their livelihood and have limited income and poor access to modern facilities. The project does not anticipate acquisition of private lands or physical displacement, however, **OP 4.12 on Involuntary Resettlement is applicable** due to the potential for localized, adverse impacts arising from up gradation /construction of post-harvest facilities, warehouses, slaughterhouses, processing units, cold storage and other infrastructure proposed for SMART financing. The project accordingly has prepared an IPPF and SMF to avoid and ensure mitigation of adverse effects and enhancing benefits while project implementation.
- 401. Specific objectives of the safeguard policies are:** i) to ensure that the sub projects are socially sound and sustainable; ii) to ensure social inclusion, participation and transparency in the implementation of various project components; iii) creating opportunities for women and marginalized communities; iv) setting up of Grievance Redressal Mechanism and incorporating citizen's feedback; and v) adherence to the Social Safeguard Measures as laid down in Social Management Framework.
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402. Social Strategies

The SMART will support the following strategy:

- a) **Social Inclusion and Targeting:** SMART will promote participation and engagement of women, small and marginal producers, and vulnerable groups, including SC/ST from all regions of the state. RIU / DIUs will design and implement focused outreach programs to ensure participation of CBOs from Schedule V regions⁷, and customized Information Education and Communication (IEC) will be developed. SMART will target, i) 80 percent small and marginal farmers, ii) at-least 30 percent women producers, and iii) at-least 13% SC/ST producers.
- b) **Informed consultation and meaningful participation with key Stakeholders:** To promote receiving input for improved decision-making and to improve service delivery, SMART will conduct regular consultations with the primary producers. Wherever needed, separate consultations with women and vulnerable, i.e. women, disabled and youth will be organised.
- c) **Equity:** SMART will implement strategies and processes to promote equal opportunity and equitable outcomes for women CBOs and vulnerable groups such as the SCs, the STs, the poor minorities and the disabled.
- d) **Facilitation:** Project staff will play a catalytic role in handing over responsibilities to the beneficiary communities to the maximum extent possible. The project staff will ensure participation of project stakeholders in the implementation and monitoring of the project activities.
- e) **Transparency:** All project activities and community processes (community procurement) will be transparent and accessible to all stakeholders, especially to members of community institutions.
- f) **Accountability:** Project staff as well as community institutions will be accountable for funds and interventions.

403. Social Management Framework (SMF)

The SMF is developed to incorporate social safeguards into the main project planning, execution and operation. It will be applied to all the sub-projects in different stages of the project cycle. The framework has been suggested considering three broad stages of project cycle viz. project preparation, project implementation and project operation. The SMF also incorporates key issues pertaining to gender equity, tribal development, capability building and institutional arrangement. The framework also includes screening process for land use and monitoring measures of sub projects and monitoring measures.

The process flow for SMF clearly spells out the strategy to be followed for all the proposed SMART investments (Refer table –Process Flow for Social Safeguard):

- a) Proposals with insignificant impacts will require no further action and will be cleared.

⁷ Thane, Palghar, Nashik, Dhule, Nandurbar, Jalgaon, Ahmednagar, Pune, Nanded, Yavatmal, Amravati, Gadchiroli, Chandrapur

- b) Proposals with minor impacts will be cleared with suggestions for good practices and applicable mitigation measures. Proposals with moderate impact will be cleared after suitable mitigation measures are incorporated with compliance monitoring.
- c) Proposals expected to have major impacts, standalone social impact assessment will be suggested, and the final clearance will have conditionality of following a Social Management Plan (SMP).

The different elements of SMF are:

- Resettlement Policy Framework
- Indigenous/ Tribal Peoples Framework
- Stakeholder Consultation
- Grievance Redressal Mechanism
- Capacity Building Plan
- Citizen Engagement
- Monitoring Indicators on Social Development Outcomes
- Gender
- Social Screening Checklist

The details of the SMF activities and expected outcomes in the different stages of the project are described below:

Stages	Social Management / Safeguards Activities	Outcome
Pre-Planning	Selection of commodities	List of commodities to be covered in the project.
	Conducting social assessment.	Preparation of Social Management Framework
	Selection of CBOs for specific commodities	List of CBOs to be covered in the project.
	Di-segregation of data in various studies of subproject.	Baseline data on participation and inclusion in different sub-projects.
	Developing strategy in the sub-projects for facilitating participation and inclusion of women, marginalized communities and indigenous people.	Sub-project plan (PP, MAP, Innovative Plans, Enterprise Development, Pilot on Urban Food, SMART Cotton) for inclusion of women, marginalized communities and indigenous people in value chains of selected agri-commodities.
	Designing the institutional arrangement for enhancing positive social impacts of the projects.	Institutional arrangements of Project Coordination & Management Unit (PCMU ,PIU, RIU& DIU)
	Identification of various stakeholders (Line departments, private players, research and training institutions, etc.)	Preparation of plan for support and participation of stakeholders during project implementation
Planning	Baseline data collection on social indicators and creation of database.	Detailed baseline data of sub-projects on social indicators.
	Identification of various stakeholders (SC/ST/WHH, Small & marginal farmers) in subproject plans of each sector.	Preparation of plan for support and participation of stakeholders in sub-projects.
	Consultation with stakeholders: The focus will be on: <ul style="list-style-type: none"> • Workshop with CBOs to assess group strength and identify gaps for skill up- 	Sharing information about the project components and building consensus for their participation. Assessing the gaps in skill for preparing capacity building plan.

Stages	Social Management / Safeguards Activities	Outcome
	gradation and capability building <ul style="list-style-type: none"> • Sharing of project component and building consensus on the project component through a pre-designed workshop • Ensure participation of women, SC/ST and small and marginalized farmers beside supply chain participants like traders, transporters etc. Incorporate the suggestions 	
	Consultation & disclosure of Social Assessment report and Social Management Framework.	Strategies for incorporating social development principles in designing of the project.
	Conduct due diligence of land use for infrastructural up gradation.	Assessing the title holder of land.
	Preparation of sub-project implementation plan. The plan should include details on the following components: <ul style="list-style-type: none"> • Selected site and overview of project benefits and activities. This should include copy of title of the land • Detailed plan for inclusion of women, small and marginal farmers and SC/STs of the area in the various stages of the project activities. • Capability building plan for skill up-gradation and capacities of the CBOs 	Finalized sub-project plan in compliance with safeguard measures, and detailed implementation plan
Implementation	Award of contracts: <ul style="list-style-type: none"> • Procurement documents, procedures followed, contracts awarded & equipment procured 	
	Monitoring of sub project implementation.	Adherence of sub-project implementation with SMF.
	Ensure employment of local people in construction related	Indirect benefits for local people.
	Ensure measures/linkages for spread of communicable disease. Facilitate linkages with local NGO having expertise in HIV prevention and control for orientation / workshops	Community health and safety
	Ensure monitoring of day to day work through involving members of CBOs and regular visit to the site by members of line departments	Enhanced relationship among the officials of line departments and producer company members resulting inactive participation in the sub-project implementation
	Capacity building of stakeholders on SMF	Increased awareness
	Display of the project information at the project sites	Transparency about the project activities

Stages	Social Management / Safeguards Activities	Outcome
	Regular review and discussion on site specific issues. Conducting regular field visits.	Progress report on social development.
Operation	Strengthening CBOs and inclusion of disadvantaged sections: <ul style="list-style-type: none"> • Ensure representation of all section of societies in the executive committee • Execution of capability building plan to upgrade the skills of various stakeholders • Ensure operationalization of menu of services including graded service charges for disadvantaged sections, women, small and marginal farmers • Undertake periodic group strength assessment to assess the functioning and capability building needs of the group 	Inclusion of women and disadvantaged section of society in policy decisions
	Monitor key social indicators during the course of operations.	Completion of sub-project activities in conformity with SMF.
	Document key leanings.	Incorporate the same for future sub-projects.

404. R&R framework: The following guiding principles will be adopted by the project to address any R&R issue arising under the project

- a) The project does not envisage acquisition of any private land, however, if any exigencies arise, compensation will be at replacement value.
- b) Encroachers not affected by the project will not be disturbed and those adversely affected will get support under the project to mitigate the losses.
- c) All efforts will be made to encourage encroachers to voluntarily surrender encroached lands (required for project interventions) but nobody will be forced out.
- d) The affected communities will be consulted in planning and implementing R& R activities.
- e) All that displaced will be socially and economically integrated with the local or host population. Adequate resources including physical, financial, and human will be made available to implement R & R activities under the project.
- f) Common pool resources, if affected, shall be replaced in consultation with the local community, especially keeping in mind the needs of the poor, and the vulnerable sections of the community.

405. R&R entitlement framework: The R&R entitlement framework to support the project affected families is presented in the Table below. Refer ESMF for details on the entitlements:

406. Table: Entitlement Framework for the Economic Rehabilitation of PAFs

Type of Impact	Unit of Entitlement	Entitlement
Agriculture Land / Non-agriculture land / Homestead Land and assets with valid title/ customary or usufruct rights	Land Owner	<ul style="list-style-type: none"> • Compensation as per RFCTLARR Act, 2013 criteria provided in paragraph 26 of the Act • One-time grant not exceeding Rs. 5,00,000/- for each affected household or annuity policy that shall pay Rs.2000/- per month for 20 years with appropriate indexation to Consumer Price indexation • Right to salvage materials from affected land or structure.
	Encroachers, Squatters	These families / individuals are not eligible for any compensation, however, 60 days advance notice to shift from occupied land will be given
Loss of any other immobile asset	Title-holder	<ul style="list-style-type: none"> • Cash compensation as per the Market Value of the structure. • Each affected family having cattle will be provided one-time financial assistance of Rs. 25,000/- • Provision of alternative house as per PMAY or equivalent financial assistance in Urban Areas. Provision of House in case of rural area as per IAY specifications or equivalent cost of the house. • Transportation cost of Rs. 50,000/- • Right to salvage materials from affected land or structure
Loss of access to Common Property Resources/ facilities	Community	Reconstruction of common structure and common property resources (the reconstruction of community structures and replacement of CPR shall be done in consultation with the community)
Loss of standing crops / trees – a) With valid title, b) Tenant/lessee	Family cultivating land	60 days advance notice to harvest standing seasonal crops prior to take procession of the land. If unable to harvest crop, lump sum equal to the market value of the yield standing crop and fruit bearing trees lost, determined by the Agricultural Department.

In the Project, the activities that require land are envisaged under component B & C. The Project Component and sub-component specific mitigation measures are mentioned in the table below;

Component	Sub-component	Activities	Mitigation Measures
Component B: Expanding Market Access and Supporting Enterprise Growth	B.1 Market Access Support	Testing Lab for agri. commodity, Warehouse construction/up gradation, Slaughter house construction/up gradation, pack house, cold storage, animal aggregation unit, Farmer weekly market, collection center, onion	<ul style="list-style-type: none"> • The project will not finance any sub-project that entails land acquisition in case of infrastructure development. • The project will not finance any direct purchase of land. • The PIU through the CBO must provide evidence that any land required and available
	B.1.a. Productive Partnership Subprojects		
	B.1.b. Market Access Subprojects		
	B.1.c. Complementary		

	Innovation Investment Subprojects B .1.d Priority Investment in Public Infrastructure	storage structure, processing unit	with it, is free of any encumbrances/squatters
	B2 Enterprise development Support	This is to be decided. However, there may be some minor infrastructural development	<ul style="list-style-type: none"> All construction to take place on existing land / community land. In either case and in case of private land, compliance - agreement/ lease/rent deed, etc. to be included in the FPP In case there is direct purchase of land by CBO, such sale deed need to be based on prevailing market rates and verifiable. In case of civil works, labor management plan to be part of FFP and to be followed, to be a part of the bidding document of contractor
	B.3: Pilot Program on Urban Food Systems	Up gradation of Weekly farmer market (26)	<ul style="list-style-type: none"> Resettlement and Rehabilitation-In case of physical and economic displacement on the basis of outcome of social impact assessment, the Abbreviated Resettlement Action Plan and Full Resettlement Action Plan will be prepared and incorporated in the FPP and these plans will be implemented prior to commencement of civil work. Cost of these plans need to be incorporated in the FPP.
Component C: Building Risk Mitigation Mechanisms	C2:Strengthening the warehouse receipt systems	Refurbishment of 168 MCDC) existing warehouses, construction of 91 (33 MCDC, 55 MSRLM & 3 MSWC)warehouses, construction of 2 silos(MSWC) & establishment of 5 cleaning and grading shed (MSRLM)	

407. Process Flow for Social Safeguard: The process flow for each sub-project for social safeguard is presented below.

Step No.	Process Flow Step	Responsibility		How
		Primary	Support	
1	Engagement of one State level Technical Support Group (STSG) and four Regional Technical Support Groups (RTSGs)	PCMU		Key professionals -Appointment of social Inclusion Advisor in State and four Regional Technical Support Groups
2	Publish Call for Proposals (CFP) to identify potential partners	PCMU	STSG	Through advertisement, wide publicity in national, state and local newspapers, and by making use of other media etc. The advertisement will include the format for PCN embedding the social screening template. The template is attached in Annexure A
3	To conduct training of stakeholders on preparation of PCN	PCMU	STSG	Stakeholders like PIUs, RIUs, DIUs and RTSGs will be trained on developing the PCN. The training

				content will include the social safeguard aspect to be covered in PCN.
4	Preparation of Project Concept Note (PCN)	Jointly by Buyer and CBOs	RTSGs	Buyer and CBOs jointly will prepare PCN. RTSGs will support for preparation of PCN. The Social Specialist, RTGS will ensure the filling up of appropriate information on social safeguard.
5	Verification and submission of PCN	PIUs		RIUs will screen the PCNs. The Social Safeguard Specialist of RIU will do the first screening (including field visit) of social safeguard. Based on the Social Assessment, categorisation of sub-projects will be done... Screening will also check the truthfulness of information provided in PCN. Based on the categorisation, the Social Specialist RIU will suggest mitigation measures/plans to be included in the FPP.
6	Evaluation and approval of PCN (Approval, Rejection, Modification)	PCMU	STSG, IAP,	Priority will be given to those PCNs who fulfils the criteria of inclusion as below; -80 percent of small and marginal farmers -6 percent of ST farmers -7percent of SC farmers -30 percent of women
7	To conduct State level Trainings on preparation of Full Project Proposals (FPP)	PCMU	STSG	PCMU/STSG will conduct trainings of PIUs, RIUs DIUs, RTSGs, and other stakeholders on preparation of FPP process, content and requirements. The training content will include the social inclusion, gender analysis and social safeguard strategies
8	Preparation of FPP of approved PCN	PIUs, RIUs, DIUs	RTSGs	<ul style="list-style-type: none"> The Social Specialist RTGS will ensure the stakeholder consultation especially with small and marginal farmers, women, STs and SCs to obtain their views and opinions and will document the outcome of the stakeholder consultations. The Social Specialist of RTGS will undertake the commodity specific gender analysis. Social Specialist RTGS will prepare the mitigations plans of social safeguard as suggested by PCMU/RIU Social Safeguard Specialist based on the social screening at PCN level.
9	Evaluation/ Validation of FPP	PCMU	STSG,	FPP will be evaluated on their expected

			IAP	financial, socioeconomic impact, their degree of inclusion of stakeholders, and safeguard compliance. The screening of social safeguard compliance will be on the basis of feedback/mitigation plans suggested during preparation of FPP on the basis of screening of PCN.
10	Field Verification of FPP	PIU, RIU, DIU	RTSG	Field verification is undertaken for the FPPs to verify the social including safeguard aspects
11	To submit FPP along with draft Grant Agreements to PCMU	PIU	RTSG	PIU/RTSG will submit FPP along with draft Grant Agreements to PCMU.
12	Approval of FPP and allocating to PIU	PCMU,	STSG	PCMU will clear qualifying plans and submit it with their recommendations to the State Proposal Approval Committee. The Project Director chairs the State Proposal Approval Committee, and head of the all eleven participating PIUs will be members of this committee. The PCMU will function as the secretariat of this committee. SPAC will give approval and allocate subproject to one PIU for implementation.
13	Signing of the Grant Agreement for approved projects	PIU	RTSG	After approval of FPP, grant agreement will be signed between PIU and project partner in prescribed format.
PC MU, PIU, RIU, DIU	Rollout of Sub-project	Implementation of the sub-project.	STSG, RTS G,	A detailed implementation plan along with clear guidelines will be prepared. Regular monitoring of social safeguard by DIU/RIU/PIU/PCMU Social Specialist.

408. Indigenous People Framework:

The state of Maharashtra accounts for 10 percent of the Scheduled Tribe population of India and is the second largest in tribal population in the country. Some of the major tribal groups in Maharashtra are Bhil, Gond, Koli Mahadev, Warli, Kokana, Thakur and Andh. The key issues and concerns related to tribal vis-à-vis the project are:

- a) Tribal communities continue to practice traditional agricultural practices and hence little exposure to improve agricultural practices and use of farm inputs
- b) Lack of experience on post-harvest management
- c) Limited exposure to emerging markets and technologies
- d) Limited access to institutional credit, farm inputs and agricultural extension services
- e) Poor leadership quality and inadequate representation/participation in the decision-making process

To address these issues, the tribal development strategy of the project, presented below, aims at increasing active participation of tribal and their access to project benefits at par with the rest of the communities. Social development staff in the PCMU, PIUs, RIUs, DIUs and from state and regional technical support group will be oriented to work to with tribal people.

Table: Tribal Development Strategy		
Stages	Procedures	Activities & Outcome
Preparation	Identify concerns/issues in relation to the project activities through Participatory Rural Appraisal (PRA) exercises / community consultations	• List of issues
	Communicate with tribal community / leaders to carry out Free, Prior, Informed Consultation at village level	• Information dissemination on SMART and brief account of project implementation plans; number of consultations held.
	Organize consultation with STs to inform about the project activities and benefits	• Stakeholders consultations and FGDs held
	Identify key areas of constraints that may be improved through the project and develop detailed plan for tribal development	• List areas of constraints • Number of consultations & signed minutes • List of activities specifically targeting tribal development
Implementation	Ensure equal participation of STs in monitoring, focusing on women	• Representation of members from tribal communities in monitoring committee
	Ensure employment to members from tribal community in carrying out actual construction work	• Number of tribal employed, disaggregated by gender
Operation	Ensure representation of ST members in decision making body of the FPOs/CBOs/Collectives	• Number of tribal members in executive committee of various farmer collectives
	Capability building of ST members and skill up gradation	• Training calendar to be prepared • Number of trainings undertaken • Number of tribal members trained
	Employment generation for ST in related sub-project activities	• Number of tribal employed undertaking various activities, disaggregated by gender
	Help build linkages with major government schemes for tribal development particularly skill enhancement and technology up-gradation	• Number of tribal linked with various projects in the sub project locations

Indigenous People Plan: SMART will focus 13 districts from Schedule V area i.e. Thane, Palghar, Nashik, Dhule, Nandurbar, Jalgaon, Ahmednagar, Pune, Nanded, Yavatmal, Amravati, Gadchiroli and Chandrapur. IPP will be the integral part for the sub-projects from these districts. The outline/framework for the IPP is;

- a) Summary of the tribal in project area, characteristics, socio-economic and occupational profile.
- b) Details of informed consultations held with tribal leaders.
- c) Beneficiary profile (gender disaggregated)
- d) Written evidence of Gram Sabha- resolution signed by formal/informal leaders (with photograph)
- e) Plan on engagement of local tribal youth as leader/resource person in the sub-project
- f) Specific actions (including budget) proposed to enhance the impact.
- g) Benefit sharing details-tangible/intangible

During the sub-project/ FPP preparation, the responsibility of Regional Technical Support Group will be;

- i. Screening to identify whether Indigenous/Tribal Peoples are present in subproject area
- ii. Social assessment to establish baseline situation;
- iii. a process of free, prior, and informed consultation with the affected IPs' communities at each stage of the project, and particularly during project preparation, to fully identify their views and ascertain their broad community support for the project;
- iv. Preparation of an Indigenous Peoples Plan (IPP) or an Indigenous People
- v. Disclosure of the draft IPP to the leaders, Grampanchayat, CBO office
- vi. Inclusion of IPP in the PP/MAP/sub-project Plan

409. Grievance Redressal Mechanism & Citizen Feedback System

A. Grievance Redress Mechanism

In SMART the Grievance Redress Mechanism (hereafter referenced as GRM) is a critical tool for promoting both transparency and accountability in project operations. The GRM is embedded into the various facets and dimensions of the project through a well-designed and operational efficient mechanism. From an operational perspective, SMART PCMU recognizes the role of the GRM as critical towards enhancing operational efficiency towards ensuring beneficiary and citizen awareness/engagement in the project. SMART will provide multiple channels (offline and on-line) by which citizens including women, ethnic minorities, youth, and even contractors will be able to provide feedback to strengthen the operational objectives and build on project's aim to be accountable, transparent and responsive to beneficiaries.

