

## Report of the **State Media Workshop on Climate Change**

July 27-28, 2017 | Chennai









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# CLIMATE, COMMUNITIES AND MEDIA

## Report of the **State Media Workshop on Climate Change**

July 27-28, 2017 | Chennai

Jointly organized by the Ministry of Environment, Forest and Climate Change (MoEF&CC) and the Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) to launch a national programme on climate change reporting in media with Centre for Media Studies, Environmental Information System (ENVIS) Center on environment & media as the knowledge partner for the programme.

#Write4climate

#### About the organisations:

#### Ministry of Environment, Forest and Climate Change (MoEF&CC)



The Ministry of Environment, Forest and Climate Change (MoEF&CC) is the nodal agency in the administrative structure of the Central Government responsible for the planning, promotion, coordination and overseeing the implementation of India's environmental, forestry and climate change policies and programmes. The main activities undertaken by the ministry include conservation and survey of the flora of India and fauna of India, forests and other wilderness areas; prevention and

control of pollution; afforestation, and land degradation mitigation. The Ministry also serves as the nodal agency in the country for the United Nations Environment Programme (UNEP), South Asia Co-operative Environment Programme (SACEP), International Centre for Integrated Mountain Development (ICIMOD), United Nations Conference on Environment and Development (UNCED) etc.

#### Deutsche Gesellschaft fur Internationale Zusammenarbeit (GIZ) GmbH



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For over 60 years, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH has been working jointly with partners in India for sustainable economic, ecological, and social development. Currently, GIZ has over 330 employees in India, of whom 85 per cent are national personnel. The focal areas of Indo-German cooperation currently are:

Energy; Environment, Preservation, and Sustainable Use of Natural Resources; Sustainable Urban Development

The Federal Ministry for Economic Cooperation and Development (BMZ), the Federal Ministry for Environment, Nature Conservation, Building and Nuclear Safety (BMUB) as well as the Federal Ministry for Economic Affairs and Energy (BMWi) are the main commissioning parties of GIZ in India. Other clients include Indian public sector clients, the European Union and foundations. The Government of India has launched numerous important initiatives to address the country's economic, environmental and social challenges, and GIZ is contributing to some of the most significant ones. For example, it supports key initiatives such as Smart Cities, Clean India and Skill India. GIZ, in close cooperation with Indian partners, devises tailor-made, jointly-developed solutions to meet local needs and achieve sustainable and inclusive development.

#### **Centre for Media Studies (CMS)**



CMS is a dedicated multi-disciplinary research-driven organisation that enables policy makers to take informed decisions on development and social change to improve quality of life. CMS is engaged in Research, Advocacy and Capacity building in Social Development, Environment, Communication and Governance issues at local and national policy levels. CMS has an extensive experience in organizing workshop for media personnel on various environment issues.

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#### **Executive Summary**

Climate change has become one of the challenges that demands the attention of governments, communities and experts. The state media workshop on climate change focused on sensitizing media representatives on the issues relating to climate change and adaptation, in particular understanding the linkage global climate change negotiations and the situation on the ground, so that they can carry the message forward to their respective audiences. The workshop was held in the Pearl Hall at Clarion Hotel President on July 27, 2017, followed by a field visit to two villages in Thirukazhukundram block on July 28, 2017. It was jointly organised by GIZ, Department of Environment, Tamil Nadu and Centre for Media Studies.

The workshop brought together around35 representatives from Tamil and English media in Tamil Nadu, and representatives of different organisations with interest and expertise in climate change. In the inaugural session, representatives of CMS, GIZ and the Department of Environment, Tamil Nadu set the ball rolling by presenting the background and objectives of the workshop. It was pointed out that the workshop is part of the series of such gatherings being held in four states with the aim of familiarizing journalists with essentials of climate change reporting through interaction with thematic experts.

Dr H Malleshappa, director, Department of Environment and nodal officer of the state climate change cell, presented a detailed overview of the state climate action plan covering different sectors such as biodiversity, coastal ecology, livelihoods and agriculture. In the second session on understanding climate change, impacts and adaptation in Tamil Nadu, experts spoke about changing climatic patterns in Tamil Nadu, vulnerability of coastal ecosystems and the climate change governance structure. A presentation was also made on challenges media faces in covering climate change. After the lunch and informal discussions, the session focused on community perspectives on climate adaptation and developing resilience, which was followed by a panel discussion.

