

Workshop Summary Report

Ecosystem-based Adaptation for Building Resilience during COVID-19 in Rural Maharashtra

1st May, 2020

On 1st May, W-CReS, Pune and TMG Research (A think tank based in Germany) jointly organised a half day workshop on 'Ecosystem based Adaptation for Building Resilience during COVID-19 in Rural Maharashtra'.

The workshop brought together a diverse range of important stakeholders including policy makers, government officials, researchers, corporate donor representatives, and development practitioners with the aim of developing a common understanding of Ecosystem based Adaptation (EbA). Keeping this understanding of EbA in mind, the workshop also aimed to identify the gaps and challenges in our current programmes and policies, whilst simultaneously identifying the plausible opportunities that work towards taking EbA forward in Maharashtra.

Introductory session:

The workshop began with an overview of why an EbA approach is extremely crucial to help us face multiple crises we encounter today including climate change, food security, the current COVID-19 pandemic and the resulting economic crisis.

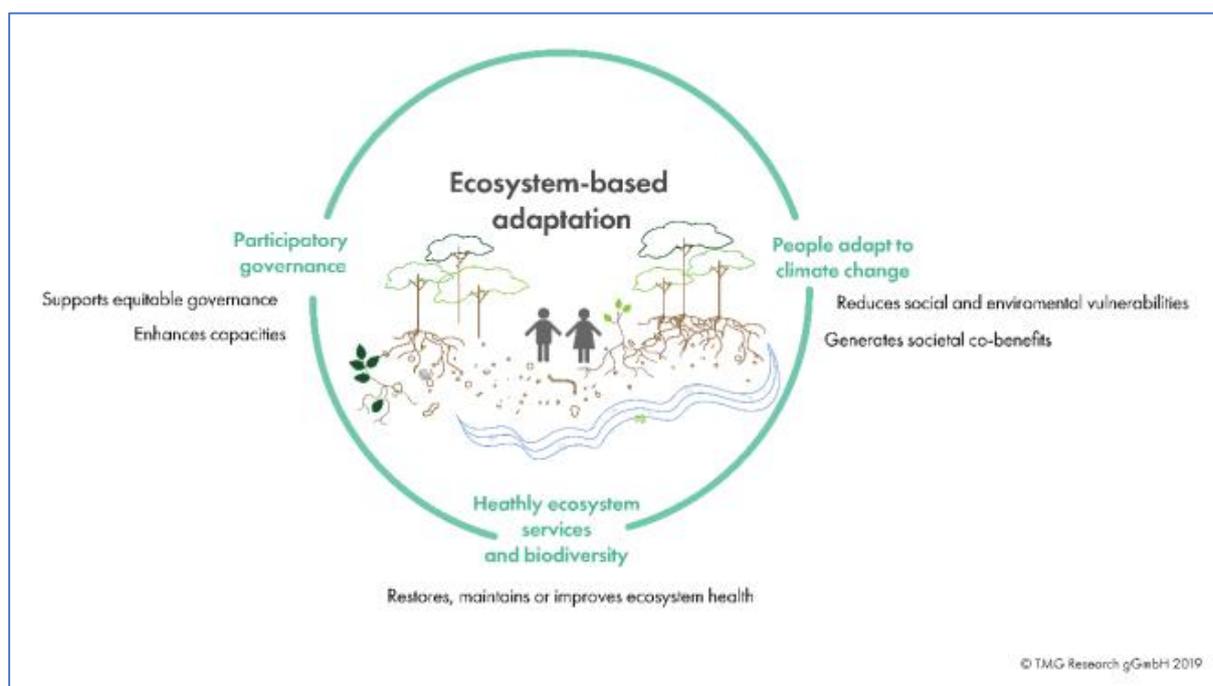
Key messages:

- *In Maharashtra, the agricultural sector is subject to the vagaries of the market and the climate. Of the 14 million ha cultivated in Kharif in the state, cash crops like soyabean and cotton occupy 8.2 million hectares and are major contributors to the State's GDP. However, they are both linked to the market in Brazil and North America and the COVID-19 pandemic has disrupted these supply chains and market linkages. Further, the rainfall distribution patterns and cropping patterns are very varied in Maharashtra, with recurrent droughts occurring in the last 10 years, and 2019 seeing excessive rainfall destroying crops to a large extent. EbA might be a way to make communities and ecosystems more resilient to these vagaries of the market and climate and to the current pandemic.*
- *International collaboration, with experts from developing countries like India, is extremely important during these times to tackle the multiple crises the globe is faced with today.*
- *Managing ecosystem services is important for sustaining and supporting life on earth. It helps to ensure food security and provide other services and also helps to ensure good health and well-being of people. Not managing ecosystems in a proper and sustainable way could also contribute to the spread of a pandemic like COVID-19.*
- *We need to work together and learn from the experiences of people across all countries who are raising critical questions regarding the crises we are faced with. For example, Berlin is facing its 3rd year of drought, and it might have to learn how to tackle the crisis with the help of countries like India.*
- *In short, scaling up Ecosystem based adaptation is possible only if all of us, with our varied experiences from different parts of the world, can all work together to tackle these multiple crises using an EbA approach.*

Session 1:

Session 1 of the workshop mainly focused on the concept of Ecosystem-based Adaptation (EbA) and how it links to the different sectors like land, water, biodiversity and agriculture. In this session, WOTR shared the findings of a case study done in Bhojdari a village located in the rain shadow, where an EbA approach was used while implementing a project.