SMART acknowledges that an effective GRM is built on organizational commitment both in terms of recognizing the role of the GRM as well as supporting its operationalization. It also embodies fairness in handling grievances confidentially, impartially and transparently. The project recognizes that procedures to file grievances and seeking action need to be easily understandable and accessible for the project beneficiaries to make the GRM effective. Quick response and adequate training increase the efficiency of GRM. An effective GRM also considers the principles of participation and social inclusion by which grievances can be received by the project. These can be broadly classified as – Online -Services (e.g., Toll Free Helpline and via the Project web-platform) and Offline/Manual (e.g., Snail Mail, In Person and at Compliant Centers/Drop-Boxes). For all grievances submitted through online mode, PCU will be reviewing for sensitivity/confidentiality, assessment of any issues pertaining to COI for the office/personal prior to such grievances being channeled to the GRO at the district level.

SMART's GRM: SMART will establish multiple channels to receive affected people's concerns /complaints. These can be broadly classified as – Online -Services (e.g., Hotline / Toll Free Helpline and via the Project web-platform- Centralized Control and Monitoring System (CCMS) and Offline/Manual (e.g., In Person at DIUs, Drop-Boxes, and Complaint Registers). SMART will also leverage the existing Grievance mechanism CM Portal to receive complaints related to SMART, and towards this, project will sign a

MoU / agreement with the office of the CM or all grievances submitted through online mode (either directly on SMART's portal or received through CM portal), PCMU will review sensitivity/confidentiality, assessment of any issues prior to such grievances being channeled to the GRO at the district level.

SMART will follow best practices while processing all grievances, and ensure acknowledging all grievances, assigning a central tracking number/ID, alongside basic service standards for response. SMART will also adopt an operating procedure for the handling of unresolved grievances through a process of escalation – where unresolved grievances will be transmitted to the next higher level –to RIUs and then PCMU via the respective PIU. The PCMU will also aggregate all grievances to a consolidated single database to be publically disclosed on the projects web-platform.

SMART will assign Grievance Redressal Officer (GRO) and Appellate Authority (AA) in all the implementing units at the State, Regional and District, details (name, e-mail, and visiting hours) of which will be disclosed on SMART's website. Further, in cases of tribal / indigenous peoples, wherever needed, the GRM will be customized to the needs of IPs; complaints will be discussed in IP community or locality where the subproject (PP or MAP) is implemented using the existing practiced traditional conflict resolution procedures. In addition, wherever IPs, primitive indigenous groups and vulnerable community people are in large numbers, there will be a small ethnic and vulnerable community representative in the grievance committees.

410. Roles and Responsibilities of GRO and Appellate Authority

GRO:

- a) Responsible for monitoring of all the grievances submitted manually through drop box and entering it in the GRM register with a reference number
- b) Addressing the grievances following the detailed procedures within the stipulated service delivery time as outlined in a later section.
- c) Ensure the completion of monthly reporting on grievances in the MIS based on the assigned results indicators.

411. Appellate Authority

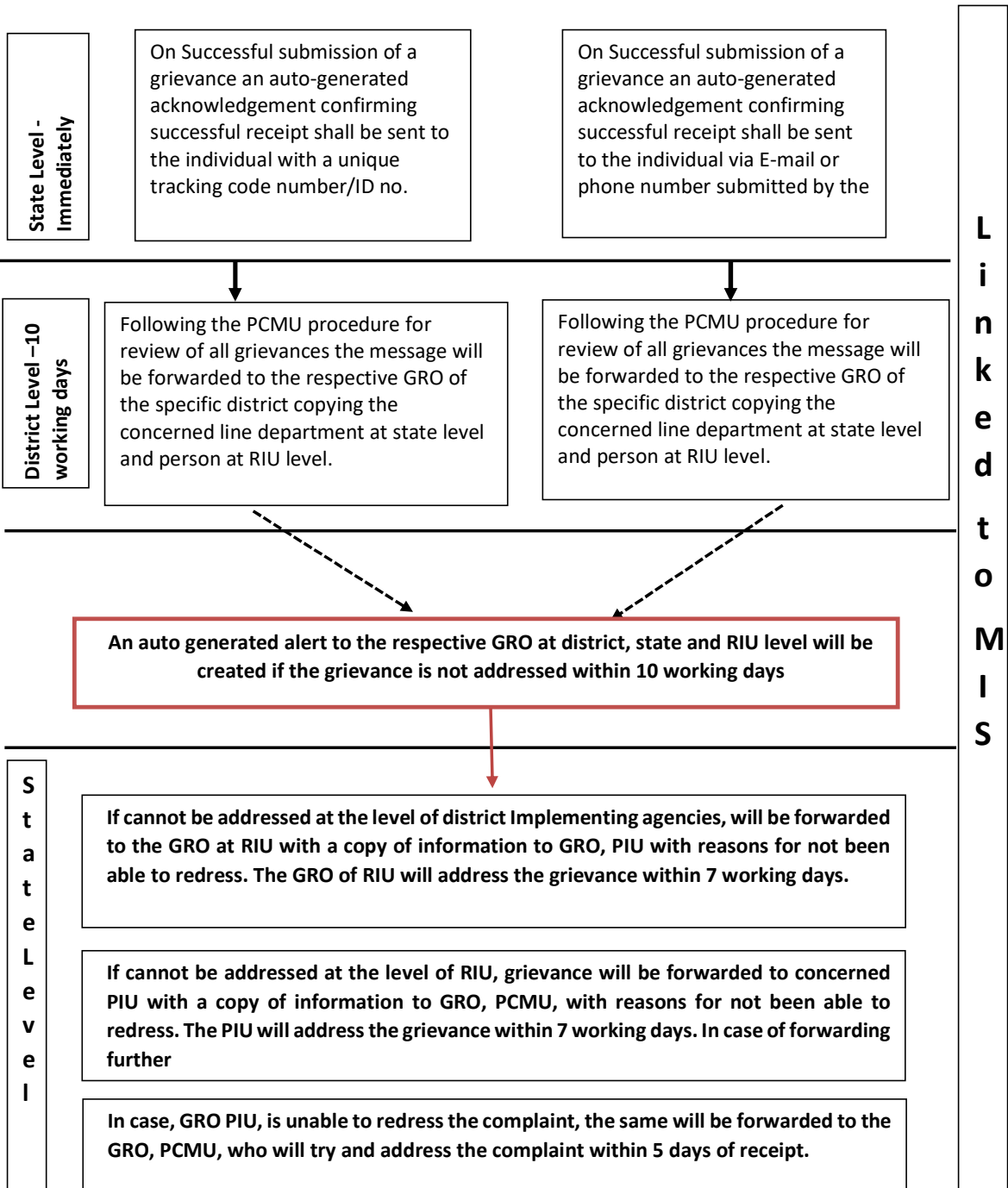
- i) Monitor the timely redressal of all grievances by the GRO.
- ii) Monitor grievances related to conflict of interest and arbitration submitted through manual mode and forward to PCMU.
- iii) Review and report on the performance of grievances through MIS

412. System for receiving Grievances through Online: SMART proposes to adopt a multi-mode mechanism by which beneficiaries and other stakeholders can provide grievances on the project. The Online e-Services (e.g., Hotline, CM Portal and via the Project web-platform) will provide an innovative platform to several GRM thereby extending the reach, accessibility and efficiency (e.g. transaction cost) of such modalities. A flow-chart for this process is highlighted in Figure below. The Department of Agriculture already has a toll-free no, which with up gradation, if required, will be used for SMART. Further, a web-platform will be extended under SMART to incorporate the online GRM web-form that will permit citizens to submit their grievances online. Table below describes the online grievance handling procedures, including responsible party and stipulated time-lines.

SMART Web – Platform

State- level

Toll Free Helpline/Hotline



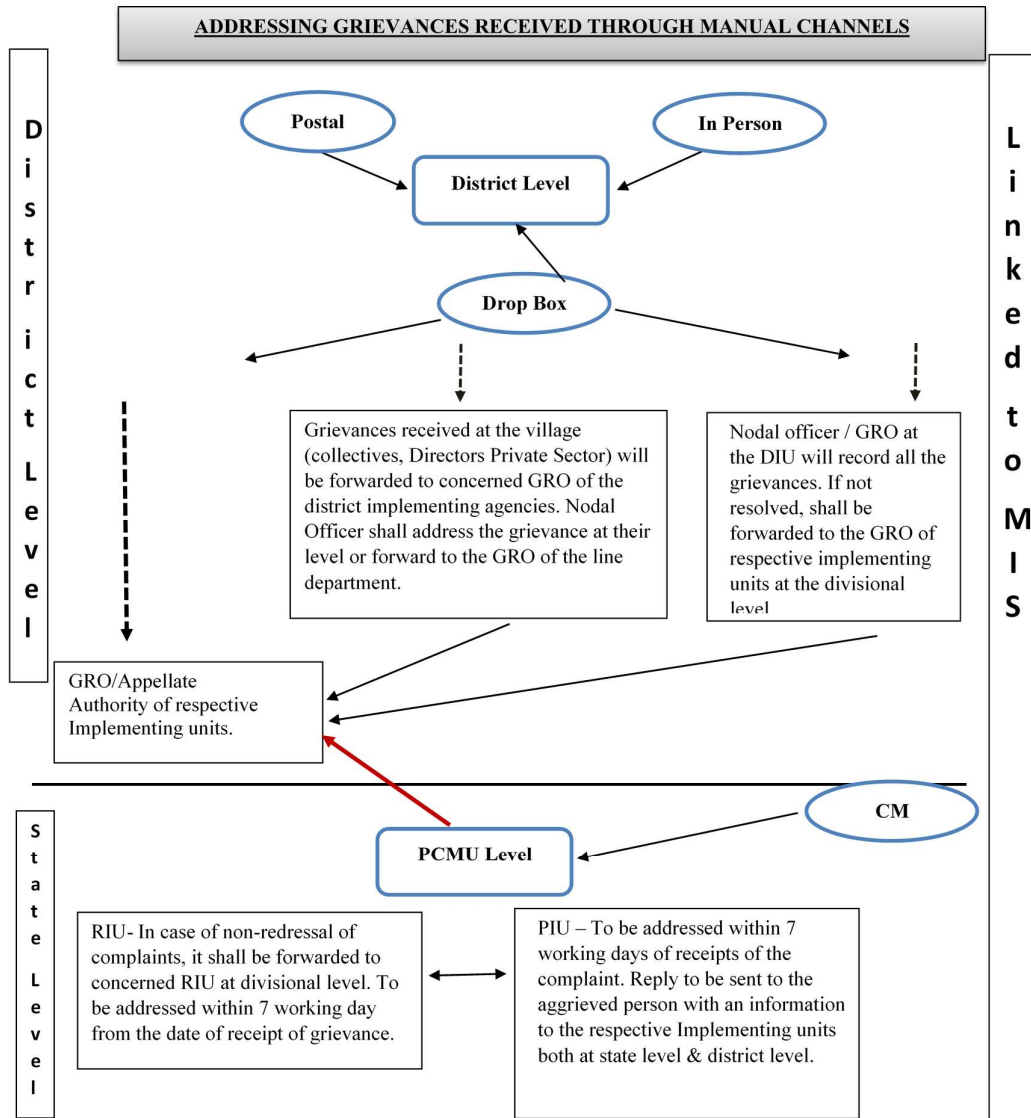
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413. Table: Online GRM handling / service standards

Level of addressing grievance	Action to be taken	Responsibility	Timeline
First stage: State Level	1) Grievance will be received and automatically registered on the web portal of SMART at PCMU and a unique code will be sent to the aggrieved person as an acknowledgment	Web portal of SMART PCMU will be managed by MIS Section	Immediate
	2) Complaints will be automatically forwarded to the respective GRO of concerned implementing agency at the district level with a copy of information to the concerned GROs at the division (regional) and PIU level		
Second stage: District Level	3) Addressing the grievance by the GRO	GRO of the district level implementing agencies	Within 10 days from the receipt of grievances
	4) Sending reply of the grievance to the aggrieved person with a copy of information to GRO, RIU		
	5) If cannot be addressed at the level of district implementing agencies (DIU), will be forwarded to the GRO at RIU with a copy of information to the concerned PIU		
	6) In case of forwarding as mentioned above in sl. No. 5, reasons for not addressing the grievance at the second level will be explained by the GRO of the district implementing agency.		
Third stage: Regional (divisional) Level	7) Addressing the grievance by the GRO, Regional level	GRO of the RIU	Within 7 working days of receipt of grievances.
	8) Sending reply of the grievance to the aggrieved person with a copy of information to GRO, DIU (concerned), and concerned PIU		
	9) If cannot be addressed at the level of RIU, will be forwarded to concerned PIU, with a copy of information to GRO PCMU		
	10) In case of forwarding as mentioned above in Sl. No. 9, reasons for not addressing the grievance at third level will be explained.		
Fourth Stage: PIU	11) Addressing the grievance	Concerned PIU	Within 7 days from receipt of complaint
	12) Sending reply of the grievance to the aggrieved person with a copy of information to GRO, DIU and GRO, RIU		
Fifth Stage: - PCMU	13) Addressing the grievance	SMART PCMU	Within 7 working days of receipt of grievances
	14) Sending reply of the grievance to the aggrieved person with a copy of information to GRO at PIU, RIU and DIU		

414. Flow of Grievances received through Manual Channels

In order to expand the outreach among stakeholders, SMART will also provide offline/manual mode of GRM, including letters, in-person, drop-boxes, etc. Grievance registers will be maintained at the district level, accessible to all stakeholders and the concerned GRO will be responsible for registering / redressing all the complaints related to SMART. The process flow for grievances submitted offline/manual modes is depicted below. The table on manual GRM handling / service standards highlights the responsible party and procedures for escalation.



415. Table: Offline/ manual GRM handling / service standards

Level of addressing grievance	Action to be taken	Responsibility	Timeline
First stage: District Level	1) Grievance will be received and registered manually on the grievance redressal register with the following details: <ul style="list-style-type: none"> • S.NO • Name & contact details • Nature of the complaint • Token / complaint number 	GRO / Focal person of district implementing agencies	Within 7 working days of receipt of grievances
	2) Grievances will be forwarded to the respective GRO of concerned implementing agency, as the case may be.		
	3) Project related grievances received at the village (collectives, Directors Private Sector) will be forwarded to concerned GRO of the district implementing agencies	BOD/ Directors, Private Partners	Within 7 working days of receipt of grievances
	4) Addressing the grievance by the GRO	GRO of the district level implementing agencies	Within 10 days from the receipt of grievances
	5) Sending reply of the grievance to the aggrieved person with a copy of information to BODs/ Directors, and GRO of concerned division		
	6) If cannot be addressed at the level of district implementing agencies (DIU), will be forwarded to the GRO at RIU with a copy of information to the concerned PIU		
	7) In case of forwarding as mentioned above in sl. No. 5, reasons for not addressing the grievance at the second level will be explained by the GRO of the district implementing agency.		
Second stage: Regional (divisional) Level	8) Addressing the grievance by the GRO, Regional level	GRO of the RIU	Within 7 working days of receipt of grievances.
	9) Sending reply of the grievance to the aggrieved person with a copy of information to GRO, DIU (concerned), and concerned PIU		
	10) If cannot be addressed at the level of RIU, will be forwarded to concerned PIU, with a copy of information to GRO PCMU		
	11) In case of forwarding as mentioned above in Sl. No. 9, reasons for not addressing the grievance at third level will be explained.		
Third Stage: PIU	12) Addressing the grievance	Concerned PIU	Within 7 days from receipt of complaint
	13) Sending reply of the grievance to the aggrieved person with a copy of information to GRO, DIU and GRO, RIU		
Fourth Stage: - PCMU	14) Addressing the grievance	SMART PCMU	Within 7 working days of receipt of grievances
	15) Sending reply of the grievance to the aggrieved person with a copy of information to GRO at PIU, RIU and DIU		

416. Nature of Grievances

Given the diverse typologies of grievances/beneficiary feedback, SMART will use the initial classification to reflect the components/sub-components of the project including Procurement, Quality of Services, Construction, Entitlements, Financial, Social and Environmental, issues related to Addressing of Grievances. This will then be sub-classified according to the type of grievance: Comments/Suggestions, Queries, Non-performance of Project Obligations, Violations of Laws/Corruption and Complaints of Project Staff/Service Providers involved in project management.

417. Accessibility of the aggrieved person

Any beneficiary or citizen who has successfully submitted a grievance can verify the status of their grievance(s) at any time by referencing the acknowledgement number/unique tracking ID code provided to them at time of submission. All grievances submitted shall be handled in the utmost confidence and the PCMU/PIUs will ensure non-disclosure of all personal information. This will extend to additional arrangements for maintaining confidentiality at the request of the individual or where matters are considered sensitive. The project will also entertain anonymous complaints; however, in order to close the complaint, contact detail (mail id, phone number or postal address) will be essential.

418. Training on GRM

Trainings related to GRM will be part of safeguard trainings along with SMF and citizen feedback system trainings conducted for PCMU, PIUs, RIUs and DIUs staff at the State and District level will be conducted (Refer for cost under D component). For CBOs, GRM trainings will be the part of safeguard trainings. (Refer for cost under Comprehensive Trainings of B 1.5 component Capacity building)

419. Information dissemination on GRM

SMART will adopt the following communication strategy to publicize the GRM:

- i) Preparation of display materials including the following – communication on the multi-mode channels by which citizens can submit a grievance including the process and procedure; information on accessing the online GRM(e.g., URL of the web-platform for SMART project; Toll Free Helpline/ Hotline); providing information on the designation and contact details of GRO and Appellate Authority for all implementing units for state, regional and district levels and publishing the service standards including timelines for addressing grievances at a local level. Materials will also be developed in local language.
- ii) Display communication materials at the project districts at prominent locations such as public places, community institutions, markets, construction sites, consultation sites, training sites, Grampanchayat, offices of farmer collectives. This will also include District Administrative offices, ATMA offices of the project districts, and concerned offices of the line departments at district level.

- iii) At the State Level, all the PIUs to display the designation and contact details of their concerned GRO and Appellate Authority at their websites, notice boards, etc.
- iv) Developing IEC materials on GRM and display and distribution in project areas during consultations, demonstrations, at construction sites & markets, etc.
- v) IEC materials developed by the concerned implementing units to include the details of their respective GRO and Appellate Authority, website of SMART and the toll-free number.

420. GRM M&E

SMART acknowledges that regular monitoring and evaluation are critical to the success of any GRM. Project's Management and Information System (P-MIS) shall be the tool for the monitoring and management of the GRM. All the grievances received, will be entered in the P-MIS by the respective implementing units. The status of the grievances will be updated as and when addressed or forwarded by the respective implementing units. PCMU will ensure that the provisions are created in the P-MIS for generating periodical reports on GRM and regular (quarterly) reports will be shared with the Bank. Further, PCMU SMART will undertake regular analysis of the data on grievances to identify problem areas and enhance service delivery. Indicators on grievances have been included in the project results framework both in the PAD and PIP. Moreover, P-MIS shall be having following indicators for grievance monitoring:

- i) Number of grievances submitted (disaggregated by time (monthly, quarterly, yearly); implementing agency; and Grievance Type);
- ii) Number of grievances addressed and unresolved (disaggregated by time (monthly, quarterly, yearly); implementing agency; and Grievance Type);
- iii) Percentage of grievances redressed within stipulated time period (disaggregated by time (monthly, quarterly, yearly); implementing agency; and Grievance Type);
- iv) Average time required to resolve a grievance (disaggregated by time (monthly, quarterly, yearly); implementing agency; and Grievance Type); and
- v) Number of grievances escalated to a higher authority (disaggregated by time (monthly, quarterly, yearly); implementing agency; and Grievance Type).

