

Proceedings Report

WE CALL 2 COASTAL CLIMATE ACTION 2021

Webinar on 29th January, 2021

Water Environment Forum

Water Environment Forum (WEForum), is a platform which brings together the synergy of various organizations, think tanks, professionals and bureaucrats to come together for the first time, to work together to attain a single common goal of sustainable development of water environment. WEForum is policy driven organization which aims to consult on water-management projects, sanitation, coastal urban planning, fisheries management and promote sustainable water management for the future generations to come.

It was registered in 2014 as a Trust under the laws of Pakistan in Islamabad by the Pakistan participants of South Asia Water Initiative (SAWI). It is a non-profit and non-governmental organization to discuss national, regional and international water related issues and provide suggestions and feedback to policy making and research institutions. It is managed by Executive Committee and has an Advisory Committee. All these positions are honorary. The founding and current Trustees are: **Nisar A. Memon, Dr. Arshad M. Khan, Syed Raghob Abbas Shah, Dr. Ali Tauqeer, Dr. Ghazanfar Ali, Dr. Shakil Ahmad, Dr. Qamar Uz Zaman Chaudhry and Advocate Rabel Z. Akhund**

The mission of the WEForum is “to acquire, disseminate and manage knowledge, policy making in relation to Pakistan's water resources, contribute to public discourse through a programmatic approach in integrated management of Pakistan's water resources and providing a platform for professionals to come together and take actions to achieve sustainable development of water environment”. After a successful co-hosting of SAWI - Indus Forum regional meeting in March 2015 at Lahore in collaboration with WAPDA, Federal Ministry of Water & Power, Pakistan Meteorological Department (PMD) and WEForum; it was decided by WEForum Board of Trustees to launch an awareness and dialogue campaign on Climate Change Challenges, giving birth to “**WE CALL 2 COASTAL CLIMATE ACTION 2021**” initiative.

Executive Summary

Climate change continues to be one of the most important global issues confronting the international community. Freshwater resources are undergoing a chronic transformation as a consequence of global warming. Glaciers, rivers, wetlands, aquifers and other water bodies are gradually depleting with the expansion in population and economies. The magnitude of the issue could be assessed by the quality and volume of surface and groundwater bodies shrinking continuously. People and communities, species and ecosystems dependent on these resources for their livelihoods have begun to witness the impact of climate change.

Pakistan is categorized as one of the most water-stressed countries in the world where water demand far outstrips supply. The water storage capacity for Pakistan is only 30 days; 40 - 50 million Pakistanis do not have access to safe drinking water, and by current projections, the per capita availability of water will decline to a mere 800 m³ by 2025. In this critical situation, improved water governance, management, and conservation will not only play a critical role in Pakistan's economic development, food security, energy needs and health requirements, but will also lead to environmental sustainability and safeguard the social/cultural value of water. The challenge for a water-scarce country like Pakistan is to safeguard access to a sustainable and adequate amount of water for multiple values a society derives from its use while preserving equity and social justice in its provision and distribution. Climate change is now a core part of the global development agenda and governments are recognizing the need to adopt low carbon economies and build the resilience of the poor and those vulnerable to climate change.

The impact of climate change cut across several aspects of life. With Pakistan's low adaptive capacity due to high poverty rate, limited financial resources and shortage of physical resources, and continual extreme climatic events including varying temperature, continual flooding, melting glaciers, saturation of lakes, earthquakes, hurricanes, storms, avalanches, droughts, scarcity of water, pest diseases, human healthcare issues, and seasonal and lifestyle changes have persistently threatened the ecosystem, biodiversity, human communities, animal habitations, forests, lands, and oceans with a potential to cause further damages in the future.. Water, health, energy and food security are increasingly stressed, and in some areas, can pose genuine concerns for livelihoods and even survival. These concerns particularly affect the poorest in society.

Some of the key water challenges Pakistan faces are: comprehensive policy framework; energy and food insecurity; preservation of water environment and ecology; infrastructure development; climate change impact; research and education; water quality for health, hygiene and sanitation; trans-boundary (international and inter-provincial) water management; urban water supply; sustaining groundwater, agriculture productivity, etc.