- Climate change has been manifesting itself in the form of extreme events like droughts and floods in several parts of India for quite a few years now.
- Helping communities adapt to these extreme events is possible through methods like crop planning, locale-specific agro-met advisories and water budgeting as WOTR has been doing.
- An ecosystem doesn't just include forests or land or water bodies; it is the interaction of living and non-living things, including flora, fauna, humans and technology, and everything within that space. The ecosystem maintains itself through flows of energy and flows of nutrition.
- What is Ecosystem-based Adaptation?



Three key elements of Ecosystem-based Adaptation (EbA): Participatory governance; Healthy ecosystem services, and biodiversity; and Adaptation to climate change (Source: TMG Research gGmbH, 2019)

- An EbA approach basically involves ensuring that the ecosystem continues to provide ecosystem services to all who are part of the ecosystem. Watershed development for example, is an intervention that contributes to all the three aspects mentioned in the figure above.
- Sectors related to EbA: (1) Land, ecosystems and forests (2) Water resources (3) Biodiversity (4) Climate Change – adaptation, (5) Climate resilient agriculture (6) Sustainable livelihoods
- Ecosystem based Adaptation for disaster risk reduction: An EbA approach helps with enhancing resilience and reducing social and environmental vulnerabilities by restoring

ecosystems and using biodiversity and ecosystems to provide benefits (including alternate livelihood sources) to all sections of society. All of this reduces the risks associated with extreme events like floods and droughts and also pandemics like COVID.

EbA on the ground: Learnings from a case study of Bhojdari village

- Bhojdari is a village in Ahmednagar district in Maharashtra where an EbA approach was used. Watershed Development and the Climate Change Adaptation projects were implemented in Bhojdari since 1995 until 2015. The projects focused land treatments across the watershed, water budgeting, adaptive agriculture with agro-meteorological advisories, biodiversity, sustainable livelihoods and disaster management, along with the development of Community Based Organisations (CBOs). Restoring, maintaining and improving ecosystem health was also an important part of the interventions.
- The study found that the rainfall pattern has been changing in Bhojdari in recent years, with a decrease in the number of rainy days and more frequent droughts affecting the area. The average temperature has also been increasing in the region.
- Several changes were observed after the interventions were done. Some of them include a decrease in fallow land along with an increase in cultivable land and forest land, changes in cropping patterns with increased uptake of cash crops which improved income levels, increased ground and surface water availability, improved soil moisture and biodiversity, reduced dependence on forests, more sustainable livelihood opportunities, and improved local participatory governance. Distress migration has greatly reduced since the projects were implemented.
- However, it was also found that the non-tribals benefitted more from the interventions than the tribal population. Further, a more organised system of governance was needed because the multiplicity of institutions resulted in a functional overlap. It was also found that there was a need to link biodiversity with agriculture.

Session 2: Consolidation of EbA in rural Maharashtra

This workshop then progressed into understanding the gaps and challenges that exist for achieving Ecosystem-based Adaptation in rural Maharashtra. As mentioned earlier, an EbA approach is an intersectoral, interdisciplinary and holistic approach. Hence, in the same session, EbA was divided into four main sectors, and the different opportunities and challenges that exist to scale up EbA in the different sectors was discussed.

- It is essential to have a system dynamics approach, which helps us understand how different events and phenomenon affect each other. These the different backward and forward linkages and the causal loops associated with various events and phenomenon. For example, climate change and temperature changes increase extreme events which in turn has an impact on land resources in terms of aridity and soil structure which, in turn, increases soil erosion affecting soil health. Watershed Development contributes to addressing the problems of soil health and erosion.
- With varying climate impacts and changing contexts, we cannot have a standard approach. There are context-specific risks and these may be climatic, market-related or structural and a one-size approach cannot fit all.
- It is important to also consider the various agro-ecological zones while planning our interventions.
- Mid-course corrections during projects are essential to adapt better and avoid adverse impacts later.
- Capacity building of rural communities, practitioners, policy makers is also essential to deal with the climate crisis.
- Partnerships between the various stakeholders like government bodies, civil society organisations, research institutes, corporates, funding agencies, and most importantly, rural farming households, are essential.