On the second day, media representatives were taken on a field visit to two villages - Vengampakkam and Thazhambedu in Thirukazhukundram in Kancheepuram district. The villages where communities depend on agriculture for their livelihood, are facing to water scarcity due to changing rainfall patterns. As an adaptation measure, local communities have taken up rejuvenating village tanks and are also harvesting rainwater. The media representatives got to see those reformative measures, and also interacted with community members and change makers. The visit concluded with lunch with the community at Vengampakkam. At the end of the field visit certificates were distributed to all the participants.

#### **Inaugural Session**

The inaugural section commenced with screening of a short film about the erosion of sandy beaches in Puducherry. While natural beaches were wonderful earlier, catastrophic erosion has left it ugly in a short period of time. The sandy beach has been replaced with a sea wall, which has spoilt the beauty of the beach. The video also highlighted how human intervention into the beach has made life a struggle for fishermen, and also adversely hit the environment. After the screening, Ms. Annu Anand, Head of Advocacy at Centre for Media Studies, welcomed the participants and introduced the objective of the workshop.

Dr. Ashish Chaturvedi, Director, Climate Change, GIZ spoke the need for global governance for climate change. Since climate change is a global problem caused by emissions from different countries, it needed a global response. However, the response needs to be in line with the level of past and present emissions of countries and their respective capabilities. This is the basis of the 'ccommon but differentiated responsibilities' principle. Climate change governance involves multiple scales of political decision making, and has a range of actors – state and non-state. Dr Chaturvedi also spoke about the need for making infrastructure climate-proof. Stating that the biggest risk lies in making day-to-day activities of common people climate-friendly. Citing the examples of Pulicat Lake and Thirumalai Nagar, where the poorest of the poor are affected with challenge of environment degradation and water scarcity. Emphasising that India has to adapt to climate change with new infrastructure, he concluded with a call for a mass movement in which media has a major and a crucial role to play, by reaching out common man in to demystify science and politics of climate change.

Dr. H. Malleshappa, Director of the Department of Environment, Tamil Nadu, made a presentation on overview of climate change impacts and adaptation strategies in Tamil Nadu. The focus of the state climate action plan is to safeguard the people and the environment. While impacts of climate change are already visible, he said that Tamil Nadu is one of the forerunners in forming state action plan and had begun implementing it. While several funding agencies are being approached for the implementation of the plan, he stated that theintention was to take steps for adaptation in different sectors ranging from water resources to coastal ecology with the involvement of all stakeholders.

Under the plan, vulnerable sectors which have been identified are sustainable agriculture, water resources, forest and bio-diversity, costal area management, energy efficiency, renewable energy and solar mission, sustainable habitat and knowledge management. In the agriculture sector, for instance, the climate change impacts being felt in the state include variable dates of onset of monsoon, more intense droughts, enhanced soil erosion, loss of soil nutrients, increase in pest and disease occurrence, loss in productivity due to flooding of extended areas, loss in crop biodiversity and loss in incomes. For each of these issues, specific strategies have been identified in the state climate action plan.

Dr Malleshappa informed that the central ggovernment had sanctioned Rs24.74 crores for the implementation of an adaptation project in the Gulf of Mannar. Under this project, the state is carrying out a baseline study to assess vulnerability to climate change of both coastal ecosystems and coastal communities. Steps will also be initiated to restore coral reef and seagrass in Kariyachalli and Vilanguchalli islands as a climate adaptation strategy. The objective is to build climate change resilience to the fast eroding Vaan island through deployment of artificial reef modules.

Presentation was followed by interaction and discussion with media representatives.

## Understanding Climate Change, impacts and Adaptation in Tamil Nadu

The second session of the workshop had covered issues relating to climate change impacts and media coverage of the same. A presentation titled 'climate change: a hot story' by. Dinesh C Sharma, Managing Editor, India Science Wire, set the stage for this session. Drawing upon his experience of covering climate change since the Earth Summit in 1992, Sharma observed that the biggest challenge media faces is the very nature of the story. Climate change is an ongoing process and not an event. It is not an obvious story for reoporters One has to look for subtle changes taking place or being experienced by local communities or observed by scientists, to piece together a story. Second, he said, climate change is a political issue as well. There is a lot of denialism and scepticism around this subject even in newsrooms. Stories need to be written, based on scientific evidence as well as anecdotal information and quotes from communities on the ground.



