

Knowledge drives action...

Five Year Perspective Plan (2016-2021)

for

**Madhya Pradesh State Knowledge Management
Centre on Climate Change (SKMCCC)**

Development Alternatives

Under DFID-supported SPMG project



Five Year Plan (2016 - 2021) for State Knowledge Management Centre on Climate Change

This organisational plan is prepared under the financial support by **Department for International Development (DFID)** for the project **Strengthening Performance Management in Government (SPMG)** being implemented in Madhya Pradesh state of India. SPMG is an initiative of Department for International Development (DFID) to provide assistance to Government of Madhya Pradesh for strengthening planning and governance systems. One of the key focus areas of SPMG is to ensure environmental sustainability and climate compatible development in the state. As part of this initiative, **Development Alternatives (DA)** is recognized by Government of MP and DFID to provide technical support to Madhya Pradesh **State Knowledge Management Centre on Climate Change (SKMCCC), EPCO**. DA is assisting SKMCCC in facilitating integration of climate change concerns into departmental activities and plans, through strengthening technical capacities and generating strategic knowledge.

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Executive Summary

The State Knowledge Management Centre on Climate Change (SKMCCC) hosted by EPCO is dedicated to mainstreaming climate change concerns in planning and developmental policies/programmes of the state.

This 5-year Perspective Plan (2016-2021) aims to help SKMCCC plan its activities for the next five years in order to implement the Madhya Pradesh State Action Plan for Climate Change (MP SAPCC) and align itself to the central and state mandates of maintaining environmental sustainability and establishing climate compatible development in the state.

By managing, generating and disseminating climate change related knowledge, SKMCCC will equip stakeholders with the information and tools necessary to contribute to Madhya Pradesh's climate compatible development. Under the overarching goal of knowledge management, SKMCCC's future plan looks at four major objectives:

- To facilitate implementation of the State Action Plan for Climate Change (SAPCC) towards low carbon and resilience agenda
- To support development of research capacity in existing and emerging climate change relevant areas with a focus on evidence-based research
- To coordinate interactions between departments for more efficient implementation and identify fundraising opportunities for implementation of the perspective plan within SKMCCC
- To moderate/ facilitate globally and nationally determined climate actions at the state level

The plan further advises specific activities that SKMCCC can undertake in conjunction with Madhya Pradesh state departments to achieve the four major objectives outlined above. These activities range from convergence with existing state and district level schemes/plans/programmes, developing evidence-based tools to train staff on climate co-benefits to formulating pilot projects and demonstrating their scalability through the state. Suggested activities also look at framing cross-sectoral solutions that coordinate implementation between multiple departments.

Objective and Suggested Action Plan	
1	Facilitate implementation of SAPCC towards low-carbon and resilient agenda
1.a	● Integrate SAPCC recommendations into on-going plans/schemes
1.b	● Develop robust and ambitious indicator-based monitoring framework to benchmark progress on climate parameters
1.c	● Support departments in developing evidence-based modules/programs/tools to build capacities of staff on climate co-benefits
1.d	● Formulate and Pilot projects that demonstrate scalability
1.e	● Provide policy advisory services and facilitate decision support systems at various geography/ administrative levels
1.f	● Create mechanism for enhanced community participation in implementation of climate change resilient strategies
2	Support development of research capacity in existing and emerging climate change-relevant areas with a focus on evidence-based research
2.a	● Identify and commission research for new climate-induced phenomena

Objective and Suggested Action Plan	
3	Coordinate interactions between departments for more efficient implementation and identifying fundraising opportunities
3.a	● Knowledge collation centre on implementation and impacts from National Missions
3.b	● Be coordinating entity between departments on matters of climate change
3.c	● Frame cross-sectoral solutions
4	Moderate/facilitate globally and nationally determined climate actions at the state level
4.a	● Use of Partnerships in Sharing and Implementing climate change activities
4.b	● Develop Climate Change Communication Strategy

The plan then provides a timeline of recommended activities prioritised in the short term, medium term and long term through the coming 5 years for SKMCCC. These include SAPCC review and project formulation in the short term; implementing pilot projects, commissioning research studies, modularising capacity building material, increased engagement with various stakeholders and communication strategy development in the medium term; and scaling up of demonstration projects, content management, implementation of communication strategy and addition of human resource and intellectual capacity in the long term. Necessary resources – human, financial and technical – have been highlighted with a proposed organisational structure for SKMCCC in the next 5 years.

Details of accessible sources of finance at state, national and international level have been given. An analysis of available state schemes/programs has been done to identify opportunities for convergence in state departments of relevance. Meting out of private sector investments, national and international funds directly approachable for climate finance have also been highlighted e.g. National Adaptation Fund on Climate Change, Climate Change Action Programme, Adaptation Fund, Climate Investment Fund, Green Climate Fund etc. In addition to the existing schemes and plans that can be leveraged for SKMCCC's activities, these national and international funds show that there is an enabling environment developing for the implementation of climate change related activities.

1. Background

1.1 Environment Planning and Coordination Organisation (EPCO)

Madhya Pradesh is one of the few leading states in the country which identified the need for environment conservation and management early on. A separate Department of Environment had been created in 1973, with the aim of identifying and addressing various environmental issues and co-ordinating development activities to maintain and restore ecological balance.

The Environmental Planning and Coordination Organisation (EPCO) was established as an autonomous institution by the Department of Housing and Environment, Government of Madhya Pradesh in 1981, with the mandate of building concerns regarding environmental sustainability into planning and functioning of the state government. Over the years, EPCO has steadily grown to become the State's premier organisation for environment-related matters and is a renowned think tank on matters of climate change and sustainable development issues.

Government of Madhya Pradesh has declared EPCO as the state designated agency for addressing climate change issues and had established a State Knowledge Management Centre on Climate Change (SKMCCC) within it for mainstreaming climate change concerns in the planning and developmental policies/programmes of the state.

1.2 State Knowledge Management Centre on Climate Change (SKMCCC)

The State Knowledge Management Centre on Climate Change (SKMCCC) hosted by EPCO is dedicated to mainstream climate change concerns in planning and developmental policies/programmes of the state.

Mission

SKMCCC's mission is to act as a knowledge hub on climate change information and cater to the knowledge needs of community masses, policy makers, academicians, researchers and practitioners.

SKMCCC is tasked to mainstream climate change concerns into planning and development primarily through the following main objectives:

- Creating a knowledge repository in the field of climate change;
- Improving knowledge access and transfer in climate change;
- Enhancing knowledge environment in the field of climate change and
- Managing climate change knowledge as an asset
- Building capacities of people and institutions to enable effective utilization and thus, mainstreaming climate actions

Specifically and in tune with the broad objectives, the following are some of the strategies and tactics that the centre needs to facilitate through existing institutions as part of its work plan:

Knowledge Creation

- Promote evidence-based and new research studies in association with scientific institutions and agencies
- Institute scholarships for carrying out research on climate change issues in MP
- Action research projects to generate primary information

Knowledge Collection and Synthesis

- Establishing networks and strategic partnerships with institutions and agencies

- Document traditional knowledge
- Case studies on climate change and development issues

Knowledge Dissemination

- Knowledge portal for wider distribution of information
- Capacity building and training activities
- Engaging communities and piloting adaptation projects
- Promote good practices through public awareness and effective communication and outreach strategy

EPCO, on behalf of the Government of Madhya Pradesh (GoMP), developed the State Action Plan on Climate Change (SAPCC), by coordinating with various line departments, scientific institutions, civil society amongst others. The MP-SAPCC aims to address the sub-regional concerns and to outline strategies required to develop a climate resilient state. Given the socio-economic profile and agro-climatic diversity of the state, the focus of the state action plan is largely on issues related to adaptation to climate change.

The SAPCC is envisaged as a dynamic document which will keep on devising strategies to address climate change issues as they become more imperative. This would include development of strategies that would enable the GoMP to support implementation of India's Nationally Determined Contributions (NDCs) as they emerge.

The strategies and recommendations of the SAPCC will, in due course, strengthen the developmental planning process of the state with policy level interventions favouring low carbon growth. The recommendations from the SAPCC need to be converted into an operationalizing strategy for effective implementation.

This is where SKMCCC comes in - to facilitate the conversion of a largely recommendation-centric SAPCC into an implementation strategy. This can be done by

- Developing/strengthening the scientific capacity of the major stakeholders, particularly, in terms of understanding uncertainties and climate related risks (modelling, forecasting, technological solutions, innovations, assessment related tools and R&D activities)
- Developing specific training and capacity building programmes for specific target audience - (e.g. scientists, technocrats, extension agents, master trainers, practitioners and policy makers).
- Acting as an interface between evidence based research, practice and policy.
- Playing a key role as a climate data warehouse for the state and in data sharing across institutions and departments
- Acting as a platform to foster critical partnerships among key entities within and beyond the state by
 - o Promoting outreach activities relevant to climate change. More specifically, promote general awareness and good practices.
 - o Forging public-private partnerships to raise funds going beyond the facilitation from bilateral avenues for individual departments.

1.3 Structure and Function of SKMCCC

SKMCCC has developed an institutional structure to ensure that it is effective as a nodal agency for managing the strategic knowledge related to climate change.