421. Confidentiality

In case of online mode, if any beneficiary or citizen seeks confidentiality, name and address of the person will not be accessible to anyone. There will be an option for maintaining confidentiality in the design of the electronic GRM. Only E-mail ID and contact number of the person can be viewed.

422. Citizens Engagement Strategy

Citizen Feedback System

Citizen engagement in SMART shall be ensured by establishing a Citizen Feedback System (CFS). The term citizen under the project is used to represent all the stakeholders that will be directly and indirectly benefited by project interventions. Citizen's feedback mechanism has been inbuilt in the project design, and outcome of the feedback analysis shall be utilized to improve service delivery, provide corrective measures, for project performance assessment and finally for better project implementation.

SMART shall undertake intensive communication and mobilization campaign before and during the project implementation for encouraging citizens to meaningfully participate in the CFS. The framework shall provide for capacity building of the project staff at various levels to enable them to respond to the feedback in a timely manner and take corrective measures. It is to be ensured that the project has changed for better service delivery as a result of feedback provided through the CFS built into the project design

423. Objectives of CFS

The broad objective of CFS is to collect feedback from the all citizen especially marginalized sections, farmers, entrepreneurs, producer collectives, community based organisation and other value chain participants and undertake evidence based corrective measures during project mid -term for course correction. The specific objectives of CFS are:

- a) To provide a forum for citizen's engagement in project implementation and design;
- b) To enhance opportunity to share their opinions/views/ suggestions with the project management;
- c) To encourage better monitoring of the service delivery and constant improvement; and
- d) To enhance citizen engagement in local governance

424. Tools for Citizen Feedback

Citizen feedback can be collected periodically on various dimensions of project interventions, such as effectiveness, inclusiveness, quality, delivery time, transaction costs, and targeting, as well as on resource utilization or engagement processes. CFS tools shall basically be IT based and supported by other community sensitive tools like satisfaction survey, focused group discussions, SMS, etc. to enable larger number of citizens, especially the marginalized groups, to participate in the system. Following tools are suggested:

425. SMART Society Web Portal

The project has already set-up an exclusive online portal / website, and all the project related information namely, implementation arrangements, sanctioned sub-projects, services available, physical progress, safeguard issues, reports/documents, grievances and feedback shall be disseminated through it. The web portal shall have user friendly provisions for sharing feedback online, by the citizens.

426. Through Feedback Box

“Feedback boxes” will be installed at the regional and district implementing units, ATMA offices, for providing opportunity to people who does not have excess to ICT (Information and Communications Technology). This will enable citizens to provide their suggestions or feedback to the concerned department; with or without disclosing their identity. Effective positioning of feedback box at visible locations can increase effective utilization.

427. Beneficiary Satisfaction Survey

A satisfaction survey shall be carried out to assess the feedback of beneficiaries, such as CBOs (farmers), consumers, operators of collection centers, storages, PIU and DIU staffs, and other citizens on the implementation of the project activities, at the start, mid-point and close of project. The survey questions shall touch upon issues of relevance/appropriateness of services, timeliness, information dissemination and access to services. The purpose of the survey shall:

- a) To find out whether citizens were satisfied with the services received under the project
- b) To expand the knowledge base, identify best practices and provide concrete recommendations for the improvement of project performance in future
- c) To enhance the visibility of the institutions involved in the implementation of the project
- d) To provide feedback on further improvement possibilities of the satisfaction survey and its usage

The satisfaction survey shall be carried out offline as well as online. Provisions shall be created in the web portal to facilitate capturing of responses from the users on the satisfaction survey questions. Mobile survey designs shall also be developed to run on smart phones.

428. M&E for CFS

The CFS under SMART shall be monitored against a set of indicators described in Table below. Evaluation of the CFS shall be carried out as part of the overall project Monitoring & Evaluation (M&E) of the project

Principles	Information Areas	Indicators
<p>Social Inclusion: Both an outcome and a process of improving the terms on which people take part in society is termed as Social Inclusion.</p> <p>In the context of SMART, the aim of the project is to ensure that people have a voice in decisions which affect their lives and that they enjoy equal access to various project components, interventions and activities designed as part of SMART.</p>	<p>Inclusion/exclusion of beneficiaries</p> <p>Geographical representation</p> <p>Involvement of women, disadvantaged and marginalized</p>	<p>Selection criteria to include proportionate representation of women, marginalised and underrepresented</p> <p>Equal opportunities</p> <p>Activities towards empowerment</p>
<p>Participation: Refers to different mechanisms for the public to express opinions and ideally exert influence and share control over development initiatives and decisions and resources which affect them</p>	<p>During planning, implementation, monitoring, evaluation of impact</p>	<p>Number of consultations held</p> <p>Who participated in such consultations, especially women, marginalised, small and marginal producers</p> <p>Extent of participation</p> <p>Simplification of procedures to ensure participation</p>
<p>Transparency SMART in the interest of being transparent, openly discloses the project details, implementation procedures and overall, the findings so that stakeholders have a good understanding of how SMART performs</p>	<p>Information, accessibility and usability</p>	<p>Media and materials used for dissemination</p> <p>Accessibility of information by stakeholders</p> <p>Usability of information by stakeholders</p>
<p>Accountability: SMART is accountable to those who will be affected by its decisions or actions.</p>	<p>Demonstrating social responsibility through internal and external reviews and redressal of grievances</p>	<p>Number of reviews</p> <p>Result oriented redressal</p> <p>Ability to receive feedback and respond</p>

429. Labour Management & Working Condition

Many of the sub-projects under SMART envisage undertaking civil works, (Component B and C-construction/up gradation of warehouse, pack house, cold storage, aggregation unit, construction/renovation of slaughter house), for

which labour force and associated goods and services shall be required. Though the works may not be extensive, however, there may be situations where the labour may not be fully supplied locally and shall be outsourced from outside the sub-project area. This labour influx if not managed adequately can lead to adverse social impacts and enhance vulnerabilities in the local communities, especially if the communities are rural, remote, or small.

Some of the potential adverse impacts could be: social conflict, increased risk of illicit behaviour and crime, increased burden on and competition for public service provision, increased risk of communicable diseases and burden on local health services, gender-based violence, child labor/school drop-out, increase in traffic and related accidents etc. To manage any unforeseen adverse impacts, SMART shall ensure implementation of Site-Specific mitigation plan, also referred as “Labor and Working Conditions Management Plan (LWCMP)”. The LWCMP shall be approved before the construction work and shall be updated as necessary to reflect project developments.

Elements of Labor Influx and Working Conditions Management Plan (LIWCMP)

SMART through its teams at the district and regional levels, will ensure that the contractor/sub-contractor conforms to the provisions of the LIWCMP for the mitigation measures designed to avoid or reduce undesired labor influx impacts during the construction activities. Through LIWCMP, SMART shall ensure that all contractors / sub-contractors provide provisions to protect the workers’ rights, health, safety, and security during the project implementation period. In particular, all the contractor(s) / sub-contractor(s) shall meet national legislation, and will provide / ensure the following:

430. Maintaining Community Relations

- a) Unauthorized movements of construction workers (during and after working hours) could result in trespassing and create amongst residents a sense of their privacy being invaded. This may result in increasing incidents of crime and or violence and threats to the safety of community members. Workers will be strictly prohibited from leaving camps for non work related activities and interacting with the local community unless agreed by contractor/project.
- b) Contractor/sub-contractor shall limit workers’ interaction with the community when outside the camp, for example, by organizing transport directly to and from the worksite. Adequate recreation facilities for workers to reduce incentive for leaving camps during leisure time, shall also be explored, and wherever possible, shall be provided.
- c) Provisions for registering grievance by the community members and labor's; immediate action to address grievances.

431. Discipline in the Camp

- a) Briefing to all migrated workers on camp rules, behaviour between fellow workers and the community; procedures for dealing with camp related complaints, and a community relations orientation. The objective of this orientation shall be to increase awareness about the local area and cultural sensitivities

- b) Guidance / training on the detrimental effects of the abuse of alcohol and drugs and other potentially harmful substances and the risk and concerns relating to HIV/AIDS and of other health risk-related activities to workers.
- c) Provisions for adequate preventive measures such as contraception (condoms in particular) and mosquito nets, if needed.

432. Camp Location

- a) Camp locations shall be selected in consultation with the affected communities to maintain harmony
- b) Mitigation/avoidance measures to deal with the issues of increase traffic, noise, air emissions and light intrusion which could negatively affect the lifestyle of nearby communities and pose a potential safety issue.

433. Worker Welfare, Living Conditions and Non-discrimination

- a) The contractor / sub-contractor shall ensure that all workers on site are provided with information on their terms and conditions, including hours, wages, breaks and holidays, discipline, and termination procedures in a language they understand, and that all workers on site understand how to access an easily-accessible, confidential process for making complaints about their employment. In addition, all contractor(s)/sub-contractor(s) must regularly conduct awareness sessions on GBV, especially with female co-workers.
- b) Avoid child labor (child over the age of 14 and under the age of 18 will not be employed or engaged in connection with the project in a manner that is likely to be hazardous⁸ or interfere with the child's education or be harmful to the child's health or physical, mental, spiritual, moral or social development).
- c) Contractor shall comply with minimum standards for camp buildings, facilities, and services. This will include but are not limited to: i) provision of minimum amounts of space required for each worker; ii) provision of sanitary (separate toilets for men and women); iii) laundry and cooking facilities and potable water; iv) crèche facility for small children of working women; v) provision of first aid and medical facilities; vi) adequate cleanliness and hygiene in the accommodation. There will be no discrimination in facilities based on worker's race, gender or nationality.
- c) Camp rules in relation to alcohol consumption and drug prohibition will be complied with. Contractor shall provide recreational facilities where practicable. In addition, Contractor will provide counselling for all workers, with no discrimination by race, sex or religion.
- d) Each contractor/sub-contractor will maintain a register on accidental incidents and actions taken to avoid similar situations.

434. Security of the Camp

The security measures will control camps to avoid intrusions from outside community. Contractor shall include security measures to be provided at the camps which may include fencing, locks, alarms, pass card systems, badge and pass system, access points, safe transport of personnel as appropriate.

⁸Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Examples of hazardous work activities prohibited for children include work: (a) with exposure to physical, psychological

435. Roles and Responsibilities

Specifically, within the SMART the following roles and responsibilities will apply:

Role	Responsibilities
Contractor / sub-contractor	Develop and implement LIWCMP Resources allocation to meet the requirements of LIWCMP Training and Awareness Generation: Ensure that all personnel responsible for the execution of the tasks and requirements contained within this Plan are competent based on their education, training and experience. Conduct community consultation to help build economic and social capacity that benefits communities
Head, DIU	Approves and oversee the implementation of LIWCMP
Nodal officer, Social, DIU	Assures implementation of LIWCMP, including for contractor implementation Develops, monitors, and revises LIWCMP, as and when required, in consultation with the PCMU and Bank Assures availability of this Plan to PIU/CBO members and contractor / sub-contractor Periodical inspections / audits of contractors /sub-contractor’s performance and prepares regular report that includes details about workers lives conditions and any incidents (especially regarding incidents of GBV/SEA) Reports all risks, lack of conformities and incidents Periodically verifications of accommodation conditions Collect data from settlements Collaborate with local authorities
Site coordinator / Manager / Engineer	Coordination with Nodal officer- social to provide regular feedback Develop training program at the site related to LIWCMP implementation Monitoring and evaluations; report preparation to be shared with the Nodal officer Management cooperation in case of incidents (including registration and communication of events); Monitoring of corrective operations

436. Capacity Building & Studies:

Capacity building on social safeguard will be an on-going process in the project and will takes place at different levels from the PCMU, PIU, Regional, DIU to the community. The training on social safeguard including social inclusion, Indigenous people plan, land resettlement, citizen engagement, labour management, Grievance Redressal mechanism will be undertaken for PCMU, PIU, RIU, DIU staff and CBOs. The Regional level Social specialist of project and the social specialist of regional technical support group will be trained on screening of social safeguard at PCN level and monitoring of social safeguard at implementation level.

The Master Trainers from VANAMATI and RAMETI will be trained to extend the training to CBOs.

437. Studies: Project will conduct the specific impact study on;

- a) Impact of project in upgrading the women in HVA
- b) Impact of project on small and marginal farmers in accessing the organized market.
- c) Assessment Study on labor influx in the project area

For training, capacity building and studies, the technical agency/consultant/training resource person will be procured/ hired as per

World Bank Procurement Guidelines. The PCMU will develop training and IEC plans for all levels and finalize them in consultation with the Bank. Training modules and materials prepared will be made available on the project website for use by PIUs DIUs, as appropriate. The PCMU, PIUs & Regional offices would implement most of the capacity-building activities through VANAMATI, RAMETI & ATMA, among others.

438. Implementation arrangement:

Project Coordination and Management Unit (PCMU), Department of Agriculture (DoA) is responsible for the technical aspects and overall execution of the Project. The PCMU, within DoA will be responsible for screening of sub-project proposals vis-à-vis impact categorization and oversee overall implementation and monitoring of sub-projects. The social development specialist, PCMU will oversee the social aspects of the proposed project and will be assisted by social specialists individually at Regional/Divisional levels. Following is the proposed implementation arrangement for the project:

Sr. No.	Levels	Implementing Units	Human Resource / Agencies
1.	State	PCMU	Social Development Specialist
2.	State	MSRLM-PIU	Social and Gender Specialist
3.	State	10 Nos. of PIUs	Nodal Officers will be responsible for Social Safeguard Compliance at PIU level
4.	Divisional	08 Nos. Joint Director of Agriculture (JDA) Office	Divisional level Social Safeguard Officer Individually located at Thane, Pune, Kolhapur, Nashik, Latur, Aurangabad, Amravati and Nagpur will ensure and monitor the social safeguard compliance at divisional/regional level.
5.	District	District Level PIU Units	DIU-Head will be responsible for Safeguard Compliance at district level. Sub-project Manager will be responsible for Safeguard compliance at PP/MAP/CMA level

439. Role of Social Development Specialist, PCMU:

1. Advise on activities/processes to be adopted for achieving the core social development themes i.e. social inclusion (gender, tribal and other vulnerable groups), gender strategy, participation, transparency, accountability, land management, grievance management and citizen feedback envisaged under SMART;
2. Evaluate PCN and FPP with respect to Social Inclusion, Social Safeguard and Gender Mainstreaming.
3. Assess and confirm requirement of SIA (Social Impact Assessment) and resettlement plan as per the ESMF;
4. Facilitate preparation of Social Assessment Report and Management Plans and/or framework for managing adverse social impacts, risks and benefits of project interventions;
5. Establish a system to monitor social safeguards and Gender Strategy of the project including monitoring the indicators set out in the monitoring plan;

6. Facilitate inclusion of vulnerable and marginalized groups in the project interventions;
7. To develop the capacity building manual on social issues, through experienced training agencies (Content of the manual will include scheme cycle, outline of Social Assessment, management plans & reporting formats, R&R policy, land acquisition/donation process and other land related matters, identification of project affected people, social entitlement framework, risk assessment and management skills, Gender Mainstreaming);
8. To work as a trainer for Social Safeguard and Gender Mainstreaming
9. To develop the capacity of the line department officials in strategic collaborative planning, implementation & monitoring of the activities in compliance with the Social Safeguard Policies of the World Bank and Gender Strategy of the Project.
10. To build the capacity of all stakeholders in the management of social safeguard and gender issues. To ensure that social issues have been adequately addressed;
11. Compilation and analysis of monthly/quarterly reports on social(including gender) indicators; tracking of Grievance Redressal and Social Audit;
12. Supervise and provide guidance to the site staffs to properly carry out the social monitoring and assessments as per the ESMF;
13. Review, monitor and evaluate the effectiveness with which the Plans are implemented, and recommend necessary corrective actions to be taken as required;
14. Channelize Redressal any grievances brought about through the Grievance Redress Mechanism (GRM) in a timely manner;
15. To build the capacity of Social Inclusion Advisor of STSG and RTSG with respect to social safeguard and gender mainstreaming

440. Budget for Social Safeguard:

S No	Particular	Unit	Unit Cost	Total Cost (INR)	Time line	Comment
1.	Safeguard staff					
	Senior Social Safeguard Specialist at PCMU	1	1,75,000	1,47,00,000	7 years	Cost provision is made in Comp. D
	Social Specialist at RIU	8	50,000	4,03,20,000	7 years	Cost provision is made in Comp. D
2.	Training –ESMF-Social Management Framework (social assessment, land resettlement, labour management framework indigenous people plan, citizen engagement, grievance Redressal, inclusion strategy etc.)					Cost provision is made in Comp. D

S No	Particular	Unit	Unit Cost	Total Cost (INR)	Time line	Comment
	Training of PCMU & PIU staff at state level	100*2=200	2500	5,00000	1 & 3	Cost provision is made in Comp. D
	Training of RIU & DIU staff at regional level	300*2=600	2000	12,00000	1 & 3	Cost provision is made in Comp. D
3.	IEC	Lump sum		5,00000	2,3,4,5	Cost provision is made in Comp. D
4	Short term consultancy(safeguard & gender)	Lump sum		25,00000	1,2,3,4	Cost provision - component B 1
5	CBO Training on leadership, governance, safeguard and gender	5000 BoD		1,50,00000	1,2,3,4	Cost provision is in component B 5
6.	Studies (safeguard and gender)	Budget is allocated in M & E				
7.	Citizen feedback/satisfaction survey	Budget is allocated in M & E				
8.	GRM tool/Hotline/Toll free number	Budget is allocated in PP/MAP i.e. help desk component B				
9.	Mitigation Plan (Labor Management Plan)	Budget is allocated in the component B & C (preoperative expenses)				
	Total Cost					7,47,20,000

Set-I ANNEXURES

JUSTIFICATION FOR THE OUTCOME TARGETS

OUTCOME INDICATOR 1

Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes.

This indicator, which is a DLI, measures the number of institutional, HR and process changes adopted by the Department as per the capability assessment report.

OUTCOME INDICATOR 2

Enhanced staff capacity of DOA to achieve outcomes.

This indicator, which is a DLI, measures the number of staff trained with the skillsets as recommended by capability assessment report

OUTCOME INDICATOR 3

Enhanced market linkages, food quality and safety standards for focus geographies and commodities.

This indicator, which is a DLI, measures whether scheme implementation and financing has converged on the basis of cluster / commodity development plans developed. The DLI is also based on the area brought under GAP or any such market certification.

OUTCOME INDICATOR 4

Progress against outcome goals tracked and reported annually by DoA (Y/N)

This indicator, which is a Yes/No indicator, measures whether the outcome goals defined and accepted by the Department of Agriculture are met by the Department and reported annually. The DLI is linked to meeting the outcome goals as well as reporting the same annually on the agreed upon platform.

OUTCOME INDICATOR 5

Compiling and disseminating information on market regulations measured through number of publications released(Y/N)

DoM would like to enhance regulatory effectiveness through compiling and disseminating information on market regulations. This will be done through booklets, web-sites, a call-center, advertisements and workshops. This indicator measures the number of publications on market regulations released by the Department

OUTCOME INDICATOR 6

Annual ranking of markets in Maharashtra and publication of the same (Y/N)

DoM will develop ranking of market health indicators. This indicator, which is a Yes/No indicator, tracks whether such rankings have been generated and reports thereof are published by DoM.

OUTCOME INDICATOR 7

Enhanced dispute resolution capacity through setting up of online reporting and tracking system for disputes (Y/N)

The DoM has identified establishment of a robust disputes resolution system as one of the core technical areas to be addressed through project intervention. One of the initiatives in this area is development of Online and Call Center based system for reporting disputes. This indicator, which is a Yes/ No indicator, tracks whether such an online system has been established and is operational in the Department

OUTCOME INDICATOR 8

Strengthened systemic capacity for generating a knowledge base for reform measured through publication of policy studies based on market data (Y/N)

The DoM wishes to undertake market data-based research studies, the findings of which will inform policy making of the Department. This indicator, which is a Yes/ No indicator, tracks whether such studies are being published by the DoM.