The impacts of climate change are already visible in the form of extreme weather events and water shortage in many regions. At the same time, every natural disaster like the Chennai floods of 2015 can't be attributed to climate change straightaway. The city had witnessed such heavy downpour in the past also, but the damage caused in 2015 due to flooding was more because of the heavy concretisation and wrong urban development as well as land use policies. Speaking on challenges of covering climate change, he spoke about how the issue of climate change is a cross cutting one encompassing several subjects - science, policy, energy, water, agriculture, economy, business, civil society, diplomacy, politics etc. Then, he moved on to talk about missing elements in the coverage of climate change in media. While policy and climate negotiations are important, one needs to focus more on impacts of climate change on communities, adaptation measures people are taking on their own or with help of agencies, and success stories of climate adaptation.

Media should also cover risks and vulnerability, incremental change and solutions, research in climate resilience, evaluation of action plans and profiles of climate leaders. He emphasised that it is more important to talk about solutions and not just keep talking about the problem and





projected catastrophic impacts. He added that focussing on communities, people and their faces, quoting a lot of people, avoiding climate jargons but making it easy for everyone to understand, using relevant data, focus on single aspect, including pictures, graphics and audio clips would make people relate to the issue naturally. He concluded by providing the sources from which media could access the data with regards to climate change, which will furnish their story coverage.

The second presentation of this session was by Dr. Ashish Chaturvedi, Director of climate change in GIZ, on 'climate change and governance'. He started by putting forth the importance of global governance for climate change as all countries have to come together to face this this challenge. Common rules have to formulated about cutting down emissions and taking other actions for climate mitigation and adaptation. This means it would be difficult to meet the challenge if some countries agree to act while other set does not. Global climate agreement requires all countries to formulate matching domestic policies and actions. In this sense, domestic policies are influenced by the global climate regime.

In a nutshell, global governance requires a clear understanding of what is the problem, what are its impacts, and who is responsible for it. In the absence of any mitigation efforts, it is clear that climate change going to cause severe impacts globally, but people who live in close contact with nature will suffer more than others. Still the responsibility has to be shared by every citizen of the world. This means some countries and people more responsible for climate change, while others are to a lesser extent. Dr Chaturvedi also added that the need for governance for climate change arises because everybody has a role. Both the market and the state have to take some action to address this issue. This situation has given rise to the concept of "common but differentiated responsibilityin the United Nations Framework Convention on Climate Change. He added that every decision that an individual makes, has an impact on climate. Therefore, individuals also need to evaluate their every action from the climate angle and take actions to minimise the impact. Media has a role in motivating people and communities to take actionby highlighting case studies and success stories.

Dr. S R Ramanan, former director of India Meteorological Department (IMD), Chennai, spoke on the changing climatic patterns in Tamil Nadu. He appealed to mediapersons not to confuse between climate and weather, which are most often misunderstood. While reporting about climate change, it is important to highlight contributory factors for rise in temperature such as unplanned urbanisation and atmospheric pollution due to industries and vehicular traffic in cities. He said climate change has begun to show its effect on agricultural production in many parts of the country. Similarly, rise in sea level will affect coastal areas and islands. Temperature variability is also changing the lifecycles of disease vectors such as mosquitoes. Mr Ramanan said media should highlight adaptation and mitigation measures such as use of LED lamps,

alternative fuels, energy efficiency, clean technology, change in lifestyles, carpooling and use of public transportation.

The final presentation of this session was made by Professor A. Ramachandran, visiting professor, Centre for Climate Change and Adaptation Research , Anna University, on climate change and vulnerability of coastal areas and ecosystems in Tamil Nadu. As per global climate models, Tamil Nadu is projected to witness an average increase of 3.1 degree Celsius by end of this century. Maximum temperature will show an increasing gradient from coast to interior ranging between 2.2 to 3.4 degree, whole a maximum increase of 3 degree is projected over the east coast. As regards rainfall, there will be a decrease in annual rainfall for the state as a whole by the end of the century. The decrease will be about 4% from the baseline, with significant exceptions over some pockets of western hilly areas and Kanyakumari district where there will an increase of 15-30% from the baseline. Extreme coastal areas also indicate an increase in rainfall by about 7%. The high resolution climate change information available from research centres could be utilized by policymakers and other stakeholders to design suitable adaptation strategies for different sectors such as agriculture, water resources, forest and biodiversity, coastal area management, health and habitat.