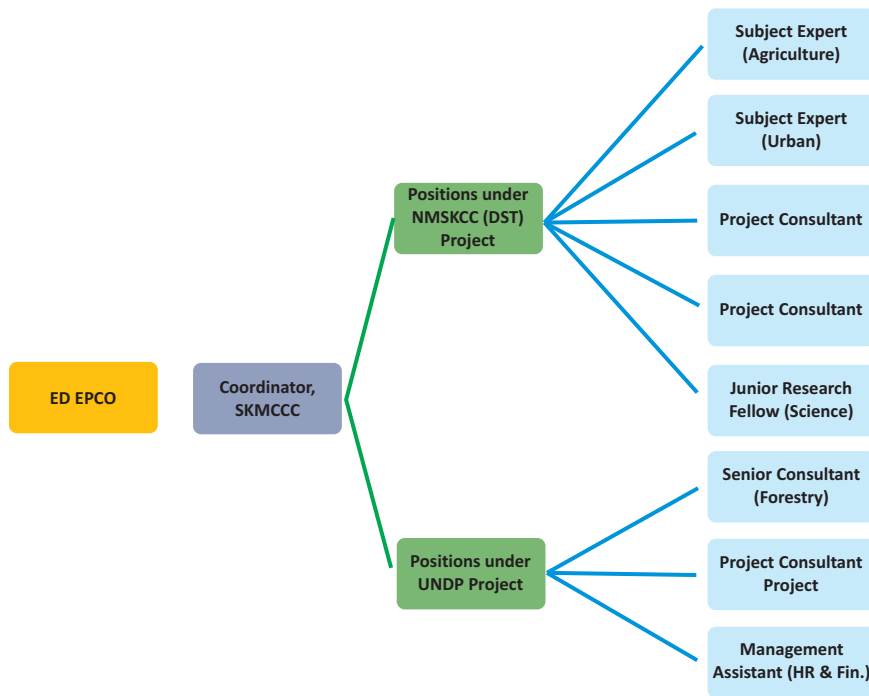


Figure 1: Structure of SKMCCC as on 2015

Government of MP has set up an inter-departmental State Steering Committee headed by the Chief Secretary for reviewing the implementation of SAPCC, the activities of SKMCCC and provide policy guidance, directives and inter-departmental coordination. A Project Oversight committee headed by the Principal Secretary, Urban Development and Environment Department and Director General EPCO for overseeing the activities of SKMCCC. Subject experts and junior research fellows add to the strength of the centre's human and knowledge resources.

The functional architecture of SKMCCC has been designed as a 'hub-and-spoke model' fostering linkages and collaborations between relevant institutions, authorities and other stakeholders.

SKMCCC operates as a climate change knowledge hub to engage with sectoral concerned departments that manage various development schemes related to agriculture, forest, water, environment, energy etc. This is done through the constitution of Climate Change Working Groups (CCWGs) comprising representation from key departments that act as pivotal links to transform knowledge into actions.

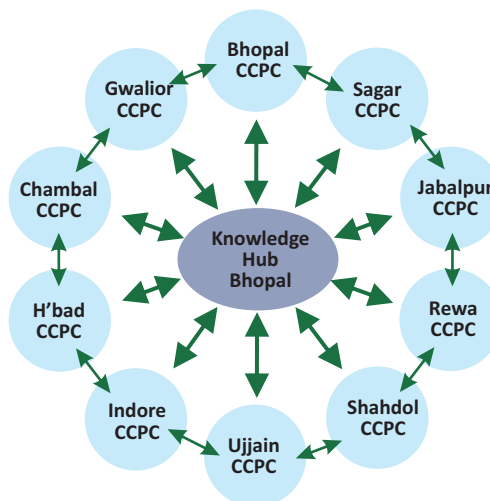


Figure 2: Hub and Spoke Model showing two-way knowledge between SKMCCC and one stakeholder group (CCPCs)

Establishment of Climate Change Pulse Centres (CCPCs) at the Divisional Headquarters of the state and factoring in the different agro-climatic zones is one of the important steps in developing the two-way knowledge generation on climate change. The CCPCs act as the 'spokes' for the climate change knowledge 'hub' that is SKMCCC. The information would flow from the hub to spokes as well as between the spokes themselves for greater two-way reach and dissemination.

Through greater periodic interactions between stakeholders, knowledge needs to be exchanged between the spokes themselves or through the hub facilitated by SKMCCC.

1.4 Situational Analysis of SKMCCC

The State Knowledge Management Centre on Climate Change (SKMCCC) is currently working in projects ranging from conceptualisation of plans, knowledge generation, commissioning studies, documenting best practices, institutional networking and national mission on strategic knowledge implementation¹. SKMCCC has developed mainstreaming tools such as state level climate change vulnerability assessments, knowledge portals for addressing the information needs of different stakeholders on climate change and a set of knowledge products based on the MP SAPCC.

SKMCCC has mobilised financial and technical resources from the Ministry of Science and Technology, UNDP-India and DFID. The support ranges from building the knowledge portal to technical support, training programmes and coming up with knowledge products, communication tools and outreach materials. In its recent history also, SKMCCC has collaborated both technically and for resources with various bi-lateral and multi-lateral agencies like GIZ and CDKN.

Aiming to be a centre for excellence, SKMCCC needs to collect and generate knowledge on climate change and vulnerability of development systems and sectors at various spatial and temporal scales in the State of Madhya Pradesh. It also needs to provide knowledge support to the state government to ensure environmental sustainability through facilitation, identification and implementation of sustainable development projects. Most importantly, since SKMCCC is the nodal agency for creating and managing the strategic knowledge related to climate change, it needs to facilitate implementation of the SAPCC and also develop mechanisms to effectively monitor and evaluate the provision of the SAPCC and other relevant strategies. As the face of the global emissions reductions scene changes, the role of SKMCCC might also increase to contribute to India's commitments to global GHG emissions reductions through the Nationally Determined Contributions (NDCs).

Some of the recent initiatives undertaken by SKMCCC are as follows:

Type of Intervention	Thrust Area	Funding Source
Facilitate Implementation of MP-SAPCC	Mainstreaming of recommendations into planning processes through customised training on mainstreaming climate change into development planning for government officials	DFID
	Reviewing JFM committees from climate change perspective to provide recommendations to strengthen programmes and schemes in the forestry sector	MOEF-GIZ
	Integrating adaptation plan for Malwa and Bundelkhand in SAPCC	Indo-UK collaborative project

1. Vasudha Foundation institutional analysis report (2014)
Development Alternatives consultations with SKMCCC done at inception phase of project

Type of Intervention	Thrust Area	Funding Source
	- Support to implement SAPCC in: - Agriculture and organic farming - Urban efficiency - Support to implement of SAPCC focusing on climate change and water resources (in design phase) 12 policy briefs on MP SAPCC - Establishment of 12 CCPCs in 10 divisional headquarters addressing needs of 11 identified ACZs	World Bank UNDP-SDC CDKN
Implementation of National Mission for Strategic Knowledge on Climate Change (NMSKCC)	- Human resource capacity building, technical activities, demonstration projects. - Technical activities include training, research studies, demonstration of pilot projects, best practices documentation, institutional networking and knowledge development - Information and Knowledge Management, and Human Capacity Development - Developing and strengthening bilingual web knowledge portal	DST MOEF-GIZ UNDP
Building Technical Capacities of State Government Officials	Under SPMG, SKMCCC is being provided technical assistance to strengthen governance and planning systems via research studies, training and capacity building, knowledge generation and dissemination. - Climate Change Appreciation course (CCAC) - Training for Agriculture Department field functionaries (ATMA) - Specialised training courses for government officials	DFID
Knowledge Generation through Own or Commissioned Studies	- State level Vulnerability and Risk assessments covering four sectors (water, forests, agriculture and health) across 51 districts in 2 different time slices - GHG Inventorisation and Marginal Abatement Cost Curve Study - Vulnerability and Adaptation Assessment for climatic impacts on two major crops (wheat and soybean) - Creation of adaption plan for two agro-climatic zones of Malwa and Bundelkhand - IIT-Gandhinagar commissioned studies: - Impacts of observed climate variability on hydrological variables - Changes in observed climate and extreme events from 1901-2012 - Assessment of climate change impacts using projections from CMIP-5 models - Observed and projected future climate data for each district	MOEF-GIZ Shakti Foundation Indo-UK Indo-UK DST

Type of Intervention	Thrust Area	Funding Source
Demonstration Projects	- Two pilot projects implemented to test community based adaptation measures on: - climate proofing fish farming in Dhar district and - eco-restoration and institutional strengthening in Mandla district	MOEF-GIZ
Communication and Outreach	- Simhastha 2016, EPCO organised national summit “Global Warming and Climate Change: A way out” in November 2015 - International Outreach at 21st Conference of the Parties on Climate Change (COP-21) in Paris, France in December 2015 - Representing climate-adaptive work in Madhya Pradesh at international level - Substantive positioning and building strategic partnerships - Knowledge dissemination and knowledge strengthening - Climate change educational awareness campaigns in Shivpuri and Khajuraho as part of the traveling Science Express Train - Publication: “Climate change in Madhya Pradesh: Compendium of expert views”	Govt. of MP

Five Year Perspective Plan (2016-2021)

2.1 Introduction to the Perspective Plan for SKMCCC

Looking at the agrarian economy and natural resource-dependent livelihoods of the majority of its population, it is evident that the impacts of climate change can affect Madhya Pradesh quite adversely. With the aim of developing a climate-resilient state, SKMCCC (EPCO) had formulated the SAPCC in 2011 to address the regional concerns and devise appropriate strategies to adequately address these climate change concerns.

As mentioned previously, the SAPCC focuses on key climate sensitive sectors in the state and has laid down specific recommendations within each of those sectors. Keeping in mind the need to implement these recommendations, the Perspective Plan sets priorities for SKMCCC based on the knowledge needed by Government of Madhya Pradesh to support climate objectives identified in SAPCC and integrate them into other relevant plans/policies.