OUTCOME INDICATOR 9

Functional Agriculture Stewardship Councils established (number)

This indicator measures the number of functional Agriculture Stewardship Councils established. A functional Agriculture Stewardship Council is defined as one contributing to one or more policy recommendations based on a Vision Document and Investment Development Plan. Based on team discussions, it is expected that 3 such functional ASCs can be established by the third year. One incremental ASC will be established in each of the subsequent years.

OUTCOME INDICATOR 10

Enhanced market access measured through volume sold under PP, MAP, IP by beneficiaries as percentage of total volume produced by beneficiaries (share)

Volume sold under PPs and MAPs is defined as the volume sold to the buyer under the PP or to the new markets under the MAP. The beneficiary is any individual member or non-member of the CBO who has access to the assets or services provided under the PP and MAP.

As per team discussions and MACP experience, it is expected that around 30 per cent of the volume produced by project beneficiaries will be sold to the buyers identified under the PPs and MAPs. By Y6, around 40 per cent of the volume produced by project beneficiaries will be sold to the buyers identified under the PPs and MAPs.

OUTCOME INDICATOR 11

Increment in productivity for 11 select commodities

PAD will track productivity in following 11 commodities: Cotton - lint, pigeon pea, banana, maize, tomato, goat, soybean, pomegranates, grapes, onion and okra.

The general sense is that the sub-projects-based productivity data with SMART might be on the higher side, whereas Government data could be on the lower side.

The PMFBY data on cotton, pigeon pea and maize gives the yields on the productivity of commodities in past 7 years, with the best 5 years being used for the purpose of calculating threshold yield. Such threshold yield calculated by the GoM will be used as Baseline yield for the respective commodities. A CAGR of 4 per cent was applied to the commodities based on the MACP experience.

We also used the PMFBY data in the past 7 years to estimate the CAGR of yields for soybean; however, the CAGR was seen to be negative i.e. yields have actually fallen in the past 5 years. Hence, constant yield has been targeted over the next 7 years for soybean.

For goat, sub-project data to be used. Productivity increase in goat is measured as weight gain within 6 or 10 months of kidding. At birth, 2-3 kg weight. Goes to 16 kg at 6 months (live month). This is Baseline. Y1= 16, 16, 5%, 5% over previous, 5% over previous, same.

For banana, tomato, grapes, pomegranates, onion and okra, a three year average yield as derived from NHB statistics was used as Baseline. The assumption is that the yield increment will start only in Y3. Based on estimates given by horticulture experts, CAGR for banana, tomato, grapes, pomegranates, onion and okra was estimated at 4 per cent, 4 per cent, 1.5 per cent, 4 per cent, 1.5 per cent and 4 per cent respectively.

No.	Increment in productivity for 6 select commodities	Baseline	Y1	Y2	Y3	Y4	Y5	Y6	End term
i	Cotton	0.97	1.04	1.12	1.21	1.30	1.40	1.51	1.51
ii	Maize	2.91	2.91	2.91	2.91	2.91	2.91	2.91	2.91
iii	Pigeon pea	0.93	1.10	1.29	1.53	1.80	2.13	2.51	2.51
iv	Banana	52.29	53.02	53.76	54.52	55.28	56.05	56.84	56.84
v	Tomato	23.39	24.00	24.62	25.26	25.92	26.59	27.28	27.28
vi	Goat (live weight at 6 months)	16	16	16	16.8	17.6	18.5	18.5	18.5
vii	Soyabean	1.36	1.36	1.36	1.36	1.36	1.36	1.36	1.36
viii	Pomegranate	11.72	11.72	11.72	12.19	12.68	13.18	13.71	14.26
ix	Grapes	22.42	22.42	22.42	22.76	23.10	23.44	23.80	24.15
x	Onion	14.64	14.64	14.64	14.86	15.08	15.31	15.54	15.77
xi	Okra	9.69	9.69	9.69	10.08	10.48	10.90	11.34	11.79

OUTCOME INDICATOR 12

Percentage beneficiaries meeting standards set by sub-projects (percentage)

Each sub-project is expected to have a set of quality standards that will be made known to the potential beneficiaries of the project. This indicator measures the percentage of beneficiaries meeting the standards set by the sub-project.

It is expected that 40 per cent and 70 per cent of project beneficiaries under all sub-projects (consolidated) will meet the standards set by the sub project in Y1 and Y6 respectively. A total number of 60, 180 and 250 plans (PPs and MAPs) will be signed in Y1, Y2 and Y3 respectively. Thus, in Y2 and Y3, 120 and 70 plans will be incrementally signed. In Y2, 180 plans are signed i.e. 33 per cent of the same are signed in Y1 and 67 per cent in Y2. In Y3, a total of 250 plans are signed, of which 24 per cent, 48 per cent and 28 per cent are signed in Y1, Y2 and Y3. We assume that once the plans commence, 40 per cent, 50 per cent, 60 per cent and 70 per cent of beneficiaries will meet standards in consecutive years.

No	Y1	Y2	Y3	Y4	Y5	Y6	Y7
PPs	30	90	120				
MAPs	30	90	130				
Total no. of plans	60	180	250				
Percentage of project beneficiaries meeting sub-project standards	40	40	50	60	60	70	70

OUTCOME INDICATOR 13

No. of market linkages established by the project

Currently, the project has finalized 16 PPs in which 16 unique buyers are present. It is expected that there will be 120 PPs with 60 buyers at EoP, with 1 Buyer handling 2 PPs on an average. The project focuses on 30 commodities. It is expected that 2 unique market linkages will be established per commodity under MAPs. Thus, 60 unique market linkages will be established for MAPs. Thus, a total 120 unique market linkages will be established for PPs and MAPs. The justification for the targets is summarized in the table given below.

Particulars	Y1	Y2	Y3	Y4	Y5	Y6
PP	45	90	120			
No. of unique market linkages established through PPs		22	45	60	60	60
MAP	45	90	130			
No. of commodities being addressed	12	15	20	30		
No. of unique market linkages established through MAPs		23	30	40	60	60
Total no. of unique market linkages being established	0	45	75	100	120	120

OUTCOME INDICATOR 14

Strengthened export linkages measured through MAPs targeting export markets (percentage of all MAPs operationalized in the preceding 2 years and the current year)

This indicator measures the percentage of all MAPs that target export markets. Based on the proposals received currently by the project, it is expected that around 15 per cent of the MAPs will be able to access export markets by Y3. 20 per cent of the MAPs will be able to access export markets by Y6.

OUTCOME INDICATOR 15

SMART cotton price comparator defined as Price accruing to farmer with SMART Cotton intervention compared to Price accruing to farmer without SMART Cotton intervention (ratio)

This indicator calculates the difference between price accruing to farmer with SMART cotton intervention in the immediate three years preceding the survey. It also calculates the difference between price accruing to farmer without SMART cotton intervention in the three years immediately preceding the survey. It finally calculates the ratio of the differential between price accruing to farmer with SMART Cotton intervention and Price accruing to farmer without SMART Cotton intervention.

Given the branding exercise that will be undertaken by Mahacot, the team expects that the farmer benefitting from the SMART intervention should be able to sell cotton at a premium of 5 per cent in Y3 and a premium of 8 per cent by Y7.

OUTCOME INDICATOR 16

Establishment of independent institutional mechanism for SMART cotton whose standards are adopted by farmers, ginners and spinners

This indicator has two components. The first component of the indicator tracks, through a Yes/No Indicator, whether an independent institutional mechanism was set

up for SMART cotton. The second component of the indicator tracks how many farmers, ginner and spinners adopted the standards recommended by the institutional mechanism.

OUTCOME INDICATOR 17

Number of project supported enterprises making incremental investments

Total investment made by 2000 enterprises is Rs. 450 crores. Under MACP, 4200 business plans were prepared, of which 1400 were approved and investments were made. Hence the ratio of plans in which investments are made stands at 33 per cent. Based on this experience, it is assumed that we will prepare business plans for 6000 enterprises, of which 2000 enterprises will make an incremental investment of Rs.10 lakh per enterprise at EOP.

Particulars	Baseline	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Number of project supported enterprises making incremental investments		0	0	500	900	1300	1700	2000
<i>Of which women entrepreneurs</i>		0	0	300	540	780	1020	1200
<i>Of which social category entrepreneurs</i>		0	0	100	180	260	340	400

OUTCOME INDICATOR 18

Volume of credit accessed by project supported CBOs and project supported Enterprises from FIs (crores)

The project is supporting 1000 CBOs under PP and MAP components, all the CBOs need to raise finance for their activities. Total investment to be made by beneficiary CBOs is Rs 500 crores (Total costs of the project under MAP, PP is Rs.1350 Crores, out of which Rs. 850 crores is project grants)

Each CBO will need to raise Rs 50 lakhs of finance. But some of the funds can come from their own sources. As per team discussions we have following debt equity ratio MSRLM CBOs 80/20, (Rs 40 lakh as debt per CBO)

MAVIM CBOs 50/50 (Rs 25 lakh as debt per CBO)

CBOs 50/50 (Rs 25 lakh debt per CBO)

Based on these assumptions and total no of CBOs involved in the project, total volume of credit was derived at

Type of CBO	Y1	Y2	Y3	Y4	Y5	Y6	Y7
MSRLM	48	144	200	200	200	200	200
MAVIM	24	72	100	100	100	100	100
CBOs	168	504	700	700	700	700	700
Total	240	720	1000	1000	1000	1000	1000
Debt raised (lakhs)	Y1	Y2	Y3	Y4	Y5	Y6	Y7
MSRLM	40	40	40	40	40	40	40
MAVIM	25	25	25	25	25	25	25
CBOs	25	25	25	25	25	25	25
Total							
Type of CBO	Y1	Y2	Y3	Y4	Y5	Y6	Y7
MSRLM	1920	5760	8000	8000	8000	8000	8000
MAVIM	600	1800	2500	2500	2500	2500	2500
CBOs	4200	12600	17500	17500	17500	17500	17500

Total	6720	20160	28000	28000	28000	28000	28000
No. of enterprises	0	0	500	900	1300	1700	2000
Inv done by Enterprises (crores) @ Rs. 10 lakh each	0	0	50	90	130	170	200
Of which, support through convergence @ 50%	0	0	25	45	65	85	100
Of which, support through equity @20%	0	0	10	18	26	34	40
Of which, support through debt @30%	0	0	15	27	39	51	60
Credit by enterprises	0	0	15	27	39	51	60
Total Credit	67.2	201.6	295	307	319	331	340

OUTCOME INDICATOR 19

Enhanced access to finance as measured by CBOs accessing credit from Partner Financial Institutions (number)

The project envisages facilitating CBOs and agri-enterprises to access a broad set of financial services. Under the project, CBOs will be rated using a rating tool developed by SMART. Around 600 CBOs will be rated using the tool by Y7. It is expected that at least half of the rated CBOs should be able to access finance by formal FIs.

OUTCOME INDICATOR 20

Increased awareness across the value chain about safe food measured through number of participants reached through awareness campaign for citizen engagement (number)

This indicator measures total number of participants including citizens, food vendors, other stakeholders across the food chain participating in awareness campaign for citizen engagement. The number of participants has been calculated based on team discussions and cost estimates for the various interventions.

OUTCOME INDICATOR 21

Number of beneficiaries taking cognizance of market intelligence given by the project

The SMART project intends to reach to the farmers with price and market information. Based on the MACP experience, the indicator is built to know for how many beneficiaries think this information, as

One of the factors for storing and selling decisions.

Discussions with the team and MACP data indicated that 20% of total beneficiaries at midterm and 55% of total beneficiaries at end term will acknowledge use of this information as one of the factors for their decisions. Applying the same % for total number of beneficiaries (1200000), we have arrived at the targets as shown below.

Particulars	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Number of beneficiaries taking cognizance of market intelligence given by the project	-	-	2,40,000	-	-	6,60,000	6,60,000

OUTCOME INDICATOR 22

WRs issued to project beneficiaries

The SMART project has planned an intervention for access to decentralised warehousing and linking the same to the finance for the smallholders. Up gradation of the existing PACS warehouses and new warehouses by CLF groups as well as same activity under PP and MAP will result into new 3 lakh tonnes capacity of warehousing. Warehouse capacity, operationalised or newly created in MT (Cumulative)

Name of Agency	Y1	Y2	Y3	Y4	Y5	Y6	Y7
PACS(upgraded + New)	13650	51150	91650	125650	125650	125650	125650
MSRLM(New)	4500	11250	15000	17500	17500	17500	17500
Under PP and MAP	36850	86850	136850	156850	156850	156850	156850
No of users under PACS	4095	16028	30735	45518	51800	58000	58000
No of users under CLFs	0	2250	6750	7350	14000	15750	17500
No of users under PP&MAP	18425	52110	95795	125480	125480	125480	125480
Total users by adding	22520	70360	133280	178347	191280	199230	200980
Total users assuming 40% repeat	22520	79368	142288	268811	353083	437545	518987
Women beneficiaries of users	2252	7937	14229	26881	35308	43754	51899
SC ST users of beneficiaries	2928	10318	18497	34945	45901	56881	67468

Based on the team discussions, it is assumed that

- a) Average storage will be of 1 tonne per farmer
- b) The usage patterns of the warehousing are different for the agencies, for example , under PP and MAP , it is 50, 60, 70 , 80 ,80% utilization over the 5 years , for MSRLM it is same for first 4 years but progresses to 90 and 100% . For PACS it starts with as low as 30% but gradually increases over 70%. So no of users are calculated separately and then added together.
- c) By assuming 40% of the farmers will be repeating use of storage facility. Total users are estimated.
- d) For women beneficiaries the % based on the tech team discussions taken as 10%.This is based on the assumption that MSRLM users are assumed to be all females.
- e) For SC and ST, 13 per cent State average is assumed, which is based on Agriculture Census.

Based on above assumptions, total no of users of the warehousing intervention is estimated. The team also mentioned that every user of the storage will be issued the warehouse receipt. Accordingly, the no of warehouse receipts issued are estimated.

OUTCOME INDICATOR 23

Farmers getting pledge finance using NWR as a percentage of the total number of farmers getting WRs (percentage)

This indicator measures the ratio of number of farmers availing pledge finance through CMA and MSWC operated warehouses to total number of farmers to whom WRs are issued.

As per MSWC data, the ratio of number of farmers availing pledge finance to the total number of farmers to whom WRs are issued stands at around 2 per cent only. However, as CMA – CLF and CMA - PACS project intervention is bringing the warehousing facilities closer to the small farmers, and is offering linkages to FIs, the team expects that around 20 per cent of the farmers storing the produce should be able to avail of pledge finance by Y3. Around 30 per cent of the farmers storing the produce should be able to avail of pledge finance by Y7.

OUTCOME INDICATOR 24**Integration of the project supported warehouse facilities with the state warehousing grid through IT infrastructure (Y/N)**

The project will support integration of project supported warehouse facilities with the state warehousing grid through IT infrastructure. This indicator, which is a Yes/ No indicator, tracks whether such an IT based system has been established and is operational.

OUTCOME INDICATOR 25**Grievances registered related to delivery of project benefits that are actually addressed (percentage)**

This Corporate Results Indicator measures the transparency and accountability mechanisms established by the project so that the target beneficiaries have trust in the processes and are willing to participate, and feel that their grievances are attended to promptly. Thus the project monitoring system should provide information on the number of complaints received against the number actually resolved.

Set-II Annexures

1. Standard format for PCN for PP & MAP Sub-project

Note: all indications in italics are for beneficiary use and would not be part of the final project proposal.

Date of Submission: _____

Registration Number: _____
(Office use)

A. Data Sheet

I. Organization Details of the Applicant:

Project Title	
Project Location (s)	
Organization information Name: Contact person: Address: Telephone: Fax: Email:	
Type of the organization:	<ul style="list-style-type: none"> • Community Based Organisation - (Farmer Producer Organisation (FPO), Farmer Producer Company (FPC), Cluster level federation (CLF), Community Management Resource Center (CMRC), Primary Agriculture Cooperative Society (PACs), Federations having institutional members, Growers associations, Farmer Group, FIG, etc. • Buyer/ SMEs / Startup in agribusiness • Research Organization / Institutes
Nature of organization's work	

II. Competitive Matching Grant Category applied for (*select one*)

Note 1: The following are important eligibility restrictions depending on the financing window selected:

Category 1: Productive Partnership: *The maximum grant amount under this category for each sub project will fund upto 60 per cent the total sub project cost using a viability gap funding approach. The balance amount is expected to be covered by contribution of the CBOs through equity and or bank loan. In certain cases buyer partners may also contribute.*

Category 2: Market Access Plan: The maximum grant amount under this category for each sub project will fund maximum upto 60per cent the total sub project cost using a viability gap funding approach. The balance amount is expected to be contributed by CBOs / Partner Institutions with equity and Bank Loan.

Category 1: Productive Partnership Plan	
Category 2: Market Access Plan	

III. Estimated Project Cost:

Source	Amount in Rs.	As per cent Total Project Cost
CBOs - Contribution/Equity		
Bank Loan (if any)		
Grant requested from SMART		
Contribution from Buyers (Corporate/ SME/ Start-up) (In Kind or Cash)		
Total		

IV. Do you want the support of SMART in developing a full project proposal based on this concept note? YES / NO

B. Briefly describe how the proposal meets the eligibility criteria (max 1000 words)

C. Summary description of the project

The description should cover the following items:

- a) Thematic area applied: (to be taken from the call of proposal):
- b) Proposal description and justification: (The core objective of the proposed PCN and how this is related to the development objectives of SMART.);
- c) Goals to be accomplished: A description of the expected results and quantitative impact, including numbers of beneficiaries and how the project will impact the beneficiaries (both direct and indirect beneficiaries), like increased market led production, increased sale, increased productivity etc.)
- d) Expected timeframe for completing the work: (in months)
- e) Type of investments required: (description of the investment such as Capacity Building and Training, Market led production and Post-Harvest Infrastructure, Business Development Support)
- f) Value chain participants benefited: (explain how the value chain stakeholders would benefit from the proposed project/activities);

- g) Demonstration and Innovation Aspects: (explain demonstration and innovation aspects of the proposed project like new production technology tested, production technology demonstrated & disseminated and innovations in the value chain linkage)
- h) Collaborating partners: (proposed partner(s) with whom the applicant would be collaborating for R&D, agencies for development inputs and other collaborating institutions for project implementation or financial institution for commitment of fund)
- i) Sustainability of the proposal: (Describe how the project investments and outcomes would be maintained and sustained after completion of the project)
- j) Adequacy of equity and / or Bank Loan to carry out proposed subproject (Describe how CBOs will be able to mobilise the funds through equity and or bank loan. Also provide their creditworthiness)

D. Social and Environmental Impacts:

Social Impacts:

- a) Information on the farmer groups associated with the partnership should be set out here, particularly in terms of their location, socio-economic status and how the proposed activities will impact on these households. It is also expected to describe the involvement of vulnerable community (SC, ST, women headed households) in the partnership and expected impacts on them. Weighting is also given to how your partnership proposes to enhance participation by women together with demonstrating that these measures will be practical in the context of the target communities. It is also important that how the partnership will promote the involvement of small and marginal farmers and impacts their livelihood.
- b) For social safeguard, the PCN applicant should provide the below listed information. This information will help to identify the social risks. These risks will be assessed during initial screening and the social risk mitigation strategies will be suggested for Full Project Proposal. Hence all information needs to be filled up appropriately with details.