The presentations were followed by a lively question and answer session.

## Community Perspectives on Climate Adaptation and Developing Resilience

Ms. Sowmya, communication officer of, GIZ, set the stage for the discussion by highlighting the need for involving communities in adaptation, and the need for media to highlight success stories for communities. R. Adhinarayanan, Programme Leader, from DHAN Foundation, detailed how communities have taken action in TN for climate adaptation in water-stressed areas. Tanks have been the most important source of irrigation in India. There are about 1.2 to 1.3 million tanks still in use and function as lifelines for livelihoods in the 0.66 million villages in the country. Revival of tank infrastructure has been recognized as a key climate adaptation measure.

DHAN Foundation hasorganised 4 Lakhs farmers in around 4,500 villages in South India and renovated more than 5,000 traditional water bodies since 1992. The focus is reviving the tank system rather than individual tanks. Under the cascade system, surplus water in upper tanks flows to lower tanks and there is considerable storage and utilization efficiency. Mr Narayanan said DHAN Foundation has been working with communities in TN, organising them at tank, cascade and sub-basin level. The objective is to increase their adaptive capacity through infrastructure development, linking with financial institutions and risk reduction (insurance) as well as, tank silt application. Tanks should be considered as village assets and their revival should take place with cascade approach and not in isolation. At the same time, he added, tank development plans should be made based on local practices, traditions and needs of people.

Dr. K. Palanivelu, Director of Centre for Climate Change and Adaptation Research, Anna University, focused on sea level projections for Tamil Nadu. IPCC reports had already established that costal systems are particularly sensitive to key drivers related to climate change: sea level, ocean temperature and ocean acidity. Coastal systems and low-lying areas will increasingly experience adverse impacts such as submergence, coastal flooding, and coastal erosion due to relative sea level rise. It is very likely that global sea level rose at a mean rate of 1.7 mm per year between 1900 and 2010 and at a rate 3.2 mm per year from 1993 to 2010.

While the sea level rise during the last century was about 10 to 20 cm globally, computer models are being used to generate projections about sea level rise during the twenty first century. Dr Palanivelu said SimCLIM, a computer model system, has been deployed to project the effects of sea level rise variability and change over time and space for Tamil Nadu. The results of this modelling exercise show that with half meter sea level rise 66,685 acres of land will be inundated. If the rise was one meter, the inundation will to be the extent of 105642 acres. Areas in coastal districts of Nagapattinam, Thiruvarur and Thanjavur will be get inundated. Overall, he said, it is projected that by the end of the century, the sea level may rise of Tamil Nadu coast is likely to range from 0.19 m to a maximum of 0.73 m.

## Building Bridges among Media, Scientists, Civl Society and Government

The final session for the day was a panel discussion, for which the panellists were R. Adhinarayanan, Mr. Anand from TNSCCC, Mr. Peer Mohammed Azees, editor of Ippodhu.com, Dr. Ashish Chaturvedi and Mr. Dinesh C Sharma. While the discussion involved professionals and experts of various sectors relating to media and climate change, the panel discussion acted as a platform for budding of new ideas. The discussion revolved around how media can take this issue to every common man. The consensus was that the message should be conveyed to them in the language that they could understand. Sensationalism and hype should be avoided and therefore, media people should get the help of experts in the field for whatever information they need.

They also added that meeting and workshops that convey messages on climate change must be covered on a regular basis to keep audiences engaged. In addition, experts should be prepared to answer queries of journalists, offer explanation for complex issues and ideas, and be willing to be quoted. Only when people are willing to talk, would there be a proper communication. This panel discussion also acted as a barrier breaker in the communication between the media representatives and the experts. They discussed the problems that they face in communicating with each other. The panel discussion also saw an overview of the reach of digital media, which is one of the emerging media with a wider reach. The power of digital media and interactivity it offers should be harnessed for climate change communication.

#### Field Trip:

The second day of the workshop was meant for the field trip, and all the attendees of the workshop reported at Clarion Hotel President, from where they travelled in a bus to Thirukazhukundram block. This field trip was facilitated by the representatives of DHAN foundation. When the bus reached the village of Thazhampedu, everyone was welcomed with a very warm hospitality.