Some of the priorities include:

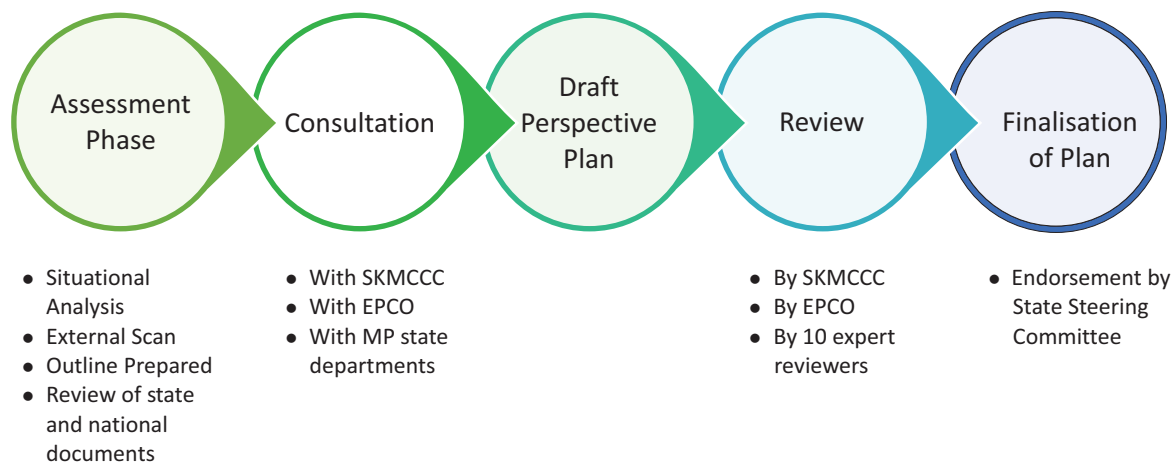
- Understanding climate science and impacts on the social and natural systems;
- Understanding vulnerability and associated risks across sectors and regions within the state to build appropriate adaptive capacities by identifying knowledge, resources and skill gaps;
- Support development of climate research capacity within the state;
- Consolidating the scattered climate research information into usable resources;
- Integrating the usable knowledge into state planning and development processes.

2.2 Methodology

The 5-year Perspective Plan for SKMCCC is developed following an intensely consultative process that included both a review of the organisation and the external environment in which the organisation operates.

The initial assessment phase included the situational analysis of SKMCCC, looking at financial and human resources and the kind of knowledge generation and dissemination occurring currently. A scan of the external climate change world also gave an account of the kind of work SKMCCC is expected to do in the coming few years. Intense consultations with both SKMCCC staff and with the MP state departments were held to map existing knowledge structures, internal expectations and external needs respectively. Several government-endorsed documents were analysed e.g. the MP SAPCC was referred to in order to identify major strategies whose implementation could be facilitated; alignment with the NAPCC and National Mission documents; existing schemes, programs and funds at state level were taken from the MP XIIth 5-year plan; and the Department Working Plans gave insights on priorities of the key departments themselves and climate co-benefits being derived or could potentially be derived from existing work.

The primary and secondary information were put into a structured draft perspective plan which has been reviewed by SKMCCC, EPCO and ten identified expert reviewers (Annex). These reviewers have substantive knowledge about the field of climate change and also in institutional and organisational development.



Following the review, the 5-year Perspective Plan will be finalised and submitted for further endorsement to the State Steering Committee.

2.3 Overarching Goal

The primary overarching goal of any knowledge management centre is to manage existing knowledge, generate new knowledge and disseminate the gathered knowledge related to climate change.

As has been evident from SKMCCC's past activities, this knowledge centre has been managing and generating knowledge related to climate change since its inception. The centre has been engaged with a variety of stakeholders like state departments, district line departments, academic institutions, and communities etc. to generate and disseminate knowledge related to climate change. SKMCCC has organised and participated in national level conferences, and participated in the largest international climate change conference, COP-21 to disseminate climate change related knowledge and work occurring in Madhya Pradesh.

While SKMCCC has been focused on its primary goal of managing, generating and disseminating climate change related knowledge, the organisation's evolution has been such that it can now build on its strengths and past experiences to leverage more activities and funds.

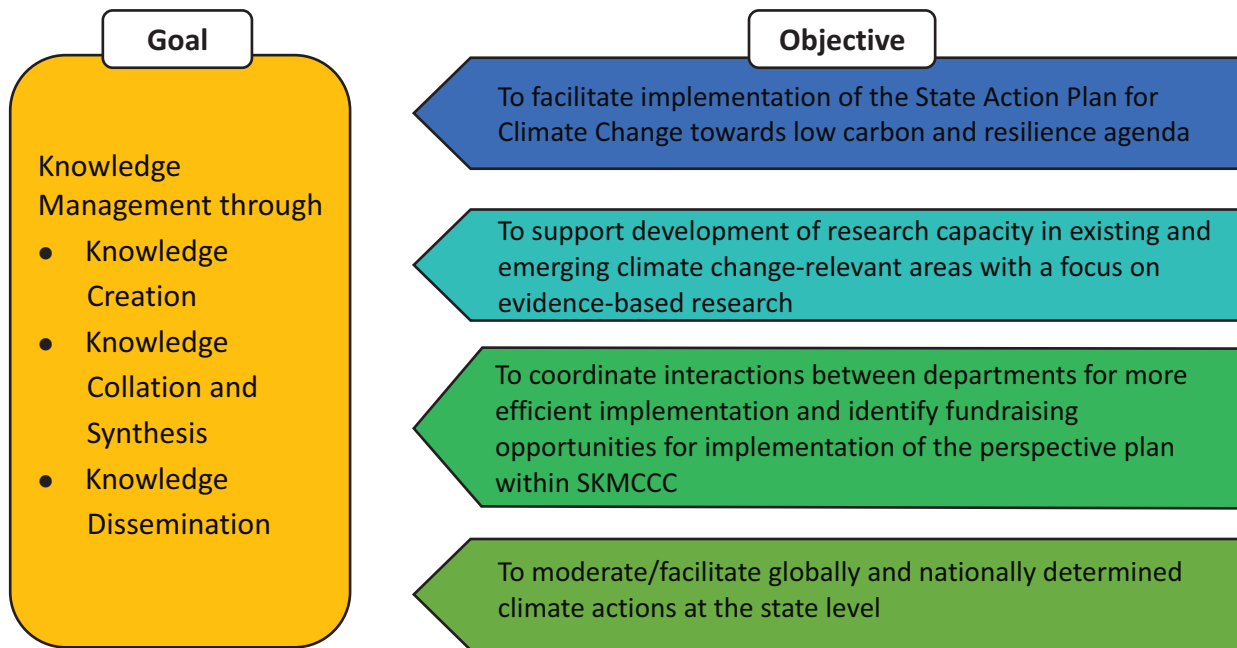
In order to focus the future activities of SKMCCC, the next section outlines objectives that will look to expanding the ambition of SKMCCC while keeping the primary goal of knowledge management at its core.

2.4 Objectives

Keeping in mind the priorities and EPCO's long term vision of 'maintaining environmental sustainability and establishing climate compatible development in the state', SKMCCC's role of knowledge management centre becomes all the more important.

By managing, generating and disseminating climate change related knowledge, SKMCCC will equip stakeholders with the information and tools necessary to contribute to Madhya Pradesh's climate compatible development.

In order to further streamline SKMCCC's work on the overarching goal, the plan focuses on the four major objectives outlined:



The perspective plan is a guiding document to enable SKMCCC in creating programs and projects to mainstream climate change in existing development plans and to identify existing plans capable to achieve mitigation and adaptation co-benefits. The plan needs to prioritise these 'low hanging fruits'.

Since the interaction with departments in different sectors is already underway, the plan advises to capitalise and further leverage these interactions and continue intensely engaging with them while attempting to further the process of mainstreaming. These can be the low hanging fruit that SKMCCC can leverage, formulate projects from and implement. As and when the requirement arises, expertise from sectors could be sought.

Furthermore, 2015 is considered to be a landmark year in terms of linking three complementary development streams of Disaster Risk Reduction, scaling up of Sustainable Development Goals and mitigating climate-induced threats. As the global agreements on Sendai Framework for Disaster Risk Reduction², SDGs agreed by countries and the COP-21 Paris deal are finalised, India's role in contributing to these global agreements will be determined. As a state nodal agency on climate change, SKMCCC's role to integrate these three streams with national and global agreements will be paramount.

To achieve the four objectives, the following set of activities have been identified:

2.4.1 Facilitate Implementation of SAPCC towards low carbon and resilience agenda

- 1. Enable assessment of Sectoral Department plans/schemes from climate change mitigation and adaptation perspective** -On-going development activities in the state provides huge potential to harvest climate change mitigation and adaptation related co-benefits. An assessment of each sectoral plan in line with this 5-year Perspective Plan will be carried out to identify existing plans/schemes that have a shared goal as 'low hanging fruits' and can bring climate benefits that are recommended as separate activities in priority areas of concern. In order for the assessment to be owned and accepted by the implementing departments, SKMCCC should facilitate and enable this assessment as a technical resource.

2. Sendai Framework for Disaster Risk Reduction 2015-2030, UN

E.g. a state mandate to improve energy efficiency directly aligns with the climate need to reduce GHG emissions. Similarly, the Integrated Watershed Management Programme aligns directly with the adaptation requirements of the state.