Opportunities and Challenges in the different sectors (Land, biodiversity, water, agriculture) to scale up Ecosystem based Adaptation:

Land:

- Linkages with SDGs will help make performance reports that communicate with policy making bodies like NITI Aayog and State and Central Governments to take EbA forward.
- Collaborating with the technical committee to rework the guidelines for Watershed Development programmes in the future in India. Further, working in tandem with government programmes like Integrated Watershed Management Programme (IWMP), Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA) and other such programs is important. It is also important for schemes to not look at impacts in isolation but consider impacts emerging from inter linkages between sectors and areas.
- As far as gaps are concerned, treatment of forest lands in the upper ridges is necessary and this is often not treated along with the rest of WSD.

Biodiversity:

- In order to further EbA, more effective implementation of the Biodiversity Act of 2002 is necessary, and this includes the formation of a Biodiversity Management Committee to address biodiversity related concerns and execute plans to manage natural resources at the village level, and preparing a People's Biodiversity Register for the village.
- National and State level actors have equally important roles to play while developing biodiversity action plans which include setting up 'access and benefit sharing mechanisms.'
- It must be noted that Joint Forest Management Committees are underutilised because most watersheds have low forest area.
- Incorporating biodiversity concerns while making national level plans. Further, a focus on local agro-biodiversity is needed in the agriculture sector. Documentation and dissemination of information on indigenous crops and agro-biodiversity with stakeholders should be standard practice.

Water:

- National Water Policy is being prepared after being amended for the first time since 2012, and it is a great opportunity to contribute since the process involves consultations with various stakeholders before the draft is made.
- In 2016, there was a National Water Framework that advocated the reformation of CGWB and CWC but it is now pending and we may need to look at the same.
- Schemes like PMKSY, Atal Bhujal Yojana, Maharashtra State Groundwater Act, village level water security plans, all focus on different aspects of water management. There needs to be a more holistic approach to managing water resources using an EbA approach which is also democratic and sustainable.
- Data warehousing for best practices should be done, and this can be studied and used for better water management. Case studies also need to be done for more evidence-based action.
- Water use needs to be regulated in order to keep the large-scale diversion of water from agriculture to industry in check.

Agriculture:

- 60-70% of the budget for agriculture is spent on irrigation facilities despite irrigation potential being limited. There needs to focus more on market reforms like price support mechanisms. The recent focus on farmers' income rather than agricultural productivity is also a welcome change in the agricultural sector.
- The various government schemes need to work together. For example, watershed development is not part of the PMKSY, but this was considered a mistake and it is being reconsidered more recently.
- Our consumption basket is changing and this is putting immense pressure on water resources, energy and land. This should be quantified and assessed, and can be resolved by addressing needs first, followed by long term issues and crises. There is also a need to integrate agriculture, energy and water sectors to work towards furthering EbA.
- Corporatisation as an avenue: Many corporate companies are now investing in the agriculture sector for last 2 to 5 years to help weak links and farmers with IT enabled farm-based technologies.

Session 3: Scope for upscaling EbA in Maharashtra

Session 3, the last session of the workshop mainly focused on the scope for upscaling EbA in Maharashtra. It then moved on to developing a common understanding of the roadmap to take EbA forward in Maharashtra amongst all the participants.

- In Maharashtra, agriculture contributes to 17.9% of the state's GDP, and it is the primary source of livelihood for around 60% of the population in the state.
- The Maharashtra State Action Plan on Climate Change (MSAPCC) came into existence in 2009 and modified more recently. As part of this, an index that mapped the district wise vulnerability to climate change was created. The MSAPCC had about 60 actions listed and 14 actions were prioritised. 80% of the actions are focused on rural areas and 20% on urban areas.
- Apart from this, other programmes and initiatives like Jalyukt Shivar Abhiyan, Project on Climate Resilient Agriculture (PoCRA), State climate change policy, ban on single use plastic, establishment of integrated coastal management authority, water literacy campaign, organic agriculture mission, E-vehicle policy, revision of state disaster management were done in Maharashtra between 2014 and 2018.
- In Maharashtra, one of the key issues which affects the rural ecosystem is the extensive use of pesticides and their residues entering the food chain system. So, it is necessary to curb the use of agro-chemicals and protect the natural ecosystem. Additionally, the air pollution from urban areas through vehicles and industries are also damaging the ecosystem and causing the global warming.
- There also needs to be a focus on mechanisation of agriculture in Maharashtra instead of micro-irrigation since the PMKSY is already focusing on it.

The way forward:

- *There is an opportunity to incorporate an EbA approach in the State Action Plan on Climate Change which is being revised.*
- *Develop monitoring and evaluation tools to assess progress of projects*
- *Align our current government climate strategies with SDGs and NDCs*
- *Local level planning of projects dealing with climate change adaptation*
- *Build capacity of government and non-government stakeholders*

The workshop ended with a common understanding that civil society organisations, corporate companies, research institutes need to work together with the government to upscale EbA at the local, state and national levels.