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STAKEHOLDER CONSULTATION ON  
ROLE OF CITIES IN ADDRESSING CLIMATE CHANGE  
SUMMARY REPORT

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## 1. SUMMARY

WWF-India organised two stakeholder consultations in Rajkot and Pune, respectively with the purpose of convening relevant stakeholders at the city level for sensitization regarding climate change issues, to initiate a discussion about the need for integration of climate resilience strategies, low carbon development, energy efficiency, renewable energy, and overall environmental sustainability in urban development and planning, and to facilitate sharing of best practices/experiences among cities. Officials from city departments such as energy/renewable energy, environment, urban development, transport, solid waste management, water supply and sewerage, forest/biodiversity, pollution control boards, disaster management were invited. In addition, local organisations and institutes/think tanks working on relevant issues, and other experts were also a part of the consultations. Both, Rajkot and Pune have demonstrated progressive sustainability actions across different sectors and have also been a part of WWF's Earth Hour City Challenge platform since 2014.

The consultation in Rajkot was held on May 10, 2017 in collaboration with the Rajkot Municipal Corporation, Climate Change Department, Government of Gujarat and Surat Climate Change Trust. Besides city officials from Rajkot Municipal Corporation, there was representation from Surat Climate Change Trust, Climate Change Department, Government of Gujarat, Centre for Policy Research (CPR), ICLEI-SA, Vadodara Municipal Corporation, local institutions such as All India Institute of Local Self-Government (AIILSG), industry and media. The dignitaries present were Mr. Banchha Nidhi Pani, Municipal Commissioner, Rajkot Municipal Corporation (RMC), Mr. M J Shah, Joint Secretary, Climate Change Department, Government of Gujarat and Dr. Jaiman Upadhyay, Mayor, Rajkot.

The consultation in Pune was held on May 29, 2017 in collaboration with the Pune Municipal Corporation. Besides officials from Pune Municipal Corporation (PMC), there was representation from Surat Climate Change Trust, NRDC, Indian Institute of Public Health – Gandhinagar (IIPH-G), ICLEI-SA, local institutions such as CEE, TERRE, Samuchit Enviro, Shashwat Ecosolutions Foundation and Bharti Vidyapeeth. Ms. Purna Deshbhratar, Additional Municipal Commissioner, PMC graced the occasion.

The consultations were structured around two main sessions. The first session was to understand the role of cities in addressing climate change both as part of a solution as well as in building resilience against the impacts of climate change in the local and global context. This was to facilitate the sharing of best practices to enable cities to think of innovative out of the box solutions for transformational change. The next session was a panel discussion on the opportunities and way forward for cities which attempted to identify opportunities for mainstreaming climate change in the development agenda and promote cities as change agents for addressing mitigation and adaptation related actions. The host cities Rajkot and Pune discussed about the different initiatives that they had taken which had linkage with climate change impacts across different sectors such as buildings, transport, energy and waste management. Surat was taken as a successful case study for implementing climate resilience strategies at the city level to prepare for the impacts of climate change. Besides these, the experiences from the Heat Action Plan developed for Ahmedabad were also shared with city officials as an example of the role of cities in addressing climate change.

The most important takeaways from the discussions during both the consultations were:

- Non-state actors such as cities, local governments and institutions are vital to addressing climate change and in turn contributing to climate action at the national level.
- Climate change should not be seen as a separate issue, it is embedded across sectors and stakeholders.

- The importance of an interactive approach and greater thrust on awareness generation at all levels within the local government.
- The need for an inclusive approach through enhanced public engagement between cities and citizens to work together towards the common goal of addressing climate change.
- There is a need for better enforcement of regulations, policies and schemes.
- International and Indian best practices should be widely disseminated among Indian cities and organisations like WWF could help in the sharing of case studies and awareness generation.

## 2. BACKGROUND

Almost 3.5 billion people live in cities today and as per projections by 2030, almost 60 per cent of the world's population will live in urban areas. Globally, cities account for 60-80 per cent of energy consumption and 75 per cent of carbon emissions. On the other hand, millions of people residing in cities and urban areas are heavily vulnerable to the impacts of climate change. Therefore, it is imperative for cities to play a larger role in countering the challenges of climate change by integrating low carbon actions and sustainable energy use into local development goals, and simultaneously strive towards climate resilient growth and planning. Climate smart planning in cities will determine the extent and impact of climate change, and ability to achieve emission reductions as well as the capacity to adapt to changing circumstances.