2. **Integrate SAPCC recommendations in the on-going plans / schemes through review and consultations**— The development activities are being guided by the 5-year Madhya Pradesh State Plan and the plan also needs to address the threats of observable climate variability. This can only happen through a systematic approach of research on new and emerging threats and assessing co-benefits while also identifying additional actions required. Having done this exercise, SKMCCC can review on-going scheme/programme implementation in other departments through collaborative demand-led action and consultations to identify the aspects that can drive climate agenda. This can lead to integration of additional activities that would help climate-proofing of development plans.
3. **Develop robust and ambitious indicator-based monitoring framework to benchmark progress on climate parameters** – The on-going development strategy needs to be monitored regularly to assess the effectiveness of activities on climate parameters through the device of establishing sectoral indicators. A monitoring framework is necessary to continuously track activities that contribute to adaptation and mitigation on a regular basis. The envisaged monitoring framework would serve as a mechanism to help consolidate the activities for country's NDC commitments. This monitoring framework can be structured in line with the MRV (monitoring-reporting-verification) framework proposed by UNFCCC, to be drawn from a consultative people-centric process involving CCWG members and SKMCCC.

Eg. Keeping the perspective of impacts on communities in mind, monitoring can be strengthened for the participatory process of monitoring at panchayat, block and district levels. The present state administration followed process of sample-based monitoring can be strengthened as a starting point to address the gaps in impact

4. **To support departments in developing evidence-based modules/programs/tools to train staff on climate co-benefits through capacity building activities**— Science of climate change and its impacts on development sectors are continuously evolving and complex for policy practitioners. Unless the understanding is enhanced, it will be very difficult to converge the climate understanding in day-to-day and long-term planning. Mapping of existing and new climate change knowledge and converting that into modules/programs/tools is important to communicate to state departments. Also the knowledge on impacts need to be supported with evidence from ground and from projections of long-term scenarios. In order to communicate to state departments, it is necessary to strengthen the scientific capacity of the major stakeholders, particularly, in terms of understanding uncertainties and climate related risks (modelling, forecasting, technological solutions, innovations, assessment related tools and R&D activities) by developing specific training and capacity building programmes for specific target audience - (e.g. scientists, technocrats, extension agents, master trainers, practitioners and policy makers) Such modules/programs/tools can be very handy to make a convincing case and demonstrate the extreme and slow on-setting disasters that can be mitigated through good understanding among planners and practitioners.

E.g. an expressed need for climate change training modules has arisen from the Animal Husbandry State Training Institute and the Horticulture Department for field staff and on-ground practitioners. The field staff needs to be educated on climate change, risks, and better practices to handle those risks and provide appropriate solutions. e.g. chaff cutting of livestock feed reduces methane emissions at a fractional cost.

5. **Formulate and Pilot projects that demonstrate scalability**—In order to successfully demonstrate that the challenges of climate change can be addressed, it is necessary to pilot projects that have replicability and scalability potential across MP and even beyond. Increasingly, policy makers, practitioners and communities are seeking large-scale transformational solutions to adapt to climate change. Scaling adaptation is relatively easier now with the deployment of national and international adaptation funds, as well as the new government's push on skills, scale and speed. In order to leverage this external enabling environment, the development of scalable pilot projects that implement SAPCC recommendations is important.

E.g. To initiate the process, the following indicators³ can be used to identify scalable good practices:

- *Incorporate findings from VA*
- *Incorporate analysis of past and future climate trends*
- *Provide climate information services*
- *Promote knowledge sharing*
- *Address uncertainties and*
- *Ensure community ownership of the project*

6. **Provide policy advisory services and facilitate decision support systems at various geography/administrative levels:** by providing timely predictive analysis and forecasting solutions and cost-effective strategies.

Eg. Development of yearly/ seasonal trend lines and forecasting solutions for various climate change indicators using advanced software

7. **Create mechanism for enhanced community participation in implementation of climate change resilient strategies:** The available platforms of community radio stations and various social media need to be utilized effectively.

Eg. Dissemination and awareness material for community to be developed in local/ Hindi language

2.4.2. Support development of research capacity in existing and emerging climate change-relevant areas with a focus on evidence-based research

1. **Identify and commission research for new climate-induced phenomenon**— While it is known that concentrations in the atmosphere are directly proportional to climate change, the current weather patterns need to be understood on the basis of the frequency, duration and intensity to inform long term climate strategies. The new observed threats and impacts need to be understood beyond just the last few years' trends to devise adequate and appropriate responses. These strategies and recommendations have to be updated and scenarios have to be built for future projections. This can be done either through impact assessment papers, climate modelling etc. in collaboration with existing institutions by carrying out mapping of their capacities and ongoing initiatives. SKMCCC will continue to assess any new threats posed to vulnerable sectors by commissioning studies and advising policy makers to upgrade objectives of a climate-resilient agenda in Madhya Pradesh.

- *E.g. based on the departmental needs of Animal Husbandry and Livestock sector, the need for quantification of Greenhouse Gas emissions from the livestock sector emerged as a research opportunity. In fact, livestock contribution is about 18% of the total GHG emissions*

3. World Resources Institute (WRI). 2015. "Scaling Success: Lessons from Adaptation Pilots".

from the agricultural and allied sectors. Today there are tools available to assess sectoral emissions. These tools and methods are available with leading academic and research institutions SKMCCC could facilitate the transfer of this knowledge to the implementing entities. This knowledge will specifically contribute to emission reduction strategies for the state and will help in the state reporting low carbon numbers back to the centre.

2.4.3 Coordinate interactions between departments for more efficient implementation and identify fundraising opportunities

1. **Knowledge collation centre for knowledge generation on implementation and impacts of National Missions at state level** - Implementation of the eight National Missions now falls to the nodal departments and ministries. While each state department will report on specifics within each mission, SKMCCC's role will be to take specifics and weave them into a climate change impact story. As the operational guidelines of the National Missions become clearer, SKMCCC can also play a major role in facilitating the implementation of components that have direct climate co-benefits

E.g. under National Mission on Sustainable Agriculture (NMSA), Madhya Pradesh Agriculture Department will track the numbers and types of pulse-based cropping systems operationalised under the Rainfed Area Development⁴ component of NMSA; similarly under the National Water Mission, the Department of Water Resources will report on water use efficiency⁵. SKMCCC can collate this data, overlay with climate-vulnerable regions to talk about climate adaptation actions taken in Madhya Pradesh as a whole.

2. **Serve as a coordinating entity between departments on matters of climate change** – Given the fact that there are numerous existing programmes and schemes within various departments, the coordinating role is imperative. A proper analysis of these schemes/plans/programmes will not only bring clarity to the implementation work related to climate change, but is also expected to foster collaborative responses from various departments of the state functionary. The departments, under SKMCCC's coordination support, can then apply for bilateral funds that are meant to mainstream climate agenda in ongoing actions. With SKMCCC's mandate to integrate climate agenda in on-going activities, the departments will also be able to raise funds from diverse sources to drive the activities forward in line with state mandate. In addition to identifying fundraising opportunities, solutions and recommendations can also be integrated easily if the departments have a buy in from the very beginning.

- *E.g. every district is allocated money from the centre for implementation of their District Development Plans. While these funds are mostly used for infrastructure development, convergence of these funds with SAPCC recommendations is a very large activity that SKMCCC can undertake (through its divisional level arm - CCPC) in order to implement some recommendations on the ground. This also aligns itself to the Centre's thought process of district level implementation and bottom up approach to governance.*
- *E.g. NREGS links two of the most critical problems in MP: poverty and climate change. The linkage is forged through environmental services in water, land and forestry provided by rural households when they engage in work under NREGS in focus areas like water harvesting, drought-proofing, land development, forestation etc. 29 Lakh households in MP⁶ have been provided employment under the scheme in activities that are yielding adaptation and mitigation co-benefits.*

4. NMSA. 2014. Operational Guidelines. Department of Agriculture and Cooperation, Ministry of Agriculture.

5. NWM. 2011. Comprehensive Mission Document. Ministry of Water Resources.

6. MP State Employment Guarantee Council, MGNREGS-MP, Bhopal

3. **Frame Cross Sectoral Solutions** – Feeding from the previous point about research requirements, it is increasingly seen that climate change is a cross sectoral problem. Thus the solutions devised will also have to be cross sectoral in nature for proper effectiveness e.g. climate vulnerable agriculture practices cannot be addressed unless a solution with storage facility and forward linkages with markets is also introduced.
 - *E.g. Another major area to be looked at by SKMCCC is in materials replacement in protected cultivation. Greenhouses, polyhouses are used to control the micro-climate surrounding the plant/vegetable during the period of growth. The tender for their construction is given to private players who use steel/iron to construct the frames which then tend to be slightly more expensive, hence uneconomical for smaller farmers. Increasingly, bamboo is emerging as a cheaper, low carbon construction material option to build such polyhouses. The choice of materials for these structural frames is based on structural strength, durability, initial cost and maintenance costs. Use of bamboo for such structures not only makes it easier and cheaper for small farmers, but also shows convergence with the Bamboo Mission. SKMCCC can do a research study on the feasibility of replacing traditional polyhouse materials with bamboo and its implications on strength, durability etc. In addition, if the standard specifications for these structures under the Department of Agriculture's schemes can be revised with bamboo materials, the small farmers can then construct the polyhouses themselves and get them verified by department officials.*

2.4.4 Moderate/ facilitate globally and nationally determined climate actions at the state level:

SKMCCC will help foster partnerships at different levels within the state to translate global and national climate mandates into tangible actions.