After the greeting, people gathered together in the kanniyamman temple, along with the media representatives and organisers, for a discussion. With a very brief introduction, the interaction commenced. Thazhampedu, a village in the Kanchipuram district, has a population of around 1,200 people, who are mostly engaged in agriculture. This village has three tanks in its vicinity.-

- Periyeri, Thadapanthangal and Putheri. These tanks are under the supervision of the Public works Department. These tanks connect with surrounding eight villages, including Thazhampedu. When questioned about the rainfall in their area, community members replied that in the recent 10 years, the amount of rainfall has drastically reduced, and this has affected their production



of crops. While the village had sixty well 40 years back, the number has doubled up as of 2017, with 120 wells. Earlier, it was enough for them to have wells of 15 feet depth, but now, they have to dig up to 40 to 60 feet. They didn't have enough facilities to save water, but now, they've built tanks so that they could save water in it for their use.

The people of the village said that they work hard to save water, and when they have to clean the water bodies, they themselves take care of it, because that is the main source of their survival. DHAN foundation has been a great help to these villagers to save water, and they have helped the villagers to implement the cascade tank system to store and manage rain water. The villagers also shared about their crop sowing patterns. They said that while they harvest three crops in a year, they couldn't manage to follow the same pattern currently because of water scarcity. They only harvest single crop a year, and rarely two crops. Their basic cultivation is paddy, but they also cultivate sugar cane. The villagers said that earlier, women played a major role in agriculture, this has changed now with the introduction of job guarantee schemes After discussion about the village, mediapersons visited the Selliyamman tank.

After Thazhamedu, the bus moved to Vengampakkam, which is a village with around 500 families. People of this village were farmers, but currently, many of them started working for wages, while only a few continue to harvest. The uniqueness of this village is that they have a drinking water project, which is very well maintained, and the project is called, Sengeniyamman Traditional Drinking Water Project. This project was initiated in the year 2014, and was inaugurated on the June7, 2017. The villagers have a huge tank to store rain water, and this stored water undergoes two purification procedures which are done through slow sand water filters. Members of the communitystated that even before the project was initiated, they used the water in the pond, and they had no problem is using the water.

The villagers spoke of how the water scarcity has led them to leave agriculture and move to other sort of jobs. After the interaction, it was time for community lunch, and the villagers amused the media representatives with a wonderful south Indian lunch stuffed with their love and affection. After the lunch, the bus started moving towards the city, and after reporting back to Clarion Hotel President, the attendees of the workshop got their certificates after submitting their feedback forms.

## **Annexure - 1: Agenda**

### GIZ, Department of Environment (Tamil Nadu) and CMS

## State Media Workshop on Climate Change Venue: Pearl Hall, Clarion President Hotel, Chennai

#### Day 1: July 27, 2017

Day 1: July 27, 2017		
09.30	Registration and tea	
10.00 to 10.30	Inaugural Session  Welcome Address and Introduction of Workshop by Ms Annu Anand, Head (advocacy), CMS  Special Address – Dr. Ashish Chaturvedi, Director, Climate Change, GIZ  Introductory Remarks – Dr H Malleshappa, Director, Department of Environment, Govt. of Tamil	
	Nadu Screening of short film on climate change	
10.30 to 13.30	Understanding climate change, impacts and adaptation in Tamil Nadu	
	Media and climate change – Mr. Dinesh C Sharma, Managing Editor, India Science Wire	
	Connecting global to local - Multi-level governance of Climate Change by Dr. Ashish Chaturvedi, Director (Climate Change), GIZ	
	Changing climatic patterns in Tamil Nadu – Dr. S R Ramanan	
	Climate change and vulnerability of coastal areas and ecosystems in Tamil Nadu - Prof. A. Ramachandran, Visiting Professor, Centre for Climate Change and Adaptation Research, Anna University	
	Overview of climate change impacts and adaptation strategies in Tamil Nadu – Dr. H Malleshappa, Director, Department of Environment, Tamil Nadu	
	Interaction and discussion on media aspects of presentations	
40.00 = 44.00		
13.30 to 14.30	Lunch	
13.30 to 14.30	Lunch  Community perspectives on climate adaptation and developing resilience	
13.30 to 14.30		
14.30 to 16.00	Community perspectives on climate adaptation and developing resilience  Developing climate resilience and sustainable habitat for Chennai city – Dr. A Nambi Appadurai, India	
	Community perspectives on climate adaptation and developing resilience  Developing climate resilience and sustainable habitat for Chennai city – Dr. A Nambi Appadurai, India Adaptation Strategy Head, WRI India  Preparing communities for climate adaptation in water-stressed areas – Mr. Aadhi Narayanan,	
	Community perspectives on climate adaptation and developing resilience  Developing climate resilience and sustainable habitat for Chennai city – Dr. A Nambi Appadurai, India Adaptation Strategy Head, WRI India  Preparing communities for climate adaptation in water-stressed areas – Mr. Aadhi Narayanan, DHAN Foundation  Sea level projections for the state of Tamil Nadu – Dr. K Palanivelu, Director, Centre for Climate	
	Community perspectives on climate adaptation and developing resilience  Developing climate resilience and sustainable habitat for Chennai city – Dr. A Nambi Appadurai, India Adaptation Strategy Head, WRI India  Preparing communities for climate adaptation in water-stressed areas – Mr. Aadhi Narayanan, DHAN Foundation  Sea level projections for the state of Tamil Nadu – Dr. K Palanivelu, Director, Centre for Climate Change and Adaptation Research, Anna University	
14.30 to 16.00	Community perspectives on climate adaptation and developing resilience  Developing climate resilience and sustainable habitat for Chennai city – Dr. A Nambi Appadurai, India Adaptation Strategy Head, WRI India  Preparing communities for climate adaptation in water-stressed areas – Mr. Aadhi Narayanan, DHAN Foundation  Sea level projections for the state of Tamil Nadu – Dr. K Palanivelu, Director, Centre for Climate Change and Adaptation Research, Anna University  Interaction and discussion on media aspects of presentations  Building bridges among media, scientists, civil society and government (panel discussion)  Ms. Jayashree Venktasan (Care Earth Trust)  Dr H Malleshappa  Peer Mohamed Azees (Editor, Ippodhu.com)  Dr Ashish Chaturvedi (GIZ)	