This is especially relevant for India since it is set to witness immense urbanisation in the coming years with projections indicating that the urban population in the country would rise at a fast pace from 377 million in 2011 to 609 million in 2030. The major impacts of climate change on cities will be caused by floods, water scarcity, and increased morbidity and mortality due to increasingly severe hot and cold periods. Low-lying and densely populated coastal cities such as Surat are likely to face additional stress from sea level rise and increased cyclonic storms frequency. Climate change has affected the intensity and frequency of these natural hazards over the last decades, whereas the large growth of population and its migration in urban areas has led to greater vulnerability of the cities. These would further disrupt urban economies and exaggerate the problems related to rapid urbanisation such as water scarcity, disruptions in water supply systems, health impacts (heat stress and higher incidence of vector borne diseases), and increased energy demands.

The inclusion of cities at the Lima Paris Action Agenda (LPAA) at COP21 in Paris and the Sustainable Development Goals (SDGs) has demonstrated the recognition of cities as global solution hotspots with the capability to contribute proactively to each country's climate action targets. To build on the momentum, there is a need for increased support and capacity building for cities in creating or scaling up their climate goals by addressing the barriers for the integration of a climate focus into the cities' policies, action plans and urban planning. Issues such as lack of awareness and capacity often hamper the ability of cities to explore their potential for efficiency and innovation. The environment for city level action on climate created globally needs to be replicated at the national level to enable Indian cities to be agents for transformational change and key contributors to the realization of the national climate goals.

With this background, WWF-India organised two stakeholder consultations in Rajkot and Pune respectively with the purpose of convening relevant stakeholders at the city level for sensitization regarding climate change issues, and to initiate a discussion about the need for integration of climate resilience strategies, low carbon development, energy efficiency, renewable energy, and overall environmental sustainability in urban development and planning. Officials from city departments such as energy/renewable energy, environment, urban development, transport, solid waste management, water supply and sewerage, forest/biodiversity, pollution control boards, disaster management were invited.

In addition, local organisations and institutes/think tanks working on relevant issues, and other experts were also a part of the consultations.

### 3. OBJECTIVES

1. To understand the role of cities in addressing climate change both as part of a solution as well as building resilience against the impacts of climate change in the local and global context.
2. To facilitate the sharing of best practices to enable cities to think of innovative out of the box solutions for transformational change
3. To identify opportunities for mainstreaming climate change in the development agenda and promote cities as change agents for addressing mitigation and adaptation related actions.

### 4. STAKEHOLDER CONSULTATION – RAJKOT

**Date:** May 10, 2017

**Venue:** Rajkot Municipal Corporation

**Partners:** 1. Rajkot Municipal Corporation

2. Climate Change Department, Government of Gujarat

3. Surat Climate Change Trust

**Dignitaries:** 1. Mr. Banchha Nidhi Pani, Municipal Commissioner, Rajkot Municipal Corporation (RMC)

2. Mr. M J Shah, Joint Secretary, Climate Change Department, Government of Gujarat

3. Dr. Jaiman Upadhyay, Mayor, Rajkot

**Participants:** Besides city officials from Rajkot Municipal Corporation, there was representation from Surat Climate Change Trust, Climate Change Department, Government of Gujarat, Centre for Policy Research (CPR), ICLEI-SA, Vadodara Municipal Corporation, local institutions such as All India Institute of Local Self-Government (AIILSG), industry and media

#### 4.1 INTRODUCTORY SESSION

##### WELCOME REMARKS AND INTRODUCTION – DR T S PANWAR, WWF-INDIA

Dr. T.S. Panwar welcomed the dignitaries and participants, and thanked the partners Rajkot Municipal Corporation and Climate Change Department, Government of Gujarat for joining hands with WWF-India for this initiative. Climate change is an important issue that has linkages with multiple sectors such as energy, transport, buildings, water, waste management, health and impacts the future development path as well as growing urbanization in the country. Urbanization levels are projected to increase rapidly from 30 per cent currently to 40 per cent by 2030. The issue of climate change has multiple dimensions from global to local in terms of the actions required to counter its impacts. Cities are vital stakeholders particularly considering the fact that, two-thirds of energy use globally is in cities. The Lima Paris