1. **Use of Partnerships in implementing climate change activities** – UNFCCC is the forum to decide on many global actions which filter down into national agenda and which ultimately need to be implemented at State level. Keeping that in mind, it is important to keep track of on-going negotiations and frame actions that are compatible with international agreements. SKMCCC is in the unique position of having access to on-ground learning, as well as having access to global funds. Alignment of very local level requirements with access to international funds is one value addition that SKMCCC can do. The organisation's presence in larger for a will help bring a grassroots perspective. Since the States are expected to deliver on low carbon targets like 'energy intensity' of India, SKMCCC needs to monitor these negotiations and be in the process of alignment to suit national and international requirements. SKMCCC needs to monitor UNFCCC negotiations to understand India's stand in international discourse and the implications of India's positions nationally and sub-nationally. This will not only help to identify India's long term climate change adaptation and mitigation strategy in response to global UNFCCC negotiations but will also guide to develop a roadmap for state actions in the coming years. Not only does this have relevance to funding opportunities, it also keeps SKMCCC prepared for changes in national and state mandates.
 - *E.g. The increasing focus of Government of India on low carbon development and enhanced targets under the National Solar Mission and the newly created International Solar Alliance create large opportunities for Madhya Pradesh to promote renewable energy in the state. Using MP's existing solar and biomass policies to further support the development of an integrated renewable energy policy, planning of mass rapid transit through the city bus service are some of the areas that SKMCCC can look at.*
 - *E.g. SKMCCC can work closely with the Nairobi work programme which was established to "facilitate and catalyse the development and dissemination of information and knowledge that would inform and support adaptation policies and practices". This is a repository of adaptation knowledge and information where adaptation practices specific to an ACZ can be shared with the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG). Grassroots experiences can be shared and departments can learn from others who are dealing with comparable challenges.*

2. **Develop Climate Change Communication Strategy for strengthening visibility and effective communication/outreach-** The communication strategy can play an important role in knowledge dissemination, communication and outreach of climate change issues through engagement with media and other stakeholders. A communication strategy is also relevant in strengthening SKMCCC's visibility and positioning at local, national and international level.

- *Eg. Partnership with National University of Journalism and Communication, Bhopal/ Media to develop and implement effective climate change communication strategy could be the initial step.*

2.5 Action Plan

The table below outlines a framework that can be undertaken by SKMCCC in order to achieve the four objectives mentioned previously. These are suggestive in nature, building from recent initiatives and consultations with state departments.

S. No	Objective	Suggested Actions
1	To Facilitate implementation of SAPCC towards low-carbon and resilience agenda	
1.a	Integrate SAPCC recommendations into on-going plans/schemes	• Assessment of sectoral department implementation plans/schemes with ad-mit benefits E.g. Agriculture Department - Balram Tal Yojana aligns with Agri/S-1 SAPCC recommendations; Krishi Bima Yojana and Rashtriya Krishi Vikas Yojana also provide an opportunity for the same • Integration of climate change objectives in MP State Five Year Plans of strategic departments: Integration of strategies in state urban planning e.g. retrofitting, urban water harvesting, porous city concept, materials replacement in building construction etc. Identification of additional action over and beyond convergence with existing plans/schemes e.g. Default addition of renewable energy in Chief Minister's Urban Infrastructure Development Scheme (CMUIDS) aligns with NRE/S-1
1.b	Develop robust and ambitious indicator-based monitoring framework to benchmark progress on climate parameters	• Develop indicators and monitoring framework in line with UNFCCC-accepted Measuring Reporting and Verification (MRV) mechanism • Assign one CCWG nodal officer in each department to feed information back to SKMCCC • Increased involvement of CCPCs in monitoring at agro-climatic zone level • Analysis of climate change/ environment related SDGs should be done in context of Madhya Pradesh to facilitate formulation of localized indicators and targets for state and district/ region level • Strategy to be developed for data collection with respect to periodicity and geographical unit levels. • Data sharing mechanism with respect to climate change database to be developed and institutionalized

	Objective	Suggested Actions
1.c	Support departments in developing evidence-based modules/programs/tools to build capacities of staff on climate co-benefits	- Expressed demand from agriculture and allied sector and forestry sector for climate change training modules. - Coordinate with Animal Husbandry State Training Institute in the capacity of resource persons - Expressed demand from the Water Resources Department for basin level training starting with the Rewa basin - SKMCCC web knowledge portal/materials as a tool for state and district departments to access climate change training materials - GIS-based climate information systems to be used as decision support system at both district and state level planning - Build capacities on analysis methods and frameworks e.g. DPSIR - There is scope for integrating climate change intervention in the current Decentralized District Planning (DDP) Model. One more sector viz. Environment and Climate Change/ Natural Resource Management can be added in the DDP model - The current DDP Framework/ Guidelines and Training Materials need to incorporate climate change intervention in village micro planning - Develop a pool of state level Master Trainers/ Focal Points (51per district +9 cross-cutting/sectoral experts) on Climate Change who will further train the village level Technical Support Groups (TSGs) and PRI representatives involved in village decentralized planning process
1.d	Formulate and Pilot projects that demonstrate scalability	- Using indicators and adaptation scaling framework to identify best practices that demonstrate scalability - Provide climate change expertise to National Mission-implementing departments to design projects that address climate change vulnerabilities while operationalizing National Missions 2 demonstration projects underway: Climate Smart Villages under National Adaptation Fund, and Climate Change Adaptation in Agriculture under CCAP - Formulate pilot project on: Participatory ground water management around Ujjain block, with potential to scale to other over-exploited blocks in Ujjain district (WRD) and Development of Climate-Smart Agricultural and Forest Communities Using a Landscape Approach - Select innovations to be promoted in form of pilot projects for their cost effectiveness, sustainability and replicability options

S. No	Objective	Suggested Actions
1.e	Provide policy advisory services and facilitate decision support systems at various geography/ administrative levels	• Play key role as climate data warehouse for Madhya Pradesh and in data sharing across institutions and departments • Advisory services in climate change facilitation and development of decision support systems and tools eg. Trainings based on modules developed in projects, GIS-based tools for decision support • Network of stakeholders like CCPCs can be of implementation help
1.f	Create mechanism for enhanced community participation in implementation of climate change resilient strategies	• 2-way dissemination of grassroots knowledge through community radio programs, local language awareness campaigns
2	To support development of research capacity in existing and emerging climate change relevant areas with a focus on evidence-based research	
2.a	Identify and commission research for new climate-induced phenomena	• Assign one person to be interface between SKMCCC and academic institutions (source of new information) • Set up data collection sources and processes • Assessment of new threats to vulnerability via commissioned studies like trends analyses, impact assessments, vulnerability assessments, feasibility studies etc. • Identifying and reviewing national and international good practices • Provide research space/scholarships for PhD students to come in and write their theses on climate change and Madhya Pradesh, emphasising on actionable research • The research should also take into consideration the impact of climate change on different socio-economic classes, gender specific impact and climate justice Examples of new research areas: • Comparative analysis of international and national good practices on climate resilience strategies for semi-arid regions • Customising the livestock emissions calculating software to Indian context and quantify emissions numbers • Identification of drivers for degradation of forest areas: A climate change study and alternatives to deal with them • Research study on the relation between pest infestation and climate change • Research study on carbon sequestration potential of bamboo plantations in Madhya Pradesh • Study on structural strength of bamboo as a replacement for plastic in polyhouses

S. No	Objective	Suggested Actions
3 Coordinate interactions between departments for more efficient implementation and identifying fundraising opportunities		
3.a	Knowledge collation centre on implementation and impacts from National Missions	- Collate information from National Missions to weave climate change story for MP as a whole - Align with Mission-implementing departments on impact numbers for MP's work in climate change - NMSA and NWM see direct overlap for climate adaptation measures in rain-fed vulnerable regions
3.b	Be coordinating entity between departments on matters of climate change	- Align with district development plans for on ground implementation - Align with rural development, agriculture department and CGIAR/CCAFS for implementation of Climate smart rural development - Align with CSOs and other non-governmental stakeholders - Use SKMCCC web knowledge portal and knowledge materials as a tool for state and district departments to access climate change information - Promoting a mandatory component of environment and climate change in the upcoming Detailed Project Reports (DPRs) submitted by various departments and organizations
3.c	Frame cross sectoral solutions	Replacement of polyhouse material with bamboo helps small farmers and converges with National Bamboo Mission
4 Moderate/ facilitate globally and nationally determined climate actions at the state level		
4.a	Use of Partnerships in Sharing and Implementing climate change activities	- Partnerships with research organisations (IIT-G, CGIAR, IIFM, IISD, IITM-Pune etc.) to align with central and state mandates for tactical and innovative collaborations eg. climate modelling - Partnership with Universities for a short duration online certificate course on environment and climate change strategies - Partnerships with networks [CDKN, CANSA, APAN, Bundelkhand Knowledge Platform (BKP), CCPCs, Indian Youth Climate Network (IYCN) etc.], to align with central and state mandates - Share the strategies and technologies that are proven to be environment friendly and cost-effective on a forum like Nairobi work program for grassroots adaptation best practices

S. No	Objective	Suggested Actions
4.b	Develop Climate Change Communication Strategy	- Develop communication strategy for branding and visibility at national and international fora, and engagement at district and panchayat level - Maintenance and updation of SKMCCC web portal, in both English and Hindi - Update SKMCCC brochure with new projects and knowledge products every year, in both English and Hindi - Events and campaigns held and outputs communicated

While implementing the activities it is necessary to monitor the impact of each activities in taking forward the objectives of SKMCCC. Periodic stakeholder consultations and training workshops could be organized to assess (a) who uses the information provided and (b) how the knowledge provided by the centre has been used and (c) what kind of information has demand. This would help prioritize the plans and the budget. The centre should also aim at promoting “trainers training programmes”. A curriculum development plan should be put in place.