#### Day 2: July 28, 2017, Field Visit

8.00	Field visit to see revival of water resources as an adaptation measure, and interaction with community members  • Vembakkam of Thirukazhukundram block - 65 Kms away from Chennai in the East-Coast road  • Thazhampedu (Thalampedu) of Thirukazhukundram - 70 Kms away from Chennai  Assembly Point: At the lobby of Hotel Clarion President
13.00 to 14.00	Lunch
14.00 to 15.00	Discussion on story ideas and distribution of certificates to participants
	Vote of thanks

## **Annexure - 2: List of Participants**

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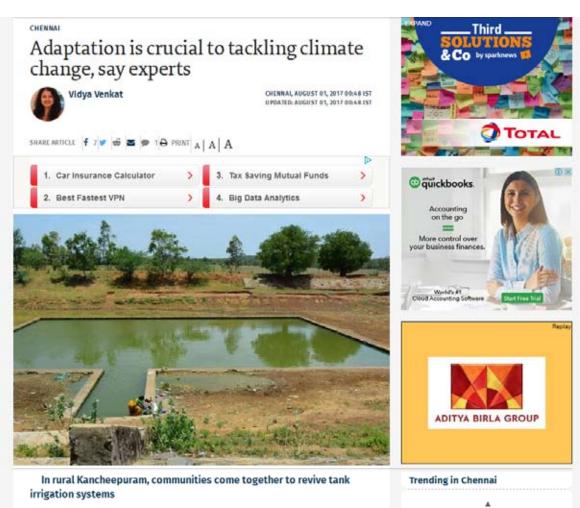
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## **Media Coverage**



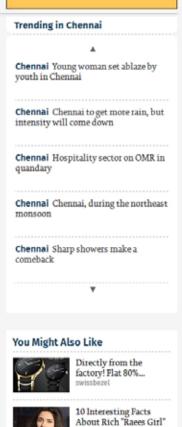
Experts from government, civil society and research organisations spoke about changing rainfall patterns, increase in mean temperature, ocean warming and the devastating impact of cyclones at a two-day workshop on climate change held in the city.

The workshop was organised by the Centre for Media Studies, in collaboration with the German development agency GIZ and the Union Ministry of Environment, Forests and Climate Change.

A. Ramachandran, visiting professor at the Centre for Climate Change and Adaptation Research (CCCAR), Anna University, said that Tamil Nadu was witnessing a general tendency of decline in annual rainfall, estimated at about 4%, even as the mean average temperature was rising. He warned that if this continued the State would be in the grip of a drinking water crisis soon as poor rainfall would lead to frequent droughts.