Water Environment Forum's mission statement, aims to promote integrated management of Pakistan's water resources by providing a platform to professionals to come together and take actions to achieve sustainable development of water environment. WEFForum identified a lack of focus on Lower Indus Basin and the impact of climate change on the coastal population. Not only is the vast coastal area of Pakistan one of the worst effected region due to climate change, not much focus has been given to its adaptation and mitigation policy. WEFForum saw this as an opportunity to initiate a collaborative effort, combining all the different stakeholders, to work together under the "WE CALL 2 COASTAL CLIMATE ACTION 2021" platform.

Background & Introduction

Water is a subject area of an intricate, interlinked nature, which has implications that range from the local to the national and international scales. Specific to Pakistan, with its population growth and the rising per capita water consumption, has increased the demand pressure on the already scarce water resource. With the water storage capacity in Pakistan of only 30 days; 40-50 million Pakistanis do not have access to safe drinking water; and by current projections the per capita availability of water will decline to a mere 800 m³ by 2025. In this critical situation, improved water governance, management and conservation will not only play critical role in Pakistan's economic development, food security, energy needs and health requirements but will also lead to environmental sustainability and safeguarding the social/cultural value of water. Keeping in mind the multifaceted and complex challenge of water, it is imperative to develop an integrated approach to sustainable water management for our present and future.

Climate change is now a core part of the global development agenda and governments are recognizing the need to adopt low carbon economies and build the resilience of the poor and those vulnerable to climate change. Pakistan faces particularly inflexible challenges in adaptation and developing community resilience. The impact of climate change cut across several aspects of life. Water, health, energy and food security are increasingly stressed, and in some areas, can pose genuine concerns for livelihoods and even survival. These concerns particularly affect the poorest in society. Some of the key water challenges Pakistan faces are: comprehensive policy framework; energy and food insecurity; preservation of water environment and ecology; infrastructure development; climate change impact; research and education; water quality for health, hygiene and sanitation; trans-boundary (international and inter-provincial) water management; urban water supply; sustaining groundwater, agriculture productivity,

There is a need for a network/platform of water sector organizations (government, NGOs, think tanks, universities, research institutions) and professional/experts to come together and create synergies for an integrated approach. Based on this rationale we propose to use the Water Environment Forum as a platform of water and environment organizations, professionals, practitioners and experts to combine their experiences and learning to address the above stated Pakistan's water sector challenges and gaps.

WE CALL 2 COASTAL CLIMATE ACTION 2021

The first founding partners Zoom event “WE CALL 2 COASTAL CLIMATE ACTION 2021” was held on 29th January 2021. This strategic meeting focused on protection, preservation and development of water environment of coastal Pakistan from the climate change challenges, with specific focus towards the lower Indus delta in collaboration between different stakeholders.

The main themes discussed during this meeting included; climate change challenges, ecosystem-based approach for water environment nexus, safe drinking water, pollution (air, soil, water) and fishing and its impact on industry.

The conference was divided into three sessions; the first session moderated by Dr Ghulam Rasul, comprising of opening remarks from the institutional leaders who shared their views and insight on the project and shared their experiences which set the themes for further discussions. Second session moderated by Ms Hina Lotia, welcomed the speakers to share their views on the subject and identify issues and challenges faced by the coastal areas of Sindh, both urban and rural. The third session moderated by Mr Nisar Memon welcomed partners to brainstorm and talk about potential joint collaborations between various stakeholders in order to work together on ongoing programs, sharing resources, strengthening programs and filling gaps.

This conference was attended by our distinguished partners who not only provided valuable insights on climate change challenges to water environment and its specific impact to coastal ecosystem, but also pledged to support “WE CALL 2 COASTAL CLIMATE ACTION 2021”.