Action Agenda unveiled at Paris during COP 21 also recognized the significant role of non-state actors like cities and businesses in addressing climate change. At the local level energy use in buildings and transport, water and waste water management, and air pollution are associated with climate change. Dr Panwar also informed the audience about WWF and in particular about the activities undertaken under the climate and energy domain. WWF platform for cities called the Earth Hour City Challenge (now renamed One Planet City Challenge) has an emphasis on sensitization and capacity building for cities. And finally, Dr Panwar informed the participants about the purpose of the stakeholder consultation which intends to extend WWF's engagement with cities by bringing in the focus on climate change both from a mitigation and adaptation perspective. He said that the consultation is the first in the series and will be followed up with another one in Pune, and possibly in other cities subsequently.

#### ADDRESS BY MR. BANCHHA NIDHI PANI, MUNICIPAL COMMISSIONER, RAJKOT MUNICIPAL CORPORATION

Mr Pani described Rajkot as a fast growing and resilient city. He enumerated the sustainability initiatives that Rajkot had taken in different sectors including energy, transport, waste and buildings. He highlighted the various schemes, policies and projects that have a thrust on low carbon development and promotion of energy efficiency and enhanced renewable energy application in the city. Mr Pani also emphasised the need for awareness generation regarding climate change issues and said that behavioural and lifestyle changes are important. He concluded his address by stating that the integration of climate change action in urban planning was a profit making proposition for cities.

#### SPECIAL REMARKS BY MR. M J SHAH, JOINT SECRETARY, CLIMATE CHANGE DEPARTMENT, GOVERNMENT OF GUJARAT

Mr Shah in his remarks mentioned that Gujarat was the only state to have a separate climate change department which was established in 2009. He stressed on the need for awareness generation regarding climate change and mentioned that the climate change (CC) department has initiated awareness campaigns in 33 districts through exhibitions. Mr Shah also mentioned regarding the solar rooftop scheme and Gujarat state government subsidy for residential solar installations. There are also plans to raise budget through two percent sanctioned budget for climate change activities from every department.

#### KEYNOTE ADDRESS BY DR. JAIMAN UPADHYAY, MAYOR, RAJKOT

Dr Upadhyay emphasized the need for public engagement in addressing climate change issues. While informing about the actions and plans of Rajkot city in different sectors such as transport, energy, buildings and waste management, he reiterated the city's commitment to addressing climate change and conserving environment. He mentioned that Rajkot was the winner of the title of National Earth Hour Capital from India under Earth Hour City Challenge 2015-16 for the city's progressive and sustained actions towards promoting low carbon development.

## 4.2 CITIES AND CLIMATE CHANGE

This session was aimed at understanding the role of cities both as part of the solution as well as building resilience to the impacts of climate change. The purpose was to discuss the issues, challenges, solutions and best practices from cities that demonstrated the initiatives of the city to integrate climate change in their actions and plans. A presentation by

WWF-India set the context for the discussions and this was followed by presentations from CC department, Rajkot and Surat.

### **Overview presentation on 'Gujarat's response to challenges of climate change' – Mr. Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat**