Projections for sea-level rise show that the State's 1076 km-long coastline could experience anything between 1-7 mm/yr-1 of sea-level rise by the end of the century. "Even a half a millimetre sea-level rise could inundate over 60,000 acres of land near the coast," claimed K. Palanivelu, Director of CCCAR.

H. Malleshappa, Tamil Nadu's Director for Environment, outlined the State's climate action plans and emphasised the need for adaptation to tackle the current crisis. "While we need mitigation to arrest the rise of greenhouse gas concentration in the atmosphere, adaptation is more important," he said.



#### Read more

http://www.thehindu.com/news/cities/chennai/adaptation-is-crucial-to-tackling-climate-change-say-experts/article 19398448.ece

#### Tamil Nadu deploying artificial reefs to save sinking islands

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Sinking islands may become a reality with sea level rise and climate change in decades to come. Tamil Nadu has hit upon a novel idea to protect such islands on its coast-deploying artificial reefs near vulnerable islands

Artificial reefs, made of concrete, have been found capable of preventing further erosion of ecologically sensitive islands and regenerating coral biodiversity in the Gulf of Mannar, "We have successfully demonstrated this in Vaan island in the Munnar region. The island which had sunken to a great extent over decades has regained some of its area,\* said H Malleshappa, head of the Tamil Nadu State Climate Change Cell.

Vaan is one of the 21 islands in the Gulf of Mannar, which was declared a marine biodiversity park in 1986. Indiscriminate mining of coral and destructive fishing practices in past decades have fully submerged two islands. Vaan was on the verge of submergence when the project began in 2015. Its area had been reduced from 16 hectares in 1986 to 2 hectares in 2014. "Following the deployment of artificial reefs, new accretion has occurred," Malleshappa told India Science Wire on the sidelines of a workshop on climate change.

The area of Vaan island has increased by 2.24 hectares in low tide and 1.8 hectare in mean tide between December 2015 and August 2016. The restoration of Vaan island is one the climate adaptation projects funded by the National Adaptation Fund for Climate Change of the Ministry of Environment, Forests and Climate Change. The state has been given Rs 25 crore for the project.

It is the first attempt in India to protect and restore a sinking island. Deployment of artificial reefs parallel to the sinking island in the seaward side reduces the effect of currents and waves, enhances fish habitats for higher fish production and protection of fish diversity. Natural corals get attached to artificial reefs over time and start regeneration. Following the success in Vaan, Tamil Nadu has proposed to undertake restoration of two more islands and has approached Green Climate Fund for funding of Rs 100 crore.

The first two phases of the project were funded by the TN Coastal Zone Protection Authority, starting in February 2015. The project had two components in these phases—coral rehabilitation and artificial reef deployment. In the first phase, three square kilometre degraded area around the island was rehabilitated with native coral species using standard coral transplantation techniques. Rehabilitated coral sites were monitored regularly to document survival and growth of the transplanted corals. The survival rate is 80 to 90 per cent and spawning has been observed in transplanted corals. The coral rehabilitation project was started with technical expertise from the Suganti Devadason Marine Research Institute.

## TN deploying artificial reefs to save sinking islands

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Tamil Nadu hits upon an idea to prevent erosion of ecologically sensitive islands and regenerate the coral diversity in the Gulf of Mannar by deploying artificial reef made of concrete. Deployment of artificial reefs, parallel to the sinking island in the seaward side reduces the effect of currents and waves and protects fish diversity.



Chennai - India is amongst the 16 countries at 'extreme risk' of global warming and some of its islands could disappear with the sea level rise in the times to come. But Tamil Nadu has hit upon a novel idea to protect vulnerable islands on its coast by deploying artificial reef. Artificial reefs, made of concrete, have been found to be capable of preventing further erosion of ecologically sensitive islands and also regenerate coral biodiversity in the Gulf of Mannar region.

"We have successfully demonstrated this in Vaan Island in the Mannar region. The island which had sunken to a great extent over decades has regained some of its area." said Dr H Malleshappa, head of the Tamil Nadu State Climate Change Cell.

Vaan is one of the 21 islands in the Gulf of Mannar, which was declared marine biodiversity park in 1986. Indiscriminate mining of coral and use of destructive fishing practices in the past few decades have fully submerged two of the islands while Vaan was on the verge of submergence when the project began in 2015. Its area had been reduced from 16 hectares in 1986 to 2 hectares in 2014.

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