Conference Minutes

Opening Remarks – Chairman of WEFForum Mr Nisar Memom

The conference was inaugurated by the Chairman of WEFForum, Mr. Nisar Memon who welcomed all his esteemed guests to this zoom conference. He thanked all the partners for bringing their institutional support for this initiative. According to Mr. Memon, the adverse impact on coastal areas of Pakistan is mother nature's response to our carelessness and callousness in our handling of our environment. Karachi's heatwave in June 2015 led to the death of around 1200 people, followed by unpresented rains in August 2020, causing not only 47 deaths, but a revenue loss of Rs.15 billion to businesses. Sea level around Karachi coast has risen to approximately 10 cm in the last century, and is expected to rise 60 cm by the end of this century, impacting the low-lying coastal areas south of Karachi, towards Kati Bandar and the river Indus delta. Hundreds of acres of agriculture land washed away due to the rise in sea level. Mr. Memon further stressed that the sea shore was pushed away further in favor of acquiring land for commercial activity; using sea as the dumping ground for untreated industrial waste killing the fish and marine life; major mismanagement of garbage disposal creating pollution; killing natural lagoons and mangroves in the more affluent areas in Karachi. According to Mr. Memon, despite efforts put in to improve the situation, the Indus delta is crying for help. One cannot separate the upstream and downstream of Indus delta and focus on one in isolation as both are interconnected and intertwined, therefore a holistic view of water and environment must be undertaken. Covid-19 has only compounded the challenge of climate change. Karachi faced acute water shortage due to a drought in 2019 when Karachi water board was unable to provide water to its people and reported a shortfall of 535 MGD. Karachi also saw a shortage of electricity supply during extreme summers. Mr. Memon recommends bringing these issues into limelight through social media awareness and making them part of our lives at home, school and work place. Mr. Memom commended the efforts put in by all partners, through various initiatives to protect the eco system. However, due to the enormity of this challenge, Mr. Memon suggests combining of forces to collaborate by sharing ideas, experiences, resources, research and program for better awareness leading to creation of science-based policy. Mr. Memon is confident this session will set the tone for a successful launch of an important subject, bringing public and private, science and academia, policy and practitioners, rural and urban and all the stakeholders to get together on a platform to meet the challenges both

current and future. The time is now, when in the USA has also rejoined the Paris climate agreement. The new generation is not only looking up to us, but children like Greta is showing us the path. Mr. Memon concluded that he looks forward to these collaborated efforts.

Speaker- Chief Secretary Sindh, Syed Mumtaz Ali Shah

The Chief Secretary Sindh, Syed Mumtaz Ali Shah was one of the spokespersons at the Water Environment Forum, where he expressed his pleasure to be part of, WE CALL 2 CLIMATE ACTION 2021. He voiced his concerns over Pakistan being one of the worst affected country due to climate change. According to him, as Sindh belongs to the lower level of Indus delta, it has always been acutely impacted by the changing weather trends brought through by climate change in the form of droughts, cyclones, floods and heath wave. The Chief Secretary affirms that out of all impacts due to climate change, the sea intrusion has had the most devastating impact on livelihood of people living along the coastal areas. It is important to note that the people living along the coastal line belong to the poorest socio-economic class of Pakistan.

Mr. Secretary confirmed that the Sindh government as well as the federal government have taken keen interest in this vulnerable group of people and they have launched various successful grass root programs in the past. He also appreciated the partnership with IUCN and WWF, whom have both worked along with the government in rolling out different programs. The Sindh Government is open for further public private partnership programs and would like to invite all the local, regional and international partners to come together and work with the government to work on this cause. The Chief Secretary further pointed out that Sindh Government has a dedicated department for Environment and Climate Change which along with a proper legislation, ensuring efficiency, accountability and professionalism.

He concluded by welcoming all the WeForum ‘Call 2 Costal Climate Action 2021’ to work with the Sindh Government and promises the support of Government of Sindh on all projects.

Speaker- DG ICIMOD Dr. Pema Gyamtsho

Director General Dr. Pema Gyamtsho from the International Centre for Integrated Mountain Development (ICIMOD) expressed his pleasure in joining the WE Call 2 Coastal Climate Action 2021. He also expressed his gratitude for the invitation to be one of