The key strategies adopted by Gujarat in addressing climate change which focuses on people's participation, mobilise private investment, policy measures and public investment. Gujarat's Action Plan on Climate Change was developed in sync with the National Action Plan on Climate Change (NAPCC) and reflects the key priorities of the state. The nine sectors of the state action plan include – agriculture, water, health, forests, sea level rise & coastal infrastructure, energy efficiency & renewable energy (EE & RE), urban development, vulnerable communities, and green jobs. The total financial allocation for these sectors is INR 24755 crore for 59 projects, of which the maximum allocation is for water followed by urban development. The state of Gujarat also has a major focus on enhancing renewable energy deployment in solar, wind, biomass and biogas. The state is ranked third and second in the country with respect to solar and wind power capacity, respectively. The government has announced solar, wind, small hydel, as well as waste-to-energy policies. Especially relevant to urban areas is the thrust given to residential solar rooftop installations through the solar rooftop scheme. The state aims to achieve 40 per cent (3200MW) of its total solar energy target of 8000MW up to 2022 through rooftop solar. Other RE sectors are also being promoted through several incentives, exemptions and subsidies. Gandhinagar, Rajkot, Surat and Vadodara, the four cities in Gujarat that have been declared as solar cities are implementing a range of solar and energy efficiency projects that lead to reduced carbon emissions. These include projects such as solar roof top, solar street and LED street lighting, wind-solar hybrid installations, solar water heating, energy audits. Low carbon development is also being encouraged in the transport sector through effort such as bus rapid transport systems (BRTs), electric transportation pilots, shift to cleaner fuel (CNG). Various adaptation projects have been undertaken by the state in the agriculture and water sector. Few proposals have already been submitted by the state to the National Adaptation Fund for Climate Change (NAFCC).

### **Understanding the existing actions and plans in Gujarat (low carbon development, energy efficiency and renewable energy, and climate resilience strategies)**

#### ***Rajkot - Mr Bandish Patel, ICLEI-SA & Ms. Alpana Mitra, City Engineer (Spl.), Housing Department, Rajkot Municipal Corporation***

Mr Bandish Patel made a brief presentation highlighting Rajkot's journey so far in addressing climate change. Rajkot is among the top 100 smart cities and the sixth fastest growing urban area in India and 22<sup>nd</sup> globally. The major challenges for the city are in terms of extreme weather conditions such as heat waves and cyclones, erratic and irregular monsoons, water scarcity, increasing demand for land to support urban growth, increased vehicular air pollution due to vehicles, industries and construction, household and commercial waste, need for a comprehensive public transportation system.

In order to address these challenges and to chart a low carbon growth pathway, Rajkot has initiated several progressive actions and plans in the city. These include – promoting solar energy use, focus on sustainable mobility through development of a comprehensive mobility plan 2031 and encouraging non-motorised transport (NMT), preparation of GHG inventory and, a low emissions development strategy action plan. The city has begun working on a city climate action plan under the CapaCITIES project as well as development and implementation of RMC green building policy under the Building Efficiency Accelerator (BEA) programme.

Ms. Alpana Mitra in her presentation informed about the innovative projects being undertaken by the housing and lighting departments of RMC. RMC was recently involved in an Integrated Design Charrette organized by Indo-Swiss Building Energy Efficiency under CapaCITIES Project. The charrette was aimed at achieving improved and comfortable living conditions while improving energy efficiency in an on-going project by improving its design features. The SMART Ghar project initiated by RMC was taken up for the charette. Rajkot also has an ambitious street lighting project aimed at replacement of about 54,000 conventional street lights with LED lights. Another project involves replacement of 2,000 Florescent Tube lights with LED lights in the premises of RMC office. As part of the solar city project, Rajkot has been selected as a pilot solar city and one of the significant actions already taken is the installation of total 315 kWp of on grid roof top solar power plants at various buildings of RMC, with plans to install another 210kWp.

***Surat – Mr. Kamlesh Yagnik, Chief Resilience Officer, Surat***

Surat is the eighth largest city in India and accounts for 80 per cent of the world's diamond production. After being hit by calamities such as the Plague in 1994 and the historic floods in 2006, the city has over the years grown into a resilient city by adopting relevant strategies and practices. Surat was one of the 3 Indian cities out of 10 cities in 4 Asian countries, selected in Phase II of the Asian Cities Climate Change Resilience Network (ACCCRN) for city level engagement, capacity building and development of city resilience strategy. Surat is now also a Government of India smart city and a member of the 100 Resilient Cities (100RC) network. The key urbanization challenges faced by Surat today are, rise in the per capita demand for resources, lack of finance and capacity, migration towards the city, and lack of coordination between different stakeholders such as Municipal Corporation, civil society, private sector and the underprivileged.