Immediate Priority

Considering that the SAPCC developed for the state is a dynamic document, another major recommendation for SKMCCC is to work on revising the SAPCC. The MP SAPCC was finalised in 2011 and 4 years on, a systematic review and progress report of the various actions identified in the SAPCC is required. The study can understand and systematically capture adaptation and mitigation actions already being implemented in the state for stock taking, and align the SAPCC with National Missions. SKMCCC can provide technical assistance to the departments for the implementation of National Missions and India's latest climate action plan (INDC) submitted to UNFCCC.

The review can lead to three major outcomes:

- Show real progress in terms of acting on priorities set out in SAPCC
- Clear account of the ambition and commitment of the state to address climate change
- Making financial commitments⁷ for implementation

2.6 Timeline

This perspective plan has been prepared for 5 years (2016-2021) and aims at converging it with the state and district level development plans. The priority for SKMCCC initially is to identify existing plans capable of achieving adaptation and mitigation co-benefits and create projects and programs that can mainstream climate change into those existing development plans – at both district and state level. The plan will focus on key vulnerable sectors that support the economy and development in the state. It is recommended that priority areas remain agriculture, forests, urban development and water resources, with ample time set aside for other sectoral issues as and when they crop up (either due to centre or state mandate).

The plan has also been divided into short term (Year 1), medium term (Year 2-3) and long term (Year 4-5) priorities.

7. Budget allocation for climate change related activities in Orissa has increased from 3.3% in 2012-13, 3.6% in 2013-14 to 4% in 2014-15. This is largely for highly relevant priorities identified in SAPCC.

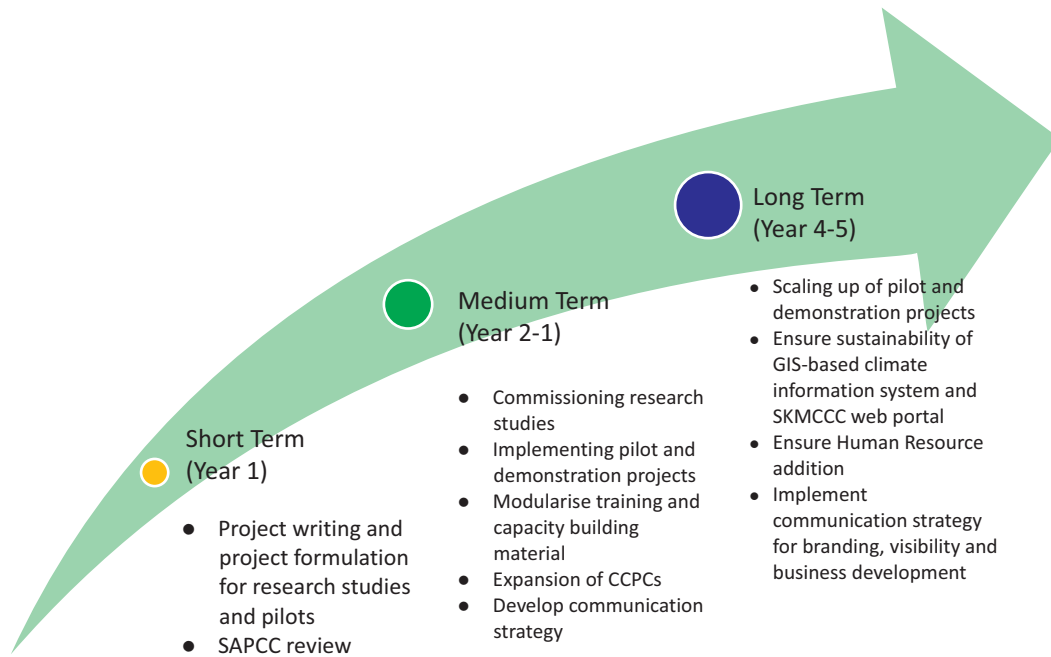


Figure 3: Proposed Short, Medium and Long-Term Activities

- In first 3 months (Year 1): The SKMCCC gets mandate to be officially the 'Climate Change Knowledge Centre'.
- In the short term (Year 1): Focus on project writing and formulation to be submitted to the centre and MOEFCC, SAPCC review.
- In the medium term (Year 2-3): Focus on commissioning research studies and knowledge generation (e.g. drilling down of state VA for all 51 districts in MP), implementation of pilot and demonstration projects and modularising the training and capacity building material, increased engagement with climate change pulse centres (CCPCs) in all 10 divisions of MP, and development of a communication strategy for SKMCCC.
- In the long term (Year 4-5): Focus on scaling of pilot projects and demonstration projects; content management and updating of GIS-based systems, SKMCCC knowledge portal and other tools, and addition of human resources and intellectual capacity. Shape SKMCCC as a model institute for the country providing state of the art facility to seek climate related information and knowledge. Promote CCPCs as centres of excellence, which being closer to the community play a catalytic role in knowledge management and supporting implementation.

2.7 Way Forward and Strategies for Strengthening of SKMCCC

Human Resources

- HR capacity addition of 3 senior programme officers, 6 subject experts, 4 mid-level consultants and 4 junior researchers/scientists (sourced either through the JRF program or from scholarly pursuits) over a period of 5 years.
- Deputation of Government officers: from other state-level and district-level departments (eg. agriculture, science and technology, planning, panchayat, municipality etc.). These officers would be deputed to SKMCCC for 2-3 years, at the posts of senior programme officers or subject experts, depending on their level.

- Faculty Exchange Programme shall be developed with a network of international and national institutions for sharing and exchange of expertise and upgrading the information and skills of faculty members.
- HR requirements: ‘
 - o Climate Policy Coordinator' working at interface of policy and climate change research
 - o Person looking at the SKMCCC web portal maintenance and updating
 - o Person looking at the GIS-based climate information system hosting, maintenance and updating

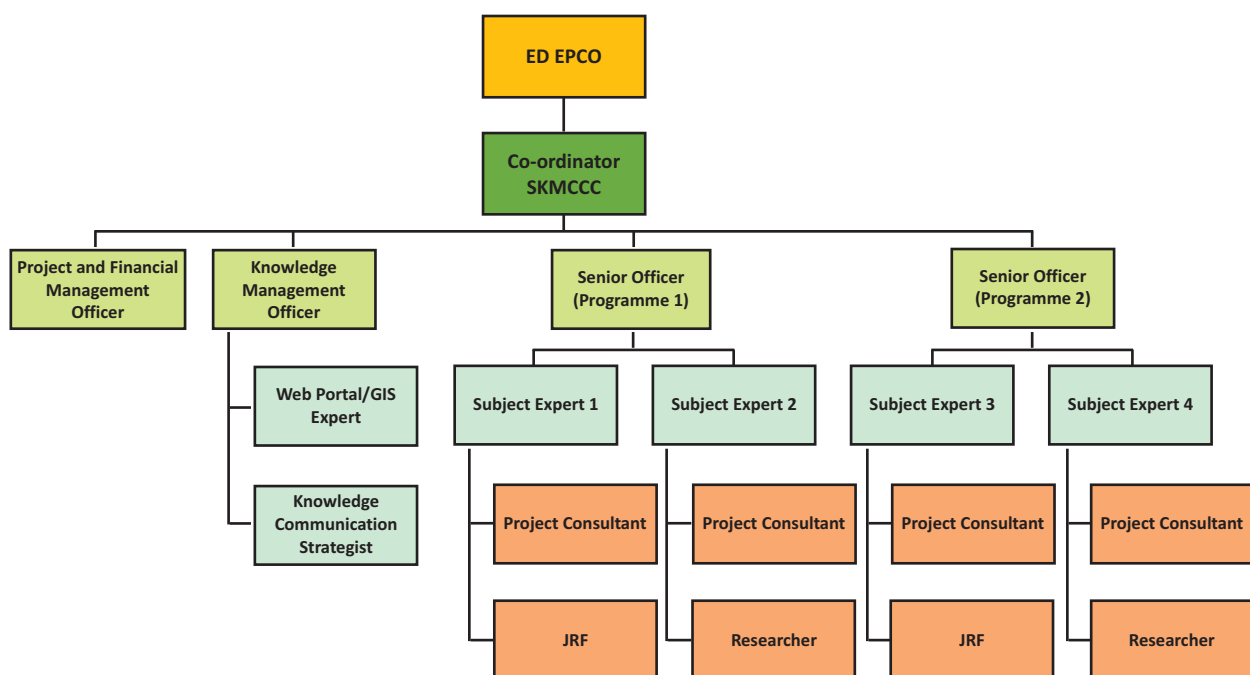


Figure 4: Proposed Structure of SKMCCC in 5 years

Financial Resources

SKMCCC requires deeper understanding of the climate finance regime that is evolving currently for linking the regime with the MP's priority actions on climate change as laid down in the SAPCC and NAPCC. SKMCCC (EPCO) currently has sufficient financial and technical resources with support currently being received from the Ministry of Science and Technology, UNDP-India, GIZ-India, CDKN and DFID.

- Mobilising funds, developing demonstration project for SAPCC implementation through national and international funds.
- Budget allocation through state department. SKMCCC is seeking support from the state government for its climate initiatives.