S.NO	Components	Yes	No	Detail
A.	Indigenous people			
	Will the subproject directly or indirectly benefit or target Indigenous Peoples?			
	Do such groups speak a distinct language or dialect?			
	Will the subproject directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices? (customs & traditions)?			
	Will the subproject affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)?			
B	Land Resettlement			
	Does the sub-project require the land?			
	Does the sub- project involve acquisition of private land?			
	Whether the land will be encroachment free?			
C	Labor Management Framework			
	Does the subproject undertake the civil work?			
	Will the project potentially involve an influx of workers to the project location, and will the influx be considered significant			

	for the local community?			
	Will the construction work involve child labor?			
D.	Participation of women			
	Is the project being designed with participation of women in the planning, design, and implementation process?			

Environmental Impacts:

Need to specify the potential environmental impacts of the proposed activities and demonstrate how your partnership will minimize these risks. Specific activities to enhance the sustainability of smallholder farmers in the targeted commodities/ agri value chains will be assessed positively. Please include the relevant social and environmental screening.

Environmental Screening will be used to decide on the appropriate level and type of Environmental Assessment (EA) required for a given project on the basis of its likely environmental impacts. Please provide environmental setting for the immediate surroundings of the project location. The applicant has to make definite responses for each of the queries sought by the project. None response to any of the questions below may lead to disqualification. The screening criteria will include the following environmental factors but not limited to:

Will the Project :	Yes (Y)	No (N)	If Yes, then Specify/Remarks
Be located within or near environmentally sensitive areas like Forests (Protected / Reserve), Rivers, Wetlands, has occurrence of threatened floral and faunal species, Special area for Protecting Biodiversity			
Cause ecological degradation resulting from modification of non-agricultural lands to agricultural lands?			
Causes major air, water, soil and noise pollution due to agri-processing and/or construction activities?			
Clearance of vegetative cover/deforestation?			
Causes soil erosion or degradation?			
Spread of diseases from exotic cultivated plant and/or livestock species reared?			
Divert the water resource from its natural course /location and affects the natural drainage of the area?			
Causes threat to local varieties of crops and vegetables by introduction of new genetically modified varieties (HTBT)?			
Result in any type of human wildlife conflicts?			
Located in high risk zone such as landslide prone area, steep slopes, highly degraded land in hills, riverside area susceptible to flooding, and in areas causing large-scale soil erosion?			
Heritage site/temple/religious site?			
Increases the risk and vulnerabilities related to occupational health and safety of humans due to physical, chemical and biological hazards during agricultural production & processing and project construction and operation linked to the project infrastructure development?			
Have suitable area for construction purposes for agri-value chain related Infrastructure?			
Air emission due to operation of D.G sets, boiler or burning of fuel for any other processing related activity.			
Experience effluent and /or emissions discharge?			

Scoring criteria for PCN and decision rules

PCN will be evaluated based on the technical parameters such as number of beneficiaries, impact on beneficiaries, types of investment, contribution to value chain development, demonstration/innovation aspects, sustainability, social and environmental impacts, adequacy of equity/ bank loan. The score sheet for evaluation and assigned weight to each of the parameters.

Sr. No.	Criteria	Maximum Points
a)	Number of beneficiaries (Direct & Indirect)	10
b)	Existence and type of Partnership within the value chain	10
c)	Impact on beneficiaries	10
d)	Contribution to value chain development	15
e)	Demonstrates Innovation aspects	10
f)	Sustainability	15
g)	Social impacts	7.5
h)	Environment impacts	7.5
i)	Adequacy of equity and / or Bank Loan to carry out proposed subproject	15
	Total	100

Decision Rules for Project Concept Note (PCN) Evaluation (Technical)

PCMU will evaluate the PCN based on the technical parameters such as number of beneficiaries, impact on beneficiaries, types of investment, contribution to value chain development, demonstration/innovation aspects, sustainability, social and environmental impacts, adequacy of equity/ bank loan. The score sheet for evaluation and assigned weight to each of the parameters is in Table 1.

Sr .No.	Selection Criteria						Score	Received Score
a)	Number of Beneficiaries (direct and indirect)						10	
	a) Direct (5)	Score	Received score	b) Indirect (5)	Score	Received score		
	Low- 250-500	1-2		Low- 250-500	1-2			
	Medium- 501-750	3-4		Medium 501-750	3-4			
	High- Above 750	5		High- Above 750	5			
b)	Existence and type of Partnership within the value chain				Score	Received score	10	
	Low				1-3			
	Moderate				4-6			
	High				7-10			
c)	Impact on Beneficiaries						10	
	Low				1-3			
	Moderate				4-6			
	High				7-10			
d)	Contribution to value chain development				Score	Received score	15	
	Less contribution				1-5			
	Moderate Contribution				6-10			
	High Contribution				11-15			
e)	Demonstration/Innovation aspects				Score	Received score	10	
	Less Innovative				1-4			
	Moderate Innovative				5-7			
	Highly Innovative				8-10			
f)	Sustainability				Score	Received score	15	
	Low				1-5			
	Moderate				6-10			
	High				11-15			
g)	Safeguard				Score			
	Social Impacts							
	Low				1-2			
	Moderate				3-4			
	High				5-7.5			

	Environmental Impacts	Score	Received score	7.5
	Low	1-3		
	Moderate	4-5		
	High	6-7.5		
h)	Adequacy of equity and / or Bank Loan to carry out proposed subproject	Score	Received score	15
	Low	1-5		
	Moderate	6-10		
	High	11-15		
	Total			100

Each of the parameter will be assigned any of the three rating that is low, moderate or high and score will be assigned as per above. Decision rules as regards to the rating of the Evaluation criteria have been given

Decision Rules			
a)	Number of Beneficiaries (direct and indirect) (10)		
	a) Direct (5)	Score	Indirect (5)
	Low- 250-500	1-2	Low- 250-500
	Medium- 501-750	3-4	Medium- 501-750
	High- Above 750	5	High- Above 750
b)	Existence and type of Partnership within the value chain (10)		
	Low	Partners which could be critical to the success of the subproject have not been proposed/missed out in the PCN/proposal.	
	Moderate	Partners proposed are moderately critical for the success of subproject proposal	
	High	Partners proposed are the proposal are highly critical for the success of subproject proposals	
c)	Impact on Beneficiaries (10)		
	Low	Focused on any one of the three impact areas namely market led production, volume of marketable products and sales of commodities in value chain	
	Moderate	Focused on any two of the three impact areas (market led production, volume of marketable products and sales of commodities in value chain)	
	High	Focused on all the three impact areas (market led production, volume of marketable products and sales of commodities in value chain)	
d)	Contribution to value chain development (15)		
	Low	Backward linkage only	
	Moderate	Forward linkage only	
	High	both forward and backward linkage	
e)	Demonstration and Innovations Aspects (10)		
	Highly innovative	Three elements namely, (a) elements of public goods, (b) attempts to expand value chain, and (c) solutions to address problems in the value chain are present in the proposal	
	Moderate innovative	Any two of the above elements are present in the proposal:	
	Less innovative	Any one of the above are present in the proposal	
f)	Sustainability (15)		
	Low	Less likelihood of activities to be continued after the project	

Decision Rules		
	Moderate	High likelihood of activities to be continued after the project
	High	High likelihood of activities to be continued after the project, and setting up as a demonstrator for others to follow
g)	Social Impacts (7.5)- Project envisages the inclusion of small and marginal farmers, women, Scheduled Tribes and Scheduled Caste	
	Low	Inclusion of two categories
	Moderate	Inclusion of three categories
	High	Inclusion of small & marginal farmers, women, scheduled tribes and Scheduled Caste
h)	Environmental Impacts (7.5)	
	Low	Project activities focuses on fostering only natural resource conservation & its use efficiency
	Moderate	Project activities focuses on fostering natural resource conservation & its use efficiency and waste & waste water management
	High	Project activities focuses on fostering natural resource conservation & its use efficiency, waste & waste water management and food safety
i)	Adequacy of equity and / or Bank Loan to carry out proposed subproject (15)	
	Low	Proposed only through own equity resources but to mobilize equity
	Moderate	Proposed through own equity and bank loan. Equity is mobilised or equivalent reserves on balance sheet
	High	Proposed through own equity and bank loan. Equity is mobilised or equivalent reserves on balance sheet. Bank letter of Intent is also provided.

Checklist for submission of PCN:

- A. Details of CBO/ Growers association/ federation
 - a) Name of CBO/ CBOs with address (give the details of all partner CBOs)
 - b) Type of organisation/s (FPCs/ FPOs, CLF, CMRC, PACs, FIGs, PGs, any other pl specify):
 - c) Registration no/s
 - d) Membership: shareholders total and individual CBOs
 - e) Category wise membership details (SF, MF, Others, SC, ST, NT, others, Women):
 - f) If more than one CBO involved, relationship between CBOs:

- B. Category of market access plan applied for: (PP/MAP/CII):
 - a) Name of commodity:
 - b) Details of cluster selected: taluka, district, region (geographical region):
 - c) Area, production and productivity of selected commodity in project area (in ha):
 - d) No. of farmers benefitted:
 - e) Issues in Production, Post-harvest and marketing:

- C. Market (existing):
 - a) Existing markets with details (location, quantity sold)
 - b) Experience with existing market:
 - c) Marketable surplus quantity available for selected commodity:

- D. Details of selected market:
 - a) Location of the market with address:
 - b) Category of market: (domestic, export)
 - c) Potential of the market:
 - d) Requirements (quality, quantity, food safety requirements, seasonality of supply, any other):
 - e) Reasons for selecting this market:

- E. Details of project-
 - a) Location with address (geographical location with geo-tagging, latitude, longitude)
 - b) Place for project- area in ha, owned/ leased
 - c) Other support basic facilities available (water, power-electricity, road etc.)

- F. Facilities:
 - a. Existing facilities with capacity:
 - a) Issues with existing facilities:
 - b) Facilities needed under the project (name, type with capacity):
 - c) Any other support needed under project:
 - d) Applied for or any other support taken for these kinds of facilities under any other project (pl give details):

SET IV - FPP Template for PP / MAP

Following indicative formats are required to be filled:

Format 1: Profiles of the CBOs

Format 2: Baseline information/ data

Format 3: Profile of The Proposed Buyer / Market/ Exporter

FORMAT 1:

PROFILE OF CBO/ Enterprise

(CBOs includes FPO, CLF, CMRC, PACs and Commodity based growers associations/ federations)

1. Details CBOs/ Enterprise:

1.1. Name of Community Based Organisation (CBO- FPO, CLF, CMRC, PACs, Federation, Association, any other group) or Enterprise:

1.2. Address with contact details- (phone no, mobile no, email ID, website):

1.3. Contact person with address and contact details:

1.4. Registration no:

1.5. Year of formation:

1.6. Registered under (company/ cooperative society/ trust act or ATMA):

1.7. Share capital (Rs in lakh):

1.8. Members-

1.8.1. Shareholders:

1.8.2. Associated members (other than shareholders):

1.8.3. Total members:

1.9. Membership details

Total	Land Holding Pattern			Sex disaggregated		Social Category				
	M F	S F	Other Farmers	Men	Women	SC	ST	NT	OBC	Others Gen

2. Details of the Director(s)/Promoter(s)/Partners(s)

SN	Name of the Director(s)/ Promoter(s)/ Partner(s)	Sex (M/F)	Designation	Social Category(SC/ ST/NT/OBC/ Others)	Address	Tele no.	Education	Mobile No.	E-mail Id	PAN No	Aadhar No
1											
2											
3											
4											
5											
6											
7											
8											
9											
10											
Add rows as per requirement											

3. Experience of the CBO/ Enterprise in Agri Business (Pl. Enclose documentary evidence regarding experience and turnover).

Name of CBO/ Enterprise:

S N	Business Activity/ Activities	Experience in years.	Turn Over as per Balance sheet/ Audit report		Supporting documents attached
			Year*	Rs in lakhs	
1			2016-17		
2			2017-18		
3			2018-19		

*Data for last preceding 3 years from time of application
(Give separate for each CBO/ partner)

4. Current scenario of Involvement of men & women in the different activities of value chain:

Activity	No of men involved	No of women involved	Total no. of members
1. Quality production			
Activity 1			
Activity 2			
2. Post-Harvest & Processing			
Activity 1			
Activity 2			
3. Marketing			
Activity 1			
Activity 2			
Insert rows in each head as per requirement			

5. Data for targeted commodity regarding produce, storage facility, processing infrastructure, existing market linkages and problem faced:

5.1. Data regarding Commodities in selected cluster (commodity wise for selected commodities for last 3 years)

5.1.1. Area (in Ha):

5.1.2. Production:

5.1.3. Surplus:

5.1.4. Price history:

5.2. Details of existing Storage Facilities (Warehouse, Cold storage, pre-cooling units, Refer vans etc)

5.2.1. Type of facility:

5.2.2. Capacity in MT:

5.2.3. Current status (functioning/ non-functioning):

5.2.4. Location with distance from cluster:

5.2.5. Ownership details:

5.2.6. Capacity utilisation:

5.2.7. User charges rate:

5.3. Details of Existing Post- harvest/ Processing and Marketing

Infrastructure facilities(Primary/ secondary processing- cleaning, grading, sorting, cutting, packing, juice making, dall mill, floor making, collection centre, retail outlet, pack house- field level and export, Laboratory etc)

5.3.1. Type of facility:

5.3.2. Capacity in MT:

5.3.3. Current status (functioning/ non-functioning):

5.3.4. Location with distance from cluster:

5.3.5. Ownership details:

5.3.6. Capacity utilisation:

5.3.7. User charges rate:

5.4. Details of Existing Market Linkages(name of buyer, quantity supplied)

5.4.1. Local market including farm gate level:

5.4.2. APMC:

5.4.3. Domestic major markets (in and outside state, private markets):

5.4.4. Export:

5.4.5. Contract farming/ agreement:

5.4.6. Any other:

6. Challenges faced and proposed interventions

6.1. Challenges faced by CBOs/ Enterprises

6.1.1. Production level:

6.1.2. Post-harvest level:

6.1.3. Marketing level:

6.2. Proposed interventions and Facilities required including infrastructure

(with nos and capacity)

6.2.1. Production level:

6.2.2. Post-harvest level:

6.2.3. Marketing level:

7. Environmental Baseline Database

7.1. Production Stage

7.1.1. Basic Production Related Information for the Given Agri- Commodities

SN	Enlist Name of the Agri-Commodities	Production Through-Agrochemicals or Organic Method	Total Area under Production in Ha.	Quantity Produced in Tons/Ha./Yr	Irrigation Type- Rain fed/Canal/ Drip/Sprinkler	Water Requirement for Irrigation in (litres/Ha. or m ³ /Ha. Per Yr
1.						
2.						
3.						

7.1.2. Maximum Residue Limit (MRL) Compliance for Export and Local Markets

For Agro-Chemicals Usage- Pesticides/Insecticides/Weedicides

To be Filled In By the CBOs/Enterprises						To be Filled In By SMART Env. Expert	
S N	Name of the Agro-Chemical's Used	Name of the Target Pestand Frequency of Attack (Frequent-Annual/biennial or Rare)	Type-Pesticid e/Insecti cide/We edicide	Quantity Applied Solid-(kg/ha/yr) Liquid (ml/ha/yr)	Price (INR/ Kg) or (INR/ Litre)	MRL (Mg/Kg) Prescribed by FSSAI Regulation 2011	<u>Actual</u> Above MRL Below MRL
1							
2							
3							
Total							

7.1.3. For Fertilizers- Synthetic, Organic Fertilizer or Both (Represent Separately)

S N	Name of the Synthetic Agro /Organic Fertilizer	Type- Synthetic or Organic Fertilizer	Quantity Applied (Solid- kg/ha/yr) Liquid (ml/ha/yr)	Price (INR/Kg) or (INR/Litre)	Whether Health (SHC)– Issued/Not-Issued	Soil Card	Whether Fertigation done as per SHC
1							
2							
3							
Total							

7.1.4. For Pest Management and Training Need Assessment under OP. 4.09

S N	Name of the Agri-Commodities	Number of IPM Demonstrations Done (if any)	Area in Ha. Brought under IPM	Number of INM Demonstrations Done (if any)	Area in Ha. Brought under INM
1.					
2.					
3.					

7.1.5. Waste Production

S N	Type of Waste Generated	Quantity Produced (tons/ha/yr)	Is it Reused on Field? (Yes/No)	Purpose of Reuse		Disposal Method	
				Storage and Cleaning	Field Application	Open Dumping/ Underground Burial	Collection by Supplier/ CBOs
1	Biodegradable Waste – Plant Residue (stalks, bagasse, drops and pruning's)						
2	Non-Biodegradable Waste (Pesticide/Fertilizer Plastic Containers, Plastic Bags, Sheets)						
Total							

7.1.6. Area brought under GLOBAL G.A.P. (Good Agriculture Practices) or INDGAP Certification whichever is applicable: (Ha.)

7.2. Harvesting and Storage Stage- SMART Support for Equipment's and Technologies

SN	Name of the Harvesting, Storage Activity and/or Operation Machinery	Name of the Machinery Used Ex: Thresher/Combined Harvester/DG Set/Cold Storage	Diesel/Petrol Consumed in litres / ton of agri-produce)	Electricity Consumed in (kWh / ton of agri-produce)	Source of Electricity- Grid Supply/Solar/Co-generation (Within Unit)

1.					
2.					

7.3. Transportation Stage

S N	Purpose of Transportation		Mode of Transportation used- Truck/Van/ Tempo/Bullock Cart/Others	Average Distance Travelled in Kms per Trip	Type of Fuel- Diesel /Petrol	Quantity of Fuel Used in Litres/ Km	Average price of the Fuel in INR/Litre
	From	To					
1	Field Production	Aggregation Point					
2	Aggregation	Processing					
3	Processing	Trader/Retailer					

7.4. Processing Stage

Sr No	Name of the Processing Activity- Ex: Cleaning/Boiling/Drying Grading/Sorting or any Other (Pls name it)	Name of the Machinery Used	Diesel/Petrol/ furnace oil Consumed in litres / ton of agri-produce)	Electricity Consumed in (kWh / ton of agri-produce)	Source of Electricity- Grid Supply/Solar/Co-generation (Within Unit)
1.					
2.					
3.					

FORMAT 2: PROFILE OF THE PROPOSED BUYER / MARKET/ EXPORTER

- Name of the Crop/ Commodity:
- Existing Market linkages-

SN	Name of Market	Country	Destination City	Quantity and value of marketed for last 5 years	Remarks
1	Domestic-1				
	Domestic-2				
	Domestic-3				
2	Export-1				
	Export-2				
	Export-3				

- Export by own/ trader/ aggregator:
- Details of exporters:

SN	Name of Exporter & Address	Country of export	Quantity (MT)	Value of exports
1				
2				

--	--	--	--	--

5. What is experience in existing markets-

SN	Name of Market	Country	Issues in marketing	Solutions and interventions	Support needed from the project
1	Domestic				
2	Overseas (Export)				

6. Proposed Market

6.1. Name of the Market:

6.1.1. Domestic (Give name of the market/ city, state):

6.1.2. Overseas/ Export: Country and Destination city:

SN	Name of Market	Country	Destination City	Address	Reasons for this market
1	Domestic				
2	Overseas (Export)				

7. Requirements of the proposed markets (Based on the outcome of the market research carried out or any other source pl specify) -Attach a copy of Market Research report

SN	Name of Market	Country	Quantity required (Fresh/ processed) in MT	Quality requirements	Any specific requirements	Seasonality of requirement of produce
1	Domestic (pl specify)					
2	Overseas (Export)					

8. Seasonality of requirement of produce: Month wise for produce (separate for fresh and processed) in MT

Annexure MAP-5

Activities to be supported under MAP

For accessing any domestic or export market, the following are the major areas of interventions and activities are important and need to be implemented.

- 1. Market Research:** Because of the rapid changes in markets and the volatility of demand and prices, market research is vital in improving market access. There may be a case for special market research units to identify specific market needs as well as niche markets. Market research can be either carried out by CBOs or external agencies to get the desired output for developing project proposal.
- 2. Quality production:** To meet quality and quantity requirements such as food safety and quality, production level interventions like use of GAP practices, special package of practices for export are very much necessary. This will help to get desired colour, size, residue levels, traceability, including technologies to increase competitiveness in targeted market.
- 3. Post-harvest and Processing:** These interventions will take care of value addition through primary and secondary processing, IT based applications, to maintain quality, storage facilities etc. to reduce wastage as well as enhance food quality and food safety measurements. These facilities will be created and owned by CBOs and services will be given to member growers to access the targeted market.
- 4. Marketing:** Branding, market promotions, infrastructural facilities for marketing arrangements, participation in national/ international exhibitions etc will be carried out.
- 5. Capacity Building:** Capacity building can be done through, trainings, farmers field school (FFS), exposure visits, rallies, melas and other Information and Communication Technologies (ICT) means. Skills to get the precision in operations and value additions can be imparted to growers, CBOs, associations as well as labourers and service providers to get desired services for better output. The areas for capacity building/ training will be identified during preparation of project proposal of MAP and these programmes will be carried out in the specialised institutes as identified under 'Technical Knowledge Partners (TKPs)' in this chapter.

5.1. Pattern of Assistance: Unlike most of the ongoing Govt programmes and schemes where fixed basket of activities and assistance is provided, here, activities will be identified/ considered on the basis of need- market requirement, existing status and gap between requirement and status. Govt of Maharashtra recently launched '**Gat Sheti**' scheme provide 60 per cent assistance is taken as basis, however instead of giving flat 60 per cent assistance '**Viability Gap Funding (VGF)**' will be worked out for each sub-proposal, on the basis of which assistance will be decided. That means VGF will provide varied rather than fixed basket of assistance. However, capacity building programmes will be provided 100 per cent assistance.

5.2. Convergence with ongoing programmes and schemes: There are many programmes/ schemes being implemented by Central and state Govt in the state in Agriculture and allied sector for production, capacity building, post-harvest and marketing activities. The convergence for assistance will be done with these programmes particularly for enterprises, corporate companies who will not be supported under the project.

5.3. The following is the illustrative list of activities to be undertaken for each major area is given in following table.

Table: Illustrative list of Activities under Market Access interventions.

SN	Name of Activity
I	Quality Production
1	Introduction of new variety
2	Import of planting material
3	Advisory services
4	Global GAP Certification Support
5	MRL Testing
6	Fruit & Plant care activities
7	Goat shed
8	IT based softwares
9	Any other activity related to requirement of markets/ buyers
II	Post-harvest and Processing
1	Collection centre- Collection, sorting/ grading, packing units etc.
2	Integrated Pack house with Sorting, Grading, Waxing with Cold Chain Infrastructure (APEDA Approved)
3	Value Addition / Processing Infrastructure
4	Logistics Infra- Reefer Vans etc.
5	Packhouse Certifications- BRC/SEDEX
6	Cold chain infrastructure
7	Warehouse for storage
8	IT based apps for traceability etc.
III	Marketing
1	Market Research
2	Market Promotions - Trade Fair Participation domestic & overseas - Buyer Seller Meet
3	Brand Development
4	Participation in Exhibition cum sale
IV	Capacity Building
1	Capacity Building of CBOs: Training, Workshop, Exposure visits
2	Skill upgradation
3	Preparation of ICT material

Annexure MAP- 6

Indicative Warehousing Capacity which will be created under SMART Project

Sr. No	PIU	Type of Work	No of Warehouses	Capacity (MT)	Total Capacity (MT)
1	MCDC	Renovation	168	500	87650
		New Construction	33	1000	33000
2	MSRLM	New Construction	5	1000	5000
		New Construction	50	250	12500
3	MSWC	SILO	4	5000	20000
		Decentralized Warehouse	3	5000	15000
4	PP/MAP of all PIUs	New Construction	100	1000	100000
Total			363		273150

Set-V Annexures

Priority Investment in Public Infrastructure

A. Livestock:

1. Interventions in goat meat value chain

Over and above interventions like capacity building, preventive health care, tagging and documentation components mentioned in the above sections, this program will support the CBOs in creating goat aggregation, transportation and weighing facilities. It will also support the animal husbandry department in interventions related to preventive and curative health care of these animals. These programs will include deworming and vaccination programs, screening of animals for diseases and occasional health care camps. The details of major interventions in this sector will include the following.

a) Establishment of disease free zones:

The Department will work with other stake holders to meet the norms for exporting goat meat & meat products to foreign countries. Health certificate, Vaccination certificate, transportation certificate, etc will be issued by competent authorities of the department. For this, the department will undertake vaccination programs targeted against specific diseases that are of strategic economic importance for improving the export potential of goats from that area – wherever required.

b) Establishment of Livestock service centres (LSC) & aggregation facilities:

The project will establish livestock service centers which will also act as aggregation facilities for aggregating goats collected from the farmers – so that these animals could be retained safely at one place from the time it is aggregated to the time it is sold to the buyer. These facilities will also act as the office of the CBOs, meeting place for the farmers and the Pashu Sakhis and a hub that will supply all the required inputs to the Pashu Sakhis at the CBO level. The cost of these facilities will be budgeted in the corresponding PPs & MAPs.

c) Support to Pashu Sakhis:

The Pashu Sakhis will be provided technical support from the local institutions (Veterinary Dispensary) of the AHD. The help and service provided to these Pashu Sakhis from these local institutions will be monitored and backstopped by the district and state level machineries of the Animal Husbandry Department.

The CBO will ensure that all the required inputs are made available to the Pashu Sakhis at the Livestock Service Centre (LSC) from where they will be issued to individual Pashu Sakhis. All the required infrastructure required for proper handling of the inputs will be made available at the LSC.

d) Animal identification (Tagging) :

The Pashu Sakhis will tag all the goats produced by the member farmers within 30 days of birth. The details of these animals – like the ownership details, phenotypic and genotypic characters, growth parameters, health care details, etc will be collected and stored in a central facility.

e) Creation of transportation facility/infrastructure :

The project will support the CBOs in creation of infrastructure for proper transportation of goats from farmers to the aggregation facility and also from the aggregation facility to the slaughter house.

f) Training

The goat farmers will be given extensive training on feeding, breeding, animal health, housing, management, book keeping, accounting, & production planning. These trainings will be conducted by lead Pashu Sakhis under the supervision of AHD & the concerned line department/PIU in a farmer field school model. Each of these farmer field schools will consist of multiple contact classes of about 20-30 farmers at the village level – conducted on a monthly basis.

The Lead Pashu Sakhis doubling as trainers will be trained by a Technical Service Provider (TSP) who will take necessary actions to train & get these Pashu Sakhis certified by agencies like/affiliated to the National Skill Council of India (NSCI)/Agricultural Skill Council of India (ASCI) or any other similar agencies.

g) Community based breeding program:

The project envisages to supply 350 Super SMART Bucks to different CBOs. Selected male off-springs of these bucks will be used to breed the does of the farmers and thus produce improved animals with better growth & carcass traits. The price of these Super SMART Bucks will be subsidized by the project which will also provide support towards preventive health care, insurance and production cost of these animals.

The growth rate, disease, treatment, feeding & other relevant details, of these and their offsprings will be recorded by Pashu Sakhi on a monthly basis right from birth. The production details of female animals will be recorded on a weekly basis.

These Super SMART Bucks will be selected on a competitive weight gain basis. The minimum weight of a 1 Year old buck to be considered as a super buck should be above 25 Kg. It is assumed that the animals will cost a total of approximately Rs.15,000 per buck. Half of this price (including the insurance charges) will be subsidized by the program. Apart from this, an additional support of Rs.5000/buck would be paid towards rearing, feeding & managing bucks. An additional cost of about Rs.1000/buck will be incurred towards disease screening & vaccination of bucks.

This community buck breeding program will be implemented by AHD in consultation with Maharashtra Animal and Fishery Sciences University (MAFSU) through the DDC AH of Beed and Osmanabad. About 50 farms each will be selected in Beed & Osmanabad.

Apart from this, the project might support the CBO for other activities also if it is essential for the successful execution of the project.

2. Interventions in goat milk value chain

Over and above interventions like capacity building, preventive health care, tagging and documentation components mentioned in the meat value chain portion, this program will also include some specific programs (for goat milk program) also. The details of the same are mentioned below.

a) Screening of goats for diseases:

All the goats selected under the goat milk collection program will be screened for various zoonotic diseases and communicable diseases. The major diseases that would be screened for the goat milk program will include Brucellosis, Campylobacteriosis, Listeriosis, Q Fever, FMD & tuberculosis. Apart from this, the goats will be screened for some other diseases also as per the need that arises from time to time. For this, the Pashu Sakhis will take samples which will be forwarded as stipulated to specified labs. The results of the study will be intimated

to the Pashu Sakhi, concerned farmer & the AHD commissioner through SMS & e-mails. The Pashu Sakhis will be supported by the local AHD officials to interpret the test results & thereby convey the prognosis to the farmer. The Pashu Sakhi will then act under the guidance of the AHD officials to resolve these issues.

Apart from this, the AHD will implement vaccination programs to address instances of FMD and brucellosis in goats

All the animals selected for this program will also be screened for sub-clinical mastitis. The animals found to be positive would be treated & cured at the farmer's expense before being admitted to this program. All animals treated with antibiotics will be inducted into the milk collection system after the completion of the withdrawal period.

All these activities will be carried out by the Pashu Sakhis under the close supervision of the AHD. This intervention is expected to reduce the instances of spread of zoonotic diseases to Humans & also the instances of major outbreaks when goat farmers interact with each other more frequently.

b) Training

The goat farmers will be given extensive training on feeding, breeding, animal health, housing, management, book keeping, accounting, production planning, and clean milk production. This intervention is expected to improve the shelf life of milk and reduce the instances of spoilage. The people manning the village level milk pooling points will be trained on proper procedures for procurement, grading, handling and preservation of milk. These trainings will be conducted by lead Pashu Sakhis under the supervision of AHD. AHD will be sensitized by benefiting from training by the TSA.

c) Milk chilling and preservation

The effective chilling and preservation of milk will be ensured by designing proper milk routes and rapid chilling of milk by placing BMCs at strategic locations.

d) Processing & sale

The CBOs will be supported by the project in their efforts to process & sell goat milk. For this, the CBOs can build milk processing facilities that could pasteurise & pack the milk or convert it into various milk products like Cheese, Paneer, ice-cream or any other product informed by market research supported by this project. The project will also support the CBOs in its efforts to popularise the product goat milk products. These efforts will involve support for the marketing campaign, market outreach programs, etc.

3. Interventions in the Poultry sector

The egg production potential of the existing back yard poultry birds is very less. The lower shelf life, variation in physical characters and thinner egg shells were some of the major factors affecting the marketability of the eggs. Scattered availability, irregular egg collection systems, lack of infrastructure, etc were also major factors affecting the operational efficiency of the business.

So, the following interventions are suggested in the existing backyard poultry sector.

a) Genetic improvement of layer birds: The existing low yielding cary breeds would be replaced by high yielding birds that lay brown shelled eggs. This is expected to improve the productivity of birds, reduce the production cost and also increase the egg production per farmer. For this, day old chicks (DOC) of established strains like Keystone Golden will be purchased from major proven players of the poultry industry.

b) Scaling up the capacity of existing mother units & establishment of new mother units : The day old chicks would be reared by selected mother unit owners till 140 days of age when it starts laying. The capacity of each mother unit will be increased to accommodate batches of 2,500 birds each per batch. For this, the existing mother units associated with the CBOs will be scaled up & upgraded. New mother units will be established by farmers selected by the CBOs wherever required

The birds reared in all these mother units will be vaccinated against all major communicable diseases at the mother unit before being sold to the farmers; thereby reducing the risk of death & loss at a later stage of life.

This system is expected give a significantly higher income to the mother unit owners. Further, since the birds are reared in the mother units under intensive system & is vaccinated against all common diseases, it would reduce the instances of spread of communicable diseases and mortality in later stages of life. This is expected to reduce the risk of poultry farming significantly.

These chicks would then be sold to selected farmer members in pre-designated villages at pre-decided rates in lots of 100 birds each.

c) Improving the production system: The farmers will be subsidised to construct sheds to house about 100 birds that would be reared under deep litter system. This improvement in production systems would help the farmers in increasing the stocking density and reduce loses due to predation & pilferage. Further, since all the birds would be reared under one roof in controlled conditions where all the required nutrition is supplied through feed they will be able to attain the maximum production potential & the instances of loss due to low quality eggs (like defective/thin shelled eggs/eggs with blood spots) could be minimised. This will improve the income of individual farmers.

The eggs laid by these birds would be supplied to the village level collection centres on a daily basis.

d) Village collection facility: The CBO will appoint its representatives or collection agents at the village level - who will collect the eggs from these selected farmers on a daily basis. These village level collection agents will operate on a prefixed terms (preferably on commission basis) and will ensure collection of good quality eggs produced by these farmers at the village level. These eggs will be graded at the collection centre and the eggs found to be not meeting to the required standards will be rejected.

The selected eggs will be collected from the village level collection centre on a regular basis and transported to the central grading centre.

e) Central grading centre: The grading centres operated by the CBO will do the grading and packing of eggs before being dispatched to the buyer. These grading centres will be operated by trained grading staff members who will ensure that their products meet the required quality standards.

f) Training & Capacity building: All the farmers, mother unit owners, graders & other stake holders will be trained to perform the activities required as per the livestock capacity building activities mentioned in the previous sections.

Set VI- Annexures

Enterprise Support (ES)

Annexure ES-1: Schemes of MSME that have potential for Convergence

A. Prime Minister Employment Generation Programme (PMEGP)

The scheme provides financial support to new and existing entrepreneurs. It is implemented at the State level through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs), District Industries Centres (DICs) and banks.

Nature of Assistance	Eligibility Criteria
Loans are provided to new enterprises to the tune of Rs 25 lakhs in case of manufacturing sector and Rs 10 lakhs in case of business/service sector. Subsidy to the tune of 25 percent in case of general category and 35 percent in case of members (including SC/ ST/ OBC/ Minorities/Women, Ex-servicemen, Physically handicapped, NER, Hill and Border areas, etc.)	Individuals above 18 years of age. Education of at least VIII standard pass in cases of projects above Rs.10 lakh in the manufacturing sector and Rs. 5 lakhs in the business / service sector. Enterprises that have availed benefits of other Government schemes are not eligible.

The scheme guidelines have been modified to support existing enterprises (successful PMEGP/MUDRA Units) under PMEGP. The details are provided below:

Nature of Assistance	Eligibility Criteria
Loans provided to manufacturing enterprises to the tune of Rs 100 lakhs and Rs 25 lakhs to service/trading sector. Maximum subsidy permissible is Rs 15 lakhs in manufacturing and Rs 3.75 lakhs in service/trading.	All existing units financed under PMEGP/MUDRA Scheme whose have Repaid the loans. The unit should have been making profit for the last three years. Registration of Udyog Aadhaar Memorandum (UAM) is mandatory.

B. Credit Linked Capital Subsidy for Technology Upgradation (CLCSS)

The scheme facilitates technology upgradation by providing 15 per cent capital subsidy up-front to MSEs, including tiny, khadi, village and coir industrial units, on institutional finance availed by them for induction of well-established and improved technologies in specified sub-sectors/products approved under the scheme.

Nature of Assistance	Eligibility Criteria
Subsidy of up to 15% subsidy for additional investment of Rs 100 lakhs for technology upgradation.	All MSME units are eligible for this support.

C. Entrepreneurship Skill Development Programme (ESDP)

Entrepreneurship Development Programmes are organized to create awareness about various aspects of industrial activity required for setting up MSEs. These include a range of activities undertaken by institutions like ITIs, Polytechnics and other technical institutions. Some of the components of the programme are:

- a. Industrial Motivational Campaign (IMC): Activity to identify and motivate traditional/non-traditional entrepreneurs, having potential for setting up MSEs with an objective of leading them towards entrepreneurship/self-employment.
- b. Entrepreneurship-cum-Skill Development Programme (E-SDP): The six weeks activity planned under this programme aims at conducting special entrepreneurship development programmes for new livelihood enterprise creation and rural enterprise development. Comprehensive training programmes will be organized to upgrade skills of prospective entrepreneurs coupled with specific skills hands on practice or demonstration relating to activities.

c. Management Development Programme (MDP)

This one-week activity is aimed at capacity building of MSMEs through inputs on management practice system is to improve their decision-making capabilities resulting in higher productivity and profitability of existing and potential entrepreneurs and developing new enterprises.

Nature of Assistance	Eligibility Criteria
<p>The programmes are conducted through different field offices of the office of DC(MSME) i.e. EDCs, MSME-DIs and Technology Centres.</p> <p>No participation fee will be charged from SC, ST, Physically Handicapped, Below Poverty Line (BPL) participants and women.</p>	<p>Field offices of DC MSME shall be involved in identifying the candidates for the programme, through inviting applications.</p> <p>The minimum age of participants in the programmes should be 18 years.</p> <p>40% of the targeted beneficiaries of EDPs and E-SDPs should be from weaker sections of the Society (SC/ST/Women/Physically Handicapped).</p>

d. Marketing Assistance Programme

This scheme is to enhance the marketability of products and services in the MSME sector. Under this programme, there are specific components for organizing buyer-seller meets, intensive campaigns and marketing promotion activities, for co-sponsoring of exhibitions organized by other organizations/industry associations/agencies and for organization of exhibitions abroad and participation in international exhibitions/ trade fairs.

Nature of Assistance	Eligibility Criteria
<p>Capacity building in packaging techniques; the cost to the tune of 100% of cost of training for agencies in case of women enterprises.</p>	<p>Manufacturing/Service sector units</p> <p>Registered at Udyog Aadhaar Memorandum (UAM) Portal.</p>
<p>Awareness Programs about trade fairs, digital advertising, e-marketing platform, GST, GeM portal and other such related topics etc. An amount of Rs 70,000 per program is set aside for the trainings.</p>	

e. Design Clinic for Design Expertise to MSMEs

The scheme is for increasing competitiveness of MSMEs through adoption of design and its learning. This is to facilitate MSMEs to develop new design strategies and or design related products and services through project interventions and consultancy.

Nature of Support	Eligibility Criteria
<p>Expert agencies (Industry Associations, Technical Institutions or other Appropriate bodies), for conducting seminars and workshops, MSMEs or groups of MSMEs, Academic Institutes/ design companies/ design consultants, etc., applying as co-applicants along with a designated MSME.</p> <p>Funding support of (1) ₹60,000 per seminar and 75% subject to a maximum of ₹3.75 lakhs per workshop</p>	<p>MSMEs can apply to field offices of DC.</p>

Annexure ES-2: Terms of Reference (ToR) for the Service Provider to be onboarded for giving BDS

The BDS services will be extended by hiring a Service Provider for a period of three years. The ToR for consultant firm is as below:

Activity	Business Development Support Services (BDS)
<p>Description of Activity</p>	<p>(a) Identification of potential agri-business entrepreneurs including, individuals, Farmers' Groups, CBOs, MSMEs and Start-ups for development of value chains of selected commodities in clusters with the help of project which are in need of agri-business development services/pre-investment services.</p> <p>(b) Training needs assessment of potential and existing enterprises.</p> <p>(c) To help enterprises to develop PCN and submit to project.</p> <p>(d) To help project in selection of enterprises and their PCNs for technical assistance.</p> <p>(e) To prepare techno-commercial and financially viable proposals of selected agri-business entrepreneurs for growth of the selected enterprise.</p> <p>(f) Training Need assessment of selected enterprises and preparation of training modules and delivery of trainings based on the TNA.</p> <p>(g) To facilitate accessing the commercial credits, grants, subsidies, venture capital and other sources of available funding from State government, financial institutions and GoI schemes related to agribusiness.</p> <p>(h) Ensure maintenance of financial books of records and tracking business performance against benchmarks.</p> <p>(i) Mentoring support to the selected entrepreneurs.</p>
<p>Output Deliverables</p>	<p>Primary responsibility of the Technical Support Agency for BDS is to achieve the performance indicators set by the Project.</p> <p>Prepare business proposals, submit to Banks/FIs and loan sanction from FIs/ Banks to Agri. entrepreneurs - Minimum 2000 proposals.</p>

Financials:

Sr. No.	Particulars	Nature of assignment	Estimated Target	Total estimated Payment (Rs. Cr.)
1	Service providers for BDS/Business Development services	Deployment of team of dedicated functional experts at state and regional level providing BDS services to selected Enterprises. Prepare business proposals; submit to Banks/FIs and loan sanction from FIs/ Banks to Agri. entrepreneurs –.	Minimum 2000 Enterprises	10.00

*This TOR is subject to changes and modification.

Set VII-Annexures

PACS and CMAs

Indicative list of participating PACs and CMAs in Pilot Operation (Year 1)

Name of PAC Cluster	Name of CMA	Warehouses & Capacities in Cluster	Total Storage Cap (MT)	Commodities Handled	Volume handled annually by Cluster	Total Farmers Benefitted
Nerpingalai Vividhkaryakar Sanstha Amaravati	Star-Agri	2 Warehouses: 250MT & 400 MT	650	Soybean, Wheat, Gram, Tur	Soybean- 5000 MT, Wheat-200 MT, Gram- 200 MT, Tur- 1000 MT	More than 2020 farmers
Walgaon Seva Sahakari Sanstha, Amravati	Star-Agri	2 Warehouses: 500 MT	1000	Soybean, Gram, Tur, Wheat	Soybean-1020 MT, Gram- 162 MT, Tur-327 MT	More than 1484 farmers
Janglewadi Vividh Karyakari Sahakari Soc., Shrigonda Ahmednagar	ERGOS	2 Warehouses: 1000 MT & 850 MT	1850	Bajra, Wheat, Maize, Gram, Jowar	Maize- 1350 MT, Wheat- 2600MT, Jowar- 600MT, Bajra- 900 MT	More than 1300 farmers
Kharola Seva Sahakari Society, Latur	Star-Agri-	2 Warehouses: 500 MT	1000	Soybean, Tur, Gram, Jowar	Gram- 2600 MT Soybean-900 MT Tur-1350MT Jowar-600MT	More Than 2100 farmers
Palkhed Vividh Karyakari Sahakari Sanstha Nashik	ERGOS	1 Warehouse: 750 MT	750	Maize, Wheat, Soybean	Maize- 1450 MT, Wheat-650 MT, Soybean- 950 MT	More than 1041 farmers
Godawari Vividh Karyakari Sahakari Society Chanduri, Niphad, Nashik	ERGOS	5 Warehouses: 1600MT	1600	Soybean, Gram, Tur, Wheat	Soybean- 6000 MT, Wheat- 7500 MT Maize-800MT	More than 2273 farmers
Pragat Bagayatdar Vividh Karyakari Seva Sanstha, Shrirampur, Ahmednagar	Go-Green	4 Warehouses: 1000 Each	4000	Soybean, Wheat, Maize	Soybean -22598 MT, Maize- 11105 MT, Wheat-18891 MT	More than 20090 farmers
Wadala Mahadev Vividh Karyakari Sahakari Soc. Shrirampur, Ahmednagar	Go-Green	2 Warehouses: 800 MT	800	Soybean, Wheat, Maize	Soybean- 1500 MT, Wheat-1050 MT, Maize- 5200MT	More than 1400 farmers
Ahmedpur Vividh Karyakari Seva Sahakari Soc. Latur	Star-Agri,	1 Warehouse: 500 MT	500	Soybean, Tur, Jowar	Soybean-12256 MT, Tur-2411 MT Jowar-2816	More Than 4190farmers
Yedeshwari Audyogik Sahakari Sanstha Osmanabad	Go-Green	1 Warehouse: 1500 MT	1500	Soybean, Sugarcane	Soybean-2500MT	More 551 than farmers
TOTAL		22 WHs	13650			Over 36449 farmers

Annex 2 Selection Criteria for PACS

Indicators	PACS	Measure for Selection of Indicators	Weightage
Minimum Membership base	250	No. of Members/ Shareholders	Required
Engagement in Targeted Value Chains	Min 50 per cent	Physical verification of Records of CBOs and Concerned Govt. Department	Required
Governance	Min-1	AGM (Annual Report & MoM signed by OB)	Required
Financials	1 Financial Year	Audited Financial Statement	Required
CBO Facilitation (Marketing, Credit & Finance support, Farm Advisory, Production Support Cadre management, Infrastructure)	Min 50 per cent Members availed any one of these Supports	Self-declared by CBOs Physical verification of CBOs	Weightage Upto 10per cent members-5 Upto 20 per cent Members-10 Upto 30per cent Members-15 > 40per cent members-20
CBOs Financial experience	Credit Linkages/ Min 100 Lakh	Books of Accounts	Weightage Upto 10 Lakh- 5 Upto 20 Lakh- 10 Upto 30 Lakh- 15 >40 Lakh- 20
Innovation in the Targeted Value Chains (Technology, Organic Farming, Waste Management, Use of Renewable energy, Value Addition)	per cent Members benefitted	Physical verification of Records of CBOs and Concerned Govt. Department	Weightage Upto 10per cent members-5 Upto 20 per cent Members-10 Upto 30per cent Members-15 > 40per cent members-20
Convergence (Line Department)	per cent Members benefitted	Physical verification of Records of CBOs and Concerned Govt. Department	Weightage Upto 10per cent members-5 Upto 20 per cent Members-10 Upto 30per cent Members-15 > 40per cent members-20
Market Linkage of Agri Produce/ Input Supply	per cent Members benefitted	Physical verification of Records of CBOs and Concerned Govt. Department	Weightage Upto 10per cent members-5 Upto 20 per cent Members-10 Upto 30per cent Members-15 > 40per cent members-20

Set VIII- Annexures

Environmental Management

Annexure: A

The SMART Project's Component and Sub-Component Wise Proposed Environmental Management/Mitigation Strategies are tabulated below:

Component A: Enhancing Institutional Capacity to Support Agricultural Transformation	
Sub-Components of Component A	Key Environmental Management Strategies
A1: Strengthening Institutional Capacity - DoA, DLI based	<ul style="list-style-type: none"> • Carry out trainings of 100 % Nodal Officers of the 11 SMART PIUs on Environmental Safeguards and Environmental Management Framework (EMF) through PCMU within initial 01st years of the SMART Project's Initiation.
A2: Strengthening Institutional Capacity -DoM and AHD	<ul style="list-style-type: none"> • Awareness generation on FSSAI MRL Standards, its Compliance, GAP and GAH practices. • Integration of climate resilience and GHG mitigation measures into the agricultural transformation activities of DoA, DoM and AHD in the State.
A3: Establishing Stewardship Councils	<ul style="list-style-type: none"> • Integration of Environmental Stewardship (adoption of sustainable agricultural practices and creation of green work force in the agri-value chain industries) for CBOs/Stakeholders under Agribusiness Stewardship Councils (ASCs). • Enterprises linked to ASCs should promote Good Industry Practices in their agricultural value chain activities and focus on creation of the related green workforce in the sector (please refer to the Chapter 12 of the ESMF). • Provide leadership by promoting innovations and technologies for fostering climate change adaptation and mitigation measures.
Component B: Expanding Market Access and Supporting Enterprise Growth	
Sub-Components of Component B	Mitigation Strategies
B1: Market Access Support. (PP, MAP and Innovations)	
Productive Partnership (PPs)	<ul style="list-style-type: none"> • Providing training to CBOs through the Farmer Field Schools on GAP, Organic farming, Traceability, etc. • Extending assistance to the CBOs for getting GAP Certification and Organic Certification through the service providers. • Extending technical assistance to 100 % CBOs of SMART for availing Soil Health Cards through Krishi Vigyan Kendras (KVKs) and promotion of precision farming practices. • To complete 100 % IPM demonstrations for all the SMART related agri-commodities within initial 01-02 years of the project initiation. • Provide training to all the project stakeholders on IPM practices for the SMART related agri-commodities through the Farmer Field Schools within initial 01-02 years of the project initiation. • To bring minimum of 50 % of the SMART project's area under the IPM practices by the end of the project. • Strengthening of the food safety in the meat value chain from biological, chemical, and physical hazards in production processes through adoption/strengthening of Hazard Analysis and Critical Control Points (HACCP) and Good Manufacturing Practice (GMP) in the slaughter houses. • Proper disposal of the abattoir waste through incineration, composting and rendering. Treatment of the 100 % waste water/effluents in the effluent treatment plant.

	<ul style="list-style-type: none"> • Providing training to the CBOs for Goat Rearing and Poultry through the Farmer Field Schools on Good Animal Husbandry Practices, viz., feed and fodder management, disease management, vaccination, animal manure management, etc. • Carrying out GHG analysis of the selected value chains to reduce their emission intensity. • Integration of energy and water use efficiency measures, climate smart approaches and technologies for increased adaptation and mitigation to the climate change. • During the call for proposals, promoting CBOs to provide their GHG emission intensity reduction measures. While evaluating proposals, keeping this as one of the evaluation criteria for the CBO selection in addition to technical feasibility, economic viability and adherence to the project's Environmental and Social safeguards requirements.
Market Access Plans (MAPs)	<ul style="list-style-type: none"> • Providing Market Led Crops Demos to CBOs on GAP, Organic Certifications / Traceability. • Providing support to the CBOs on getting GAP, Food Safety and Organic farming certification through the technical service provider. • Improve access of the CBOs to Environmentally Sustainable and Climate Resilient Agri-Value Chain Technologies and Knowledge through the technical support from the thirdparty agencies, viz., VANAMATI & RAMETI's and other competent organisations. • Adoption of improved technologies for promoting energy efficiency in post-harvest storage and processing and for reduction of the climate footprint of the activities.
Innovative Partnerships (IPs)	<ul style="list-style-type: none"> • Support innovative partnership proposals for unique climate hardy agri-commodities, viz., Drumstick, Gooseberry, etc. and Indigenous Variety of Livestock. • Promotion of Quarantine Pest Free Cluster Development Program. • Adoption of organic farming through cluster development approach for contiguous villages, extending them assistance to get organic certification through technical service providers and support for marketing their organic products in the niche markets.
B2: Support Enterprise Development	<ul style="list-style-type: none"> • Organisation of training, workshops, and exposure visits on energy and resource use efficiency, reduction of emission intensity, etc. through the Farmer Field Schools for CBOs interested in entrepreneurship. • For activities related to modernization and upgrading of the public post-harvest infrastructure, e.g., perishable cargo complex, pack house, high-end laboratory facilities for testing cotton yarn, etc. compliance to Construction Management Guidelines (CMG) given in the Chapter 11 of ESMF. • Providing access to the environmentally friendly extension services, e.g., food safety and quality, quality control and phytosanitary standards, soil and water conservation, climate resilient agricultural value chains, Good Agricultural Practices (GAP), Good Hygiene Practices (GHP), etc. • Provide support for enterprise development in climate-resilient agricultural technologies, irrigation and production risk management. • Adoption of Integrated Farming Systems i.e. agri-horticulture, agro-forestry, cropping system + goat rearing, cropping system + backyard poultry, backyard poultry + fruits/vegetables on bunds of farm pond in the saline/alkaline soil. • Provision of the Implements/technologies to CBOs for the bringing Existing/Additional Area in Hectares under Environmentally Sustainable and Climate Resilient Agri-Value Chain Development through the use of the improvised Implements/technologies. • Promotion of Climate Resilient Fodder & Silage Production Units. • Dissemination of information to CBOs on Sustainable Agriculture and

	<p>Climate Resilient Technologies, Agricultural Inputs, and Pest Management Practices through mobile phone SMS, WhatsApp groups, etc. for Agriculture and Livestock Value Chains.</p> <ul style="list-style-type: none"> • Enhancement of the production area under Global GAP/IndGAP standards for the commodities. • Identification and adoption of energy-efficient technologies that reduce energy usage and GHG emissions through appropriate technologies. • Promotion of High Value Chains e.g., pulses and millets to build climate resilience of the producers.
B3: Urban Food Pilot	<ul style="list-style-type: none"> • Training and Capacity building of CBOs on Behavioural Change- Food Safety and Meat MRL Compliance and Hazard Analysis and Critical Control Point (HACCP) of butchers for Meat. • During distribution of agri-commodities, improve coordination within the value chain functionaries to reduce transportation distances, maintenance of transportation hygiene, hygiene of agri-commodity handlers, etc. • During disposal, using of food waste for composting, bimethanation and energy generation. • Recycling of the food packaging materials.
B4: Access to Finance	<ul style="list-style-type: none"> • Training and Capacity building of CBOs for formulating viable bank proposals for accessing finance for Sustainable Agriculture, viz., use of climate hardy variety of seeds, micro-irrigation, renewable energy, on-farm waste management, viz., biogas units, composting units, etc.
Component C: Building Risk Mitigation Mechanisms	
Sub-Components of Component C	Mitigation Strategies
C1: Enhanced market information and intelligence services	<ul style="list-style-type: none"> • Increasing awareness of the project stakeholders on food safety & hygiene, MRL, GAP, Organic Certification to create demand in the consumer market for the environmentally sustainable food. Development of the related IEC material. • Adoption of food safety standards of the targeted buyers and markets.
C2: Strengthening the warehouse receipts systems.	<ul style="list-style-type: none"> • Promotion of Renewable Energy/Energy Efficiency in the Warehouses constructed/renovated under SMART.
C3. Price Risk Management	<ul style="list-style-type: none"> • Climate proofing of warehouse and cold storage infrastructure for protecting stored agricultural goods from sudden shifts in weather parameters, viz., temperature and humidity, etc. for maintaining environmentally resilient (sustainable) production systems. Insulation of the building, use of humidifiers and dehumidifiers, microprocessors with continual digital temperature control and monitoring mechanisms, etc. may be carried out. This would help to store the food items longer, reduce spoilage and farmers can avoid price reductions during the high supply season. This would help to preserve harvested produce from damage due to natural & climatic variabilities. • Management of environmental risks arising from the climate variability and change through early warning systems, capacity building of farmers & manpower associated with storage infrastructure and strengthening of the institutional capacities of the MSWC.
Component D: Project Management, Monitoring and Learning	

D1: Project Management	<ul style="list-style-type: none"> • Promotion of Environmental Stewardship for the SMART Project's Management- HR Policy favouring use of Car Pooling of Staff, Use of Reusable Products, whenever feasible, conducting review meeting through Video Conferencing Platforms, etc. • Prohibiting the use of single use plastic in the SMART Offices. • Practicing energy conservation and energy efficiency practices in the SMART project operations.
D2: Inclusion and Gender	<ul style="list-style-type: none"> • Gender Inclusive training to the CBO Representatives on MRL Compliance/GAP/GAHP, etc.
D3: MIS and M&E	<ul style="list-style-type: none"> • Real time monitoring of the SMART project's interventions through the use of project MIS dashboard. Tracking and reporting of environment management data, area under IPM, GAP, Organic, etc. in the MIS of the SMART. • For monitoring safeguard interventions, use of mobile phones, tablet devices having apps for geo-referencing & geo-tagging of the project interventions. • Tracking of the GHG mitigation and Climate Co-benefit at the PIP Level.

Annexure: B

B. 1 Template for Environmental Baseline Information to be filled by the SMART Sub-project Proposal (PP/MAP/CMA) Applicants in the Agricultural Value Chain Sector

A. Production Stage

A.1. Basic Production Related Information for the Given Agricultural Commodity (ies)

Sr No.	Enlist Name of the Agricultural Commodity (ies)	Production Through- Agrochemicals or Organic Method	Total Area under Production in Ha.	Quantity Produced in Tons/Ha./Yr	Irrigation Type- Rain fed/Canal/ Drip/Sprinkler	Water Requirement for Irrigation in (litres/Ha. or m ³ /Ha. per Yr
1.						
2.						
3.						

A.2. Maximum Residue Limit (MRL) Compliance for Export and Local Markets

For Agro-Chemicals Usage- Pesticides/Insecticides/Weedicides

Sr No.	Name of the Agro-Chemical's Used	Name of the Target Pest(s) and Frequency of Attack (Frequent-Annual/biennial or Rare)	To be Filled In By the CBOs/Enterprises			To be Filled In By SMART Env. Expert	
			Type- Pesticide/ Insecticide/Weedicide	Quantity Applied Solid- (kg/ha/yr) Liquid (ml/ha/yr)	Price (INR/Kg) or (INR/Litre)	MRL (Mg/Kg) Prescribed by FSSAI Regulation 2011	<u>Actual</u> Above MRL Below MRL
1.							
2.							
3.							
Total							

A. 3. For Fertilizers- Synthetic, Organic Fertilizer or Both (Represent Separately)

Sr No.	Name of the Synthetic Agro /Organic Fertilizer	Type-Synthetic or Organic Fertilizer	Quantity Applied		Price (INR/Kg) or (INR/Litre)	Whether Soil Health Card (SHC)– Issued/Not-Issued	Whether Fertigation done as per SHC
			Solid (kg/ha/yr)	Liquid (ml/ha/yr)			
1.							
2.							
3.							
Total							

A.4 For Pest Management and Training Need Assessment

Sr No.	Name of the Agri-Commodity (ies)	Number of IPM Demonstrations Done (if any)	Area in Ha. Brought under IPM	Number of INM Demonstrations Done (if any)	Area in Ha. Brought under INM
1.					
2.					
3.					

A.5. Waste Production

Sr No.	Type of Waste Generated	Quantity Produced (tons/ha/yr)	Is it Reused on Field? (Yes/No)	Purpose of Reuse		Disposal Method	
				Storage and Cleaning	Field Application	Open Dumping/ Underground Burial	Collection by Supplier/ CBOs
1.	Biodegradable Waste – Plant Residue (stalks, bagasse, drops and prunings)						
2.	Non-Biodegradable Waste (Pesticide/Fertilizer Plastic Containers, Plastic Bags, Sheets)						
Total							

A. 6. Area brought under GLOBAL G.A.P. (Good Agriculture Practices) Certification or INDGAP Certification whichever is applicable: (Ha.)

B. Harvesting and Storage Stage- SMART Support for Equipment's and Technologies

Sr No	Name of the Harvesting, Storage Activity and/or Operation Machinery	Name of the Machinery Used Ex: Thresher/Combined Harvester/DG	Diesel/Petrol Consumed in (litres / ton of agri-produce)	Electricity Consumed in (kWh / ton of agri-produce)	Source of Electricity- Grid Supply/Solar/Co-generation (Within Unit)

		Set/Cold Storage			
1.					
2.					

C. Transportation Stage

Sr No.	Purpose of Transportation		Mode of Transportation used- Truck/Van/ Tempo/Bullock Cart/Others	Average Distance Travelled in Kms per Trip	Type of Fuel- Diesel/ Petrol	Quantity of Fuel Used in Litres/Km	Average price of the Fuel in INR/Litre
	From	To					
1.	Field Production	Aggregation Point					
2.	Aggregation	Processing					
3.	Processing	Trader/ Retailer					

D. Processing Stage

Sr No	Name of the Processing Activity- Ex: Cleaning/Boiling /Drying Grading/Sorting or any Other (Pls name it)	Name of the Machinery Used	Diesel/Petrol/ furnace oil Consumed in litres / ton of agri-produce)	Electricity Consumed in (kWh / ton of agri-produce)	Source of Electricity- Grid Supply/Solar/Co-generation (Within Unit)	Quantity of Waste Produced in Processing Activities (tons/ ton of agricultural produce)	Quantity of Waste Water Produced in Processing Activities (litres / ton of agricultural produce)
1.							
2.							

B. 2 Template for Environmental Baseline Information to be filled by the SMART Sub-project Proposal (PP/MAP/CMA) Applicants in the Animal Husbandry Sector

A. Production Stage

A.1. Basic Goat (Ruminant) Production Related Information

Sr No.	Ruminant Type	Name of the Goat Breeds	Total Nos. of Goat's being Reared	Average Age of Tradable Goat	Avg. Area of Goat Enclosure in m ²	Type of Feeding Practices			Type of Silage	
						Free Grazing (FG)	Semi-Stall (SS)	Stall (S)	Grass and Forest Litter	Maize and Cereal
1.										
2.										