The city has initiated several actions as part of its engagement with ACCCRN and 100RC including, creation of the Surat Climate Change Trust (SCCT), development of an early warning system, setting up of the Urban Health and Climate Resilience Centre (UHCRC), and articulating the cities priorities for resilience building. The city aims is to become a champion city by exploring innovative solutions to address problems. Surat's Resilience Strategy was released in April 2017 and includes 21 goals and 65 initiatives which aim to address issues of mobility & connectivity, housing, ecology & environment, water, urban health, social cohesion, and economy. The key elements of the resilience strategy are identifying priorities for the city, recognizing realistic initiatives, engaging with stakeholders, capacity building & sharing of experiences, interactions with the 100RC network, and in turn developing a clear vision and mission for resilient Surat. The way forward for achieving climate resilience as envisaged by SCCT-100RC is to develop linkages between adaptation and disaster reduction and, an adaptation agenda for climate proofing and resilience building. There is need for a mechanism for building bridges, sharing information, developing institutional capacities and policy tools at community, state & national level, as well as for coherent and mutually reinforcing policies. Disaster risk assessment and early warning capacities need to be prioritized.

***Dr. Radhika Khosla, Fellow, Centre for Policy Research (CPR)***

Dr Khosla discussed about the work that CPR was doing in Rajkot on mainstreaming climate change actions into their urban development planning. She presented an analysis of 13 schemes and plans of Rajkot and the inter-linkages with different sectors such as waste, power, water, transport, and buildings. Cities are strategic sites for climate action since multiple urban objectives such as housing, transport, energy access, air, water, land, waste, jobs, are deeply linked to climate change. Cities would need to explore new tools, lifestyles, technologies, and institutional arrangements to respond to development, energy and climate change transitions. The way forward could be to define a strategic vision for an integrated set of city goals and outcomes with an institutional focus on interactions across sectors. It would also help to strengthen linkages across state and local level in order to scale up transformative sub national ideas.



## 4.3 PANEL DISCUSSION: IDENTIFYING OPPORTUNITIES AND WAY FORWARD

The purpose of this session was to facilitate in-depth discussions with stakeholders to understand the perceived challenges and identify opportunities for cities to undertake climate change action and mainstream these in to urban planning. Through this session an effort was made to get perspectives and insights into the relevance and role of cities in the broader context of contributing to national climate actions.

Moderated by: Mr Kamlesh Yagnik

Panelists:

Mr. Shwetal Shah, Technical Advisor, Climate Change Department, Government of Gujarat

Mr. Chirag Pandya, City Engineer, RMC

Mr Ashish Verma, Manager (Climate & Energy), ICLEI-SA

Dr. T S Panwar, WWF-India

Mr. Ankit Bharadwaj, CPR (on behalf of Dr. Radhika Khosla)

Final Remarks by:

Mr Banchha Nidhi Pani, Municipal Commissioner, RMC

The key points that emerged during discussion can be summarized as:

- Non-state actors such as cities, local governments and institutions are vital to addressing climate change and in turn contributing to climate action at the national level.
- The importance of an interactive approach and greater thrust on awareness generation at all levels within the local government.
- The need for an inclusive approach through enhanced public engagement between cities and citizens to work together towards the common goal of addressing climate change. Behaviour patterns need to be changed, lifestyles altered to revive traditional Indian practices that were environmentally sound.
- Cities should also look at climate friendly infrastructure development based on traditional practices and by adapting modern technology/approaches in the local context rather than replicate as it is.
- There is a need for better enforcement of regulations, policies and schemes.
- International and Indian best practices should be widely disseminated among Indian cities and organisations like WWF could help in the sharing of case studies and awareness generation.

## 5. STAKEHOLDER CONSULTATION – PUNE

**Date:** May 29, 2017

**Venue:** Yashada, Pune

**Partner:** Pune Municipal Corporation

**Dignitaries:** Ms. Prerna Deshbhratar, Additional Municipal Commissioner, Pune Municipal Corporation (PMC)

**Participants:** Besides officials from Pune Municipal Corporation, there was representation from Surat Climate Change Trust, NRDC, Indian Institute of Public Health – Gandhinagar (IIPH-G), ICLEI-SA, local institutions such as CEE, TERRE, Samuchit Enviro, Shashwat Ecosolutions Foundation and Bharti Vidyapeeth

### 5.1 INTRODUCTORY SESSION

#### WELCOME REMARKS – MR MANGESH DIGHE, ENVIRONMENT OFFICER, PMC

Mr Dighe welcomed the participants and mentioned about Pune's engagement with WWF-India through the Earth Hour City Challenge programme. Pune has been participating in the challenge since 2013 and has been one of the finalist Indian cities in two consecutive years 2014-15 and 2015-16. In 2014-15 the city also found a special mention for the varied and progressive initiatives towards low carbon development, energy efficiency and renewable energy.