This component has been elaborated upon in detail in the succeeding section.

Dissemination Systems

- Annual state-level flagship publication disseminating information on new research in climate science, vulnerability status highlights, district-wise climate action index, promising policy initiatives and new trends with case studies. Award(s) can be instituted at departments and/or districts.

- Utilise resource material from current projects and programs (e.g. the DFID-supported SPMG II program) like district level vulnerability assessments, impact assessment papers, case studies etc. and disseminate knowledge through radio shows, publications, articles etc. The SKMCCC web portal can be used to disseminate these resource materials and additional research studies, news, events and other climate change related information and receive feedback on how this information is digested and what difference it had made. A periodic analysis of user group feedbacks would help and would-be an explicit mandate of the person who runs the web portal or the stakeholder engagement process.
- Periodic publications to disseminate their information on climate change. Articles from SKMCCC in rural development department, '*panchayaka*' and disseminate to large number of users. Periodic discussion papers as instruments for informing policy.
- Participation in large scale national and international networking and workshops
- Dissemination for:
 - Internal circulation
 - State level articles/newsletter
 - Large scale International events
- The MP State Vision Performance Unit (VPU) can be leveraged for media engagement and knowledge dissemination

Finance and Project Building

3.1 Project Formulation

Implementation of the activities will be largely possible from alignment with existing centrally and state sponsored plan/programmes/schemes. As highlighted in the timeline plan, project formulation is of utmost importance for SKMCCC in the immediate term. Accessible funds at state, national and international levels have been highlighted in the succeeding sections with their sectoral focus. Implementation of SAPCC recommendations is the focus of the centre ministries and state departments e.g. MP Forest Department has a specific component focus on adaptation and mitigation strategies for climate change⁸. More state department-wise details have been given below.

3.2 Accessible Funds at State Level

The SAPCC has already identified the primary and secondary state departments with whose help specific recommendations can be implemented. As an example, some of the active schemes and groups under each state department have been outlined in the table below to give an idea of the financial resources available in the XIIth 5-year plan (2012-17) for the various departments of Government of MP. Aligning these schemes and sub-groups with specific recommendations of the SAPCC is a follow up that SKMCCC could undertake.

S. No.	Department	Group/Scheme	Amount (Rs. In Lakhs)
1	Agriculture	Crop Husbandry	5,45,250
		Soil Conservation	9,000
2	Horticulture		1,70,500
3	Animal Husbandry and Dairy Development		1,32,036
4	Forestry		4,28,603
5	Rural Development	Drought Prone Area Programme (DPAP)	341
		NREGS	46,966
		Integrated Wasteland Development Programme (IWDP)	
		Integrated Watershed Management Programme (IWMP)	3,500
		CM Rural Roads and Infrastructure Development	90,000
6	Water Resources Department	Visits and Trainings of farmers (CAD)	1,000
		Bundelkhand	21,410
		Surface Water Schemes (Min.)	2,10,000
7	Non-Conventional Sources of Energy (UVN)		24,700
8	Disaster Management Institute (DMI)	Training courses/seminars/conferences on disaster management	170
		Awareness program on disaster management	40

8. MP Planning Commission. 2012. 12th Five Year Plan (2012-2017).

S. No.	Department	Group/Scheme	Amount (Rs. In Lakhs)
9	Biodiversity and Biotechnology		3,700
10	Water Supply, Sewage and Sanitation (PHE)	Coverage of partially covered habitations	13,451
		PWS scheme (creation of new sources where dried)	1,826
		State sector schemes	300
		Urban water supply scheme	287
		Preparation of Development Plan, Review and Modification (12 towns)	1,290
11	Urban Town and Country Planning	Regional Plan (1 region)	630
		Development Authority (6 towns)	800
		Information Technology (GIS Application)	1,500
12	Urban Administration and Development	All activities including: • National Urban Information System • Training and Capacity Building	8,33,600
		ADB-supported project in 4 mega-cities	13,978

3.3 Accessible Funds at National Level

1. **National Adaptation Fund on Climate Change (NAFCC):** NAFCC has a budget of Rs. 350 crores for the year 2016-2017, and an estimated requirement of Rs. 181.5 crores for 2017-18⁹ to scale up adaptation interventions in accordance with the SAPCC. The funding priorities are as follows:
 - a. Funding adaptation projects/programmes aligned with Missions and SAPCC in agriculture and allied sectors, water, forestry, urban, disaster managements, human health, tourism, habitat and other rural livelihood sectors
 - b. Preparing and updating climate scenario, assessing vulnerability and climate impact assessment
 - c. Capacity building of various stakeholders on climate change adaptation and project cycle management and developing knowledge network
 - d. Mainstreaming the approaches/learning from project/programme implementation through knowledge management

SKMCCC has already successfully submitted one project under the NAFCC on climate smart rural development.

2. **Climate Change Action Programme (CCAP):** CCAP has a budget of 290 crores for SAPCC with MOEFCC as the nodal ministry. It is the first separate thematic programme on climate change and funds areas of climate change adaptation and mitigation. Objective of the programme at state level is to:
 - a. Assess impact of climate change in vulnerable areas
 - b. Launch studies and projects
 - c. Capacity building
 - d. Setting up of an institute for conducting climate change studies

9 MOEFCC. 2015. Press Information Bureau. "Government has established National Adaptation Fund on Climate Change: Javadekar" URL: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=124326>.

SKMCCC has already successfully submitted one project and been in principle approved on integrated farming systems in MP.

3. **Watershed Development Fund (WDF):** Watershed Development Fund (WDF) in National Bank for Agriculture and Rural Development (NABARD) exists with broad objectives of unification of multiplicity of watershed development programmes into a single national initiative through involvement of village level institutions and PFAs¹⁰.
4. **National Clean Energy Fund (NCEF):** As of July 2015, the NCEF has crossed Rs. 17,000 crore primarily due to revenue from the coal cess¹¹. The guidelines for this fund are yet to be finalised but this is a fund that in the next 5 years could be an important source of funds for project implementation for SKMCCC. Some concrete suggestions for studies and projects under mitigation activities have also been given in the Climate Change Mitigation Paper for Madhya Pradesh submitted by TSU.
5. Aligning with the National Missions under NAPCC e.g. National Mission on Sustainable Agriculture (NMSA)

3.4 Accessible Funds at International Level

1. **Adaptation Fund:** The Adaptation Fund is a financial instrument under the UNFCCC and Kyoto Protocol (KP). It has been established to finance concrete adaptation projects in an effort to reduce the adverse effects of climate change facing communities, countries and sectors. The Fund is financed with a share of proceeds from Clean Development Mechanism (CDM) project activities as well as through voluntary pledges of donor governments. The share of proceeds from the CDM amounts to 2% of Certified Emission Reductions (CERs) issued for a CDM project activity¹². While it is possible these might be prioritised for LDCs and SIDS, any mention of international level funds would be incomplete without the mention of the Adaptation Fund.

Some areas that SKMCCC can potentially look at are:

- Water resources management, land management, agriculture, health, infrastructure development, fragile ecosystems;
 - Improving the monitoring of diseases and vectors affected by climate change, and related forecasting and early-warning systems, and in this context improving disease control and prevention;
 - Supporting capacity building, including institutional capacity, for preventive measures, planning, preparedness and management of disasters relating to climate change;
 - Strengthening existing and, where needed, establishing national and regional centres and information networks for rapid response to extreme weather events, utilising information technology as much as possible
2. **Green Climate Fund (GCF):** GCF is a mechanism within the framework of the UNFCCC to redistribute money from the developed world to the developing world, in order to assist the developing countries in adaptation and mitigation practices to counter climate change. The Green Climate Fund will support projects, programmes, policies and other activities in developing country Parties using thematic funding windows. It is intended to be the centrepiece of efforts to raise Climate Finance of \$100 billion a year by 2020. Pledges to the fund reached \$10.2 billion on May 28, 2015¹³ and is expected to start disbursement of funds from June 2016 onwards. The \$100-billion Green Climate

10. NABARD. WDF. URL: https://www.nabard.org/english/Watershed_Development_Fund.aspx.

11. Business Standard. 2015.

12. Adaptation-Fund.org. 2015. Direct Access. URL: <https://www.adaptation-fund.org/about/direct-access/>.

13. GCF. 2015. Pledge Tracker. URL: http://news.gcfund.org/wp-content/uploads/2015/04/GCF_contributions_2015_may_28.pdf

Fund will soon become operational and the process of accrediting organisations which can access the funds has been concluded with NABARD as the NIE for GCF. If planned properly, the implementation of the Perspective Plan can start with a project formulated to the GCF.

National Bank for Agriculture and Rural Development (NABARD) – NABARD is the National Implementing Entity for Adaptation Fund as well as GCF, and is eligible to access funds directly for adaptation activities. Recently, NABARD has expressed its desire to work with States and could be a good partner to pursue adaptation agenda in 4 sectors prioritised earlier. The overall goal of projects funded by AF is to reduce vulnerability of population by increasing their adaptive capacity to respond to the impacts of climate change. The Adaptation Fund Board (AFB) has endorsed concepts submitted by NABARD for projects in Tamil Nadu, Rajasthan, West Bengal and MP¹⁴.