A.2. Maximum Residue Limit (MRL) Compliance for Export and Local Markets

For Antibiotic and Steroid Usage

	To be Filled in By the CBOs/Enterprises				To be Filled In By Partner & SMART Env. Expert	
Sr No.	Average Body Weight of the Tradable Goat	Name of the Veterinary Drugs Administered used (if any)	Used for Treatment of – Bacterial/Viral/ Endo-parasitic diseases/ Ecto-parasitic	Quantity Administered Tablet (mg/animal)	Meat Maximum Residue Level (Mg/Kg) Prescribed by APEDA/	<u>Actual</u> Above MRL Below MRL

			diseases, etc.	Liquid (ml/animal)	WHO	
1.						
2.						

A.3 For Good Production Practices- Training Need Assessment

Sr No	Goat Sheds/Housing		Source of Water for Goat's		Anti-mortem Inspection- Diseased Animal		Disposal of Carcass of the Diseased Animal and Disposal of dead foetus and placenta	
	Ventilated or Not-Ventilated	Water-Drained or Not-Drained	Open-Ponds, Lakes, Rivers,	Quality Drinking Water in Goat Sheds	Separated from healthy one	Not Separated	Burial	Burning
1.								
2.								

C. Slaughtering of Goat(s), Waste and Waste Water Generation and Treatment

Sr No.	Slaughter House License Requirement- FSSAI as per Food Safety (License and Registration of Food Business) Regulations 2011 Licensed (L) Non-Licensed (NL)	Quantity of Abattoir Solid Waste Generated in tons/day (animal bones, horns, faeces, fat, trimmings, paunch content, etc.)	Disposal Method of Abattoir Solid Waste			Quantity of Abattoir Waste Water Generated (M ³ /day or (Litres/day))	Effluent Treatment Plant (ETP) Present (P) Absent (A)	Quantity of Abattoir Waste Water Treated in the ETP (M ³ /day or (Litres/day))
			Biomethanation (tons/day)	Composting (tons/day)	Rendering (tons/day)			
1.								
2.								

C. Processing- Post Slaughtering Stage

Sr No	Name of the Processing Activity- Ex: Cleaning/ Freezing/ Packaging/Name any other activity in sequence	Which is the Gas Used in Refrigeration - Chilling/ Freezing Unit	Diesel Consumed in D.G. Sets (litres / ton of meat)	Electricity Consumed in Processing (kWh / ton of meat)	Type of Meat Packing Material Used- Carton, Boxes, Polybag	Quantity of Packing Material Used (Kgs/Day) or (Kgs/ ton of meat)	Method of disposal of Packing Waste (Open dumping/ Collection by Municipality)
1.							
2.							

D. Transportation Stage

Sr No	Purpose of Transportation		Mode of Transportation used- Truck/Van/ Tempo/Ship/Flight and Is the Vehicle Disinfected (Yes/No)	Average Distance Travelled in Kms per Trip to the Nearest Market	Type of Fuel- Diesel/Petrol/ Fuel Oil/Jet Fuel	Quantity of Fuel Used in Litres/Trip/Export to the Market/Trip	Average Local Price of the Fuel in INR/Litre
	From	To					
1.							
2.							
3.							

E. Quality Control and Development: Whether in-house lab and implementation of quality assurance system such as Hazard Analysis and Critical Control Point (HACCP) and ISO is Present (P)/Not Present (NP):. If Yes, then tons of Goat meat is brought under quality control system for International (I)/Local (L) Market

Annexure C: Screening Checklist-Environment

Name of Project:			
Village:	Cluster:	Block:	District:
Type of the Project:			
Total Area:			
Name of Monitoring Team:			
Name of Supervisor:			

Section A: Project Site

Will the Project :	Yes	No	Specify/Remarks
Be located within or near environmentally sensitive areas like: Forests (Protected / Reserve) Wetlands Threatened species Special area for protecting biodiversity Cultural heritage site			
Affect environmentally sensitive areas or critical habitats – wetlands, woodlots, natural forests, rivers, etc.)?			
Affect the indigenous biodiversity (flora and fauna)?			
Cause any loss or degradation of any natural habitats, either directly (through project works) or indirectly?			
Affect the aesthetic quality of the landscape?			
Cause soil erosion or degradation?			

Have risk of deforestation?			
Divert the water resource from its natural course /location?			
Cause ecological degradation resulting from modification of non-agricultural lands to agricultural lands?			
Reduce people's access to the pasture, water, public services or other resources they depend on?			
Cause any dislocation or involuntary resettlement of people?			
Cause social problems due to land tenure and use conflicts?			
Result in any type of human wildlife conflicts?			
Affect the natural drainage of the area?			
Be located in a site vulnerable to major natural or induced hazards such as: Landslides Flooding Storm Earthquakes			
Have approach to roads and what is its quality?			
Have suitable area for construction purposes?			

Section B: Constructional Impacts (w.r.t Infrastructure requirements)

Will the Project cause:	Yes	No	Specify/Remarks
Noise from construction?			
Air pollution from the construction?			
Water pollution from the constructional activities?			
Soil contamination and degradation due to construction?			
Risk and vulnerabilities related to occupational health and safety due to physical chemical and biological hazards during project construction and operation?			
Any generation of construction and disposal wastes?			

Section C: Potential Environmental Impacts(w.r.t operations)

Will the Project Cause:	Yes	No	Specify/Remarks
Any type of accidental damage?			
Downstream water pollution from discharge of contaminated water from the agricultural field with drain water?			
Reduction of water supplies from competing uses (e.g., irrigation or domestic)?			
Pollution in nearby aquatic environments from adequate farm management?			

Will the Project Cause:	Yes	No	Specify/Remarks
Threat to local varieties of crops and vegetables by introduction of new genetically modified varieties?			
Spread of diseases from exotic cultivated species?			
Reduction of water available to downstream users during peak seasons?			
Risk to community health and safety due to transport, storage and use and/or disposal of materials likely to create physical, chemical and biological hazards during construction and operation?			
Air emission due to operation of D.G sets, boiler or burning of fuel for any other processing related activity.			
Introduced mechanism to avoid burning of crop residue and adopted suitable mechanism for its sound reuse?			
Introduced mechanism for safe and scientific disposal of empty chemical pesticide containers?			
Introduced mechanism to ensure levels of pesticide residue below MRL levels?			
Noise impact due to operation of D.G sets and other cleaning, grading and packaging machineries in CBOs			
Introduced 3 – 5-star rating electrical and electronic equipment for energy conservation?			
Introduced usage of solar energy to the extent possible?			
Introduced- covered and well drained shelter with good hygienic condition for goat and sheep rearing?			
Introduced stall feeding for goat and sheep rearing?			
Introduced improved feed to reduce methane emission due to goat and sheep rearing?			

Section D: Seeds, Chemicals and Waste Disposal

Will the Project:	Yes	No	Specify/Remarks
Involve the use of chemicals/ fertilizers/pesticides, or increase existing use?			
Cause contamination of water courses by chemicals/fertilizers/pesticides?			
Cause contamination of soil by chemicals/fertilizers/pesticides or affect soil salinity and alkalinity?			
Require scheduled chemical application?			
Introduce new varieties of seeds?			

Experience effluent and /or emissions discharge?			
Introduce waste management and disposal practices?			
Introduce integrated pest management practices?			
Introduced Soil Health Card to all the farmer members?			

Set IX Annexures

Social Management Framework

A: Social Screening checklist at PCN Level

Name of the CBO:	
Project Location- District/ Cluster/ Taluka: (Provide Latitude and Longitude information as well along with complete address)	
Sub-project:	
Proposed activities:	
Extent of the land required for the project in acres / hectares:	
Details:	

Land Use, Resettlement, and/or Land Acquisition, Indigenous People Plan				
S.No	Components	Yes	No	Detail
1.	Does the project involve acquisition of private land?			
2.	Alienation of any type of Government land including that owned by PRI/ Urban Local Body?			
3.	Clearance of encroachment from Government/ Urban Local Body Land/ PRI Land?			
4.	Clearance of squatters/hawkers from Government/ Urban Local Body Land/ PRI Land?			
5.	Number of structures, both authorized and/or unauthorized to be acquired/ cleared?			
6.	Number of household to be displaced?			
7.	Describe existing land uses on and around the project area (e.g., community facilities, agriculture, tourism, private property)?			
8.	Will the project result in the permanent or temporary loss of the following? Specify with numbers Crops, Fruit trees / coconut palms, Petty Shops/ Kiosks, Vegetable / Fish / Meat vending, Cycle repair shop, Garage, Tea Stalls, Grazing Lands, etc.			
9.	Is the project likely to provide local employment opportunities, including employment opportunities for women?			
10.	Is the project being designed with sufficient local participation (including the participation of women) in the planning, design, and implementation process?			
11.	Population proposed to be benefitted by the proposed project			
12.	No/percent. of Females proposed to be benefitted by the proposed project			
13.	No./Percent of Vulnerable households /population to be benefitted (SC a)			
14.	No/percentage of small and marginal to be benefitted			
15.	Does the subproject involved civil work?			
16.	How many labours will be required?			
17.	Labours will be available locally or from outside area?			
18.	Are there socio-cultural groups present in or use the subproject area who may be considered as "tribes" (hill tribes, schedules tribes, tribal peoples), "minorities" (ethnic or national minorities), or "indigenous communities" in the subproject area?			
a.	Do such groups self-identify as being part of a distinct social and cultural group?			
b.	Do such groups maintain collective attachments to distinct habitats or ancestral territories and/or to the natural resources in these habitats and territories?			
c.	Do such groups maintain cultural, economic, social, and political institutions distinct from the dominant society and culture?			
d.	Do such groups speak a distinct language or dialect?			
e.	Have such groups been historically, socially and economically marginalized, disempowered, excluded, and/or discriminated against?			
19.	Are such groups represented as "Indigenous Peoples" or as "ethnic minorities" or "scheduled tribes" or "tribal populations" in any formal decision-making bodies at the local levels?			
20.	Will the subproject directly or indirectly benefit or target Indigenous Peoples?			
21.	If Yes, what no/percentage of tribal people will be benefitted?			
22.	Will the subproject directly or indirectly affect Indigenous Peoples' traditional socio-cultural and belief practices?			
23.	Will the subproject affect the livelihood systems of Indigenous Peoples? (e.g., food production system, natural resource management, crafts and trade, employment status)?			

Verified and certified by safeguard specialist of the district

Name:

Designation:

Office:

Date:

Annexure I

Disbursement Linked Indicators Matrix

Disbursement Linked Indicators Matrix				
DLI 1	Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Output	Yes	Text	6,920,000.00	2.83
Period	Value	Allocated Amount (USD)		Formula
Baseline	Agri programs remain focused on input subsidy provision, not outcomes.			
Year 1 (2020-21)		0.00		
Year 2 (2021-22)	Staff management plan developed and instituted; IT based MIS system implemented.	1,200,000.00		\$1 million for Staff Management Plan being notified; \$200,00
Year 3 (2022-23)	Staff performance appraisals against outcome goals of department being conducted annually; IT-based MIS system implemented.	1,650,000.00		Minimum of 30% of staff being appraised against revised fram
Year 4 (2023-24)	Staff performance appraisals against outcome goals of department being conducted annually; IT based MIS system implemented.	1,650,000.00		
Year 5 (2024-25)	Staff performance appraisals against outcome goals of department being conducted annually.	1,650,000.00		
Year 6 (2025-26)	Staff performance appraisals against outcome	770,000.00		

	goals of department being conducted annually.			
Year 7 (2026-27)			0.00	
DLI 2	Enhanced staff capacity of DoA to achieve outcomes			
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Output	Yes	Text	5,600,000.00	2.67
Period	Value		Allocated Amount (USD)	Formula
Baseline	Mismatch in staff skills and capacity for market-oriented technical service provision and promoting private sector investments.			
Year 1 (2020-21)			0.00	
Year 2 (2021-22)	Staff training management plan developed; Staff trained using upgraded modules.		2,700,000.00	\$700,000 for Staff Training Management Plan being developed;
Year 3 (2022-23)	Staff trained using upgraded modules.		2,000,000.00	
Year 4 (2023-24)	Staff trained using upgraded modules.		900,000.00	
Year 5 (2024-25)			0.00	
Year 6 (2025-26)			0.00	
Year 7 (2026-27)			0.00	

DLI 3		Enhanced market linkages, food quality and safety standards for focus geographies and commodities		
Type of DLI	Scalability	Unit of Measure	Total Allocated Amount (USD)	As % of Total Financing Amount
Intermediate Outcome	Yes	Text	7,700,000.00	3.67
Period	Value		Allocated Amount (USD)	Formula
Baseline	Weak policy and institutional framework to support agri- transformation			
Year 1 (2020-21)			0.00	
Year 2 (2021-22)	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.		500,000.00	USD 250,000 for each cluster plan being implemented over a o
Year 3 (2022-23)	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.		1,000,000.00	
Year 4 (2023-24)	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.		1,000,000.00	
Year 5 (2024-25)	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.		1,000,000.00	
Year 6 (2025-26)	Increase in area under GAP standards		4,200,000.00	USD \$500,000 for every percentage increase in area under GAP

Year 7 (2026-27)		0.00
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Verification Protocol Table: Disbursement Linked Indicators

DLI 1	Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes
Description	DLR 1.1 is described as staff management plan developed and instituted, which will be met when a staff management plan against outcomes, thematic and commodity focus areas of the department is developed [including staff mapping, revised job roles and responsibilities and alignment of performance management system to outcomes of department]. DLR 1.2 is described as IT-based MIS system implemented, and will be met when IT-based MIS system covering outcome goals – as defined by the DOA – is instituted and functioning. Functioning is defined as regular data collection and reporting from at least 80% of blocks covered by DOA. DLR 1.3 is described as staff performance appraisals against outcome goals of department being conducted annually. This would be met when annual appraisal template including outcome goals is developed, process for appraisal against outcomes is instituted and annual appraisals are being conducted.
Data source/ Agency	Department notification of staff management plan along with copy of plan. Departmental notification of annual appraisal process with appraisal template.
Verification Entity	World Bank.
Procedure	For DLR 1.1 Staff management plan notification shared with World Bank. For DLR 1.2 Review of monthly reports being generated by MIS. For DLR 1.3 Annual review of staff appraisal template and processes by HR agency.
DLI 2	Enhanced staff capacity of DoA to achieve outcomes
Description	The DLI is measured through two DLRs. DLR 2.1 is described as staff training management plan developed, and is met when DOA develops a staff training management plan assessing training needs, developing a training schedule for different levels of staff, laying out annual training calendars and a system for tracking trainings is completed. DLR 2.2 is described as staff trained using upgraded modules, and is met when DOA staff go through defined training modules as per the staff training management plan.

Data source/ Agency	Training management plans, training modules with updated curriculum. training completion reports, and training batch details.
Verification Entity	World Bank
Procedure	Upgraded training modules and curriculum; Training completion reports submitted with training batch details.
DLI 3	Enhanced market linkages, food quality and safety standards for focus geographies and commodities
Description	DLI 3.1 is described as the scheme implementation and financing converged on the basis of cluster / commodity development plans developed, and is met when DOA initiates work on outcome goals through developing cluster and commodity level plans and converging scheme financing towards defined objectives in these plans. DLR 3.2 is described as increase in area under India GAP standards, and is met when DOA sets goals for GAP standards for focus commodities, develops protocols and undertakes an extension support and testing program to enhance proportion of commodity that meets the GAP standards.
Data source/ Agency	For DLR 3.1, cluster development plan (with details of convergence), and annual report on financing converged and activities implemented in the cluster. For DLR 3.2, baseline report on area under GAP financing, randomized annual sampling plan for focus commodities and report summarizing test results for focus commodities.
Verification Entity	World Bank
Procedure	For DLR 3.1, cluster plans will be shared with World Bank. Details of scheme convergence and annual report of activities in the cluster will be shared with the World Bank. For DLR 3.2, baseline report on area under GAP financing in year 1 would be done. Randomized sample plan for commodity testing based on focus commodities / geographies will be developed and shared with the Bank. Summary of sampling results formally will be shared with the World Bank.

ANNEX 1: Subcomponent A1: Disbursement Linked Indicators

COUNTRY: India

State of Maharashtra's Agribusiness and Rural Transformation Project

DLIs	Total Financing	As % of total	DL R	DLR Description	Target Achievement	Data / Information	Definition and Procedure
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	Amount Allocated to DLI	financing amount	No.		Timelines (Indicative)		
DLI 1: Institutional realignment and strengthening of Department of Agriculture and allied departments towards outcomes.	\$6.92 million		1.1	Staff management plan developed and instituted.	Year 2 (2021-22)	Department notification of staff management plan along with copy of plan.	<p>Definition: This DLR will be met when a staff management plan against outcomes, thematic and commodity focus areas of the department is developed [including staff mapping, revised job roles and responsibilities and alignment of performance management system to outcomes of department].</p> <p>Funds and Scalability: \$1,000,000</p> <p>Procedure: Staff management plan notification shared with World Bank.</p>
			1.2	IT-based MIS system implemented	Year 2 (2021-22)		<p>Definition: IT-based MIS system covering outcome goals – as defined by the DOA – instituted and functioning. Functioning is defined as regular data collection and reporting from at least 80% of blocks covered by DOA.</p> <p>Fund and Scalability: \$200,000 for launch year. \$150,000 for each subsequent year of functioning up to a total of \$1,000,000.</p> <p>Procedure: Review of monthly reports being generated by MIS.</p>
			1.3	Staff performance appraisals against outcome goals of	Year 3 (2022-23)	Departmental notification of annual	<p>Definition: Annual appraisal template including outcome goals developed, process for appraisal against outcomes instituted and</p>

				department being conducted annually.		appraisal process with appraisal template.	annual appraisals being conducted. Funds and Scalability: Minimum of 30% of staff being appraised against revised frameworks. USD 20,000 per %age of staff being appraised against revised templates up to a total of \$1,500,000 per year and \$4.92 million over the life of the project. Procedure: Annual review of staff appraisal template and processes by HR agency.
DLI 2: Enhanced staff capacity of DOA to achieve outcomes.	\$5.6 million.		2.1	Staff training management plan developed.	Year 2 (2021-22)		Definition: DOA develops a staff training management plan assessing training needs, developing a training schedule for different levels of staff, laying out annual training calendars and a system for tracking trainings completed. Funds and Scalability: \$700,000 Procedure: Staff training management plan shared with the World Bank.
			2.2	Staff trained using upgraded modules.	Year 2 (2021-22) – Year 7 (2026-27)	Training modules with updated curriculum. Training completion reports.	Definition: DOA staff go through defined training modules as per the staff training management plan. Funds and Scalability: USD \$20,000 for every percentage of staff trained using upgraded training modules up to a total of \$2,000,000 annually and \$4.9 million over the life of the project. Retraining and refresher

						Training batch details.	trainings is included from Year 3 onwards. Procedure: Upgraded training modules and curriculum; Training completion reports submitted with training batch details.
DLI 3: Enhanced market linkages, food quality and safety standards for focus geographies and commodities.	\$7.7 million		3.1	Scheme implementation and financing converged on the basis of cluster / commodity development plans developed.	Year 2 (2021-22) – Year 7 (2026-27)	Cluster development plan with details of convergence to be achieved. Annual report on financing converged and activities implemented in the cluster.	Definition: DOA initiates work on outcome goals through developing cluster and commodity level plans and converging scheme financing towards defined objectives in these plans. Funds and Scalability: USD 250,000 for each cluster plan being implemented over a one-year period with convergence of scheme financing up to a total of \$3.5 million. Procedure: Cluster plans shared with World Bank. Details of scheme convergence and annual report of activities in the cluster shared with the World Bank.
			3.2	Increase in area under India GAP standards.		Baseline report on area under GAP financing. Randomized annual sampling plan for focus commodities.	Definition: DOA sets goals for GAP standards for focus commodities, develops protocols and undertakes an extension support and testing program to enhance proportion of commodity that meets the GAP standards. Funds and Scalability: USD \$500,000 for every percentage increase in area under GAP standards for focus commodities up to a total of \$4.2 million.

						Report summarizing test results for focus commodities.	Procedure: Baseline report on area under GAP financing in year 1. Randomized sample plan for commodity testing based on focus commodities / geographies developed and shared with the Bank. Summary of sampling results formally shared with the World Bank.
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