#### INTRODUCTION – DR T S PANWAR, WWF-INDIA

Dr. T.S. Panwar welcomed the dignitaries and workshop participants and thanked Pune Municipal Corporation for joining hands with WWF-India for this initiative. Climate change is an important issue that has linkages with multiple sectors such as energy, transport, buildings, water, waste management, health and impacts the future development path as well as growing urbanization in the country. Urbanization levels are projected to increase rapidly from 30 per cent currently to 40 per cent by 203. The issue of climate change has multiple dimensions from global to local in terms of the actions required and its impacts. Cities are vital stakeholders particularly considering the fact that, two-thirds of energy use globally is in cities. The Lima Paris Action Agenda unveiled at Paris during COP 21 also recognized the significant role of non-state actors like cities and businesses in addressing climate change. At the local level energy use in buildings and transport, water and waste water management, and air pollution are associated with climate change. Dr Panwar also informed the audience about WWF and in particular about the activities undertaken under the climate and energy domain. WWF platform for cities called the Earth Hour City Challenge (now renamed One Planet City Challenge) has an emphasis on sensitization and capacity building for cities. And finally, Dr Panwar informed the participants about the purpose of the stakeholder consultation which intends to extend WWF's engagement with cities by bringing in the focus on climate change both from a mitigation and adaptation perspective. He said that the consultation is the first in the series and will be followed up with another one in Pune, and possibly in other cities subsequently.

## ADDRESS BY MS. PRERNA DESHBHRATAR, ADDITIONAL MUNICIPAL COMMISSIONER, PUNE MUNICIPAL CORPORATION

Ms Deshbhratar said that the consultation was an important one and that there was a need for further discussion on how the city of Pune could further enhance its efforts in addressing the impacts of climate change. Highlighting the sustainability initiatives that Pune has taken in different sectors including energy, transport, waste and buildings, she said that the city looks forward to have a robust plan to address the themes of sustainability and climate change. Ms Deshbhratar encouraged the gathering to come up with new ideas and suggestions for improvement that may be considered by PMC. She emphasized that qualitative inputs from the participants of the consultation would be welcome.

### 5.2 CITIES AND CLIMATE CHANGE

This session was aimed at understanding the role of cities both as part of the solution as well as building resilience to the impacts of climate change. The purpose was to discuss the issues, challenges, solutions and best practices from cities that demonstrated the initiatives of the city to integrate climate change in their actions and plans. A presentation by WWF-India set the context for the discussions and this was followed by presentations from the cities of Pune and Surat.

#### **Understanding the existing actions and plans in Gujarat (low carbon development, energy efficiency and renewable energy, and climate resilience strategies)**

##### ***Pune - Mr Mangesh Dighe, Environment Officer, Pune Municipal Corporation***

Pune is the eighth largest city in India and the second largest in the state of Maharashtra. The population of the city which is currently 3.5 million is growing at five per cent per year, mostly due to immigration. The structure of the city has been changing over the years with increase in number of vehicles, growth of the industrial and IT sector, and a shift toward multiplexes and high rise buildings. The key initiatives in Pune are related to waste management, buildings, energy, transport, urban biodiversity and green cover development. The best practices under waste management include – integrating informal sector in municipal solid waste (MSW) management through the SWACH cooperative model which has facilitated greenhouse gas emission savings of 2,94,316 mtCO<sub>2</sub>-eq per annum, and the Zero Garbage City programme (reducing the need for landfills, adding value to waste, shift to garbage as a renewable resource) which has currently resulted in about 0.5MW per hour of energy generation from 60 tonnes of organic waste. Open dumping of waste has been discontinued in the city since 2010, waste is now scientifically processed.