3. **Global Environment Facility (GEF):** provides grants on several focal areas, of which biodiversity, climate change and land degradation are of interest to SKMCCC. Currently, there are about 38 nationally approved projects under climate change, in various stages of completion, closure and implementation. Most of these projects are focused on the low-carbon resilient agenda and look at renewable energy, energy efficiency and urban transport. There are however projects on sustainable livelihood adaptation to climate change and effective implementation of State Level Climate Change Action Plans that provide an entry point for SKMCCC¹⁵.
4. **Climate Investment Fund** of World Bank: The Climate Investment Funds (CIF) is providing 63 developing and middle income countries with urgently needed resources to mitigate and manage the challenges of climate change and reduce their greenhouse gas emissions. CIF champions innovative country-led investments in clean technology, renewable energy, sustainable management of forests, and climate-resilient development. Fourteen contributor countries have pledged a total of \$8.1 billion to the CIF, which is expected to leverage an additional \$57 billion from other sources¹⁶.

The CIF allocates financing through four funding windows:

- Clean Technology Fund;
 - Forest Investment Program;
 - Pilot Program for Climate Resilience;
 - Scaling Up Renewable Energy in Low Income Countries Program.
5. **Private Sector Investments:** The investments in renewable energy sector and adaptation technologies are seen as an opportunity to mobilise resources to scale up adaptation and mitigation in State. The commitments made by Government of India in their NDC submission can be met out with the NAMA supported projects to meet the goals of NDC. The sectoral NAMA as supported and bilateral NAMA can be considered from MP. Also it is expected that forthcoming COP/UNFCCC sessions from 2016 will frame carbon market kind of mechanism that would be able to channel foreign investments to implement SAPCC especially on mitigation front.

14. NABARD. 2015. "Adaptation Fund Board endorses three project concepts submitted by NABARD" URL: <https://www.nabard.org/English/AdaptationFund.aspx>.

15. GEF Project Funding. 2015. URL: https://www.thegef.org/gef/gef_projects_funding

16. Climate Investment Funds. URL: <http://www.climateinvestmentfunds.org/cif/aboutus>

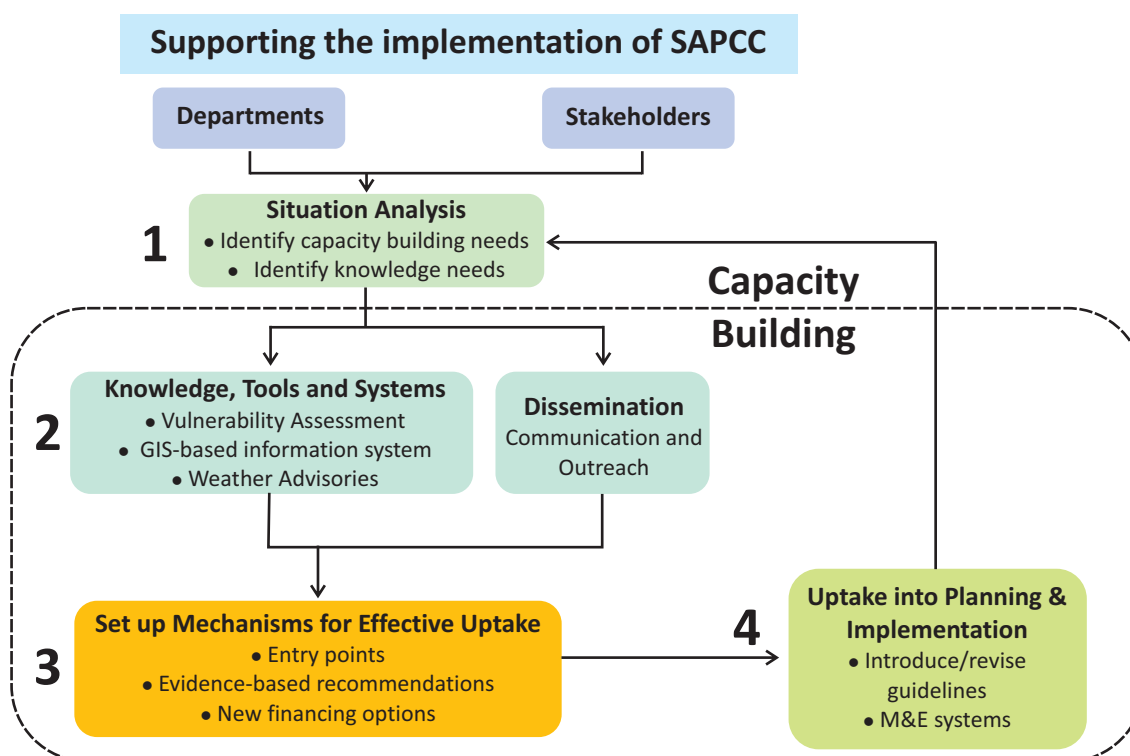
Annex 1

Climate Change Adaption Planning Framework – An example

It is clear that technology, investments, policy and regulations alone will not be able to provide the solution. Enlisting the active cooperation of local groups, communities, local institutions and stakeholders, building up their capacities and empowering them as active participants in decision making processes are a foundational pre-condition for efficient and effective response measures. This is because the effects of climate change are experienced locally by communities, local institutions and stakeholders and they are best suited to address them.

Integrating climate change adaptation in national and sub-national planning can help to systematically assess climate impacts and incorporate response measures to reduce climate risks and vulnerabilities into development policies, plans, institutions, programs and projects. Integrating climate change concerns in national and sub-national planning helps to:

- Develop medium and long term climate resilient solutions which are cost-effective and scalable
- Climate proof existing and ongoing development plans/programmes
- Ensure Local level implementation of national and state action plans on climate change
- Ensure Climate smart investments
- Bring direct benefits to climate sensitive sectors (such as agriculture, fisheries, forests and sections (rural economies, farmers, tribal, fisherman)



The proposed framework provides a mix of top down and bottom-up approach for climate change adaptation planning. This decentralised process defined for development planning in India provides a robust frame and platform for mainstreaming climate concerns into village and district plans and synergizing with state and national level sustainable development agenda.

1. **Situation Analysis:** In order to view existing development planning and policies from a climate change lens it is first important to critically analyze existing data, information and capacity building needs from a climate change view. It is also crucial to review gaps in the current plans, schemes planning and implementation processes. This phase also identifies building blocks for integrating climate change concerns in planning processes. This includes engagement of trans-disciplinary stakeholders such as practitioners, researchers, government officials of different line departments, etc. Since climate change is an overarching concern, therefore ownership of different stakeholders in climate actions is necessary.
2. **Development of Knowledge, Tools and Systems for Climate Change:** Once the knowledge and capacity building needs of local level stakeholders is identified, the next step is to develop decision support systems for mainstreaming climate change concerns in planning processes. It answers the following:
 - **Why** is there a need to integrate climate change concerns in development planning? What are the current vulnerabilities and adaptive capacities against climate change?
 - **What** are the solutions (both adaptation and mitigation strategies) which need to be integrated in the planning processes?
 - **How** can different decision support tools be used to facilitate the climate adaptive planning process? How can we use different technologies, climate models, economic assessments, GIS models etc. in this process?
3. **Set up Mechanisms for Effective Uptake:** It is a phase and implements stage where prioritized adaptation strategies are phased out and identified on the basis of available funds, human resource, institutional capacities, available schemes and institutional capacities. Based on the availability and capacities in a given planning cycle, decision makers at national, state, district or even panchayat level can select adaptation strategies for integration into development plans. It also helps to identify potential entry points such as:
 - Ongoing schemes and plans (MGNREGS, IWMP etc)
 - International and National Climate Finance (Adaptation Fund, Green Climate Fund, National Adaptation Fund, State and district budgets)
 - Sectoral Plans (State five year plans, Agriculture Contingency Plans, Disaster Management Plans)
4. **Uptake into Planning and Implementation:** Once the responsible departments, potential schemes and budget resources are identified to incorporate climate change adaptation solutions in the development planning process, co-benefits of climate change can be integrated in development processes. It is then crucial to remember that once the plan is developed it is important to monitor its implementation through mapping of milestones and their delivery.

Advantages of Using the Framework for Mainstreaming Climate Change in Developmental Planning

- The framework views multifold impacts of climate change, evident sectoral overlaps and analogous co-benefits of adaptation thus viewing interlinkages between climate resilience and development planning.
- This approach allows climate concerns to be simultaneously addressed and embedded into everyday decision-making.
- It helps to leverage existing technical, human and financial resources and enhance capacity to identify co-benefits between adaptation needs and other priorities

Annex 2

List of Selected Expert Reviewers to Evolve a Perspective Plan for State Knowledge Management Centre on Climate Change (EPCO)

Reviewer	Organisation
1. Mrs. Aditi Kapoor	Director, Alternative Futures
2. Dr. Amitabh Pandey	Professor, Indian Institute of Forest Management (IIFM)
3. Dr. Arivudai Nambi Appadurai	Strategy Head (Climate Resilience Practice), World Resources Institute (WRI - India)
4. Mr. Harjeet Singh	International Coordinator – Disaster Risk Reduction & Climate Adaptation, ActionAid
5. Shri Mangesh Tyagi, IFS	Principal Advisor, State Planning Commission, Government of Madhya Pradesh
6. Dr. Pramod Agrawal	Regional Programme Director, Research Programme on Climate Change, Agriculture and Food Security (CCAFS), CGIAR, International Water Management Institute
7. Mr. Raman Mehta	Advisor, Vasudha Foundation
8. Dr. S. Sathapathy	Additional Director, Ministry of Environment, Forests and Climate Change (MOEFCC)
9. Dr. Shirish Sinha	Deputy Director, Swiss Agency for Development and Cooperation (SDC)
10. Dr. Sumana Bhattacharya	Vice President, Climate Change and Sustainability, Iora Ecological Solutions



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