In the building sector, PMC has adopted GRIHA based criteria for developing green buildings and promotes the use of solar and wind energy in new buildings. Over 50000 properties in the city are presently benefitting from rain water harvesting, vermicomposting, and solar water heaters. Pune has a thrust on garden development and biodiversity management. In the transport sector, a major achievement has been the conversion of 1402 city buses to CNG. The Comprehensive Mobility Plan prepared by the city encourages non-motorised transport, BRT, metro (the city has a proposed BRT of 85 kms and metro is proposed), water transport, improved parking facilities, an outer ring road, pedestrian subways etc. PMC has been publishing the Environment Status Report every year since 1996. Indradhanushya is a public facility of PMC created to generate environment Awareness and promote responsible citizenship, thinking and action towards sustainable development in Pune.

### **Surat- Mr Mehul Patel, Deputy Chief Resilience Officer, Surat**

The presentation highlighted Surat's actions and plans on developing climate resilience as part of the ACCCRN and 100RC programmes. The details of the city's resilience strategy have been discussed in the minutes of the Rajkot workshop.

## **5.3 PANEL DISCUSSION: IDENTIFYING OPPORTUNITIES AND WAY FORWARD**

The purpose of this session was to facilitate in-depth discussions with stakeholders to understand the perceived challenges and identify opportunities for cities to undertake climate change action and mainstream these in to urban planning. Through this session an effort was made to get perspectives and insights into the relevance and role of cities in the broader context of contributing to national climate actions.

Moderated by: Dr T S Panwar, WWF-India

Panelists:

Dr Dileep Mavalankar, Director, Indian Institute of Public Health – Gandhinagar

Mr. Mangesh Dighe, Environment Officer, PMC

Mr Ashish Verma, Manager (Climate & Energy), ICLEI-SA

### **Dr Dileep Mavalankar, Director, Indian Institute of Public Health – Gandhinagar**

Dr Mavalankar shared his experience of developing a Heat Action Plan at the local level for the city of Ahmedabad. As the climate warms, the number and intensity of heat waves increases and cities are particularly vulnerable to the impacts which can lead to mortality among vulnerable communities. The Ahmedabad Heat Action Plan was initiated in 2013. This was a partnership of city officials as well as international experts in the academic, health and environment sectors with the purpose of developing a plan to address extreme heat waves in the city. Efforts were made towards building the capacity of the medical community, developing early warning systems to alert citizens about an impending heat wave condition and provide adequate information after the heat wave hits. Scientific studies on the relationship between temperature and mortality are being carried out and the findings are communicated to stakeholders such as government, policy groups, scientific organizations, and interested NGOs. The key lessons on development of Heat Action Plan were – the importance of involving the local city or district administration as well as health and political leadership and facilitation by local/national institutions & experts, the need to learn from other plans and adapt them as per local requirements, and finally measurement of the plan's implementation and impact on mortality and morbidity. In order to address heat waves, cities have to look at actions such as changes in urban planning, cool roofs in buildings, development of green areas, conservation of water bodies, public transport.

This presentation was followed by the panel discussion. The key points that emerged during discussion can be summarized as:

- Climate change should not be seen as a separate issue, it is embedded across sectors and stakeholders.

- Non-state actors such as cities are vital to addressing climate change and in turn contributing to climate action at the national level.
- Capacity building and awareness generation on climate change is required at all levels especially for managers and officials responsible for the on- ground implementation of projects.
- Infrastructure development in cities should be linked to a scientific analysis of the carrying capacity. The city limits and population should be determined and planned appropriately to ensure the availability and proper functioning of infrastructure.
- Mechanisms at the local level for proper data collection, updation, prediction, measurement and monitoring need to be strengthened. Need for more collaborations and partnerships among stakeholders (including universities, research institutions, NGOs and private sector)
- Better involvement of the health department is required in order to build a robust information system with health related data that can be effectively used for planning. Each city should develop a heat action plan / cold action plan based on daily mortality/morbidity and temperature relationship in collaboration with working with health department and IMD.
- Solar rooftop applications at the individual level has not picked up well due to lack of demand and interest. There is a need for greater efforts for awareness generation as well as innovative ideas to make solar rooftop an aspiration.
- Citizens involvement should be ensured through making them part of the solution by helping them calculate their personal carbon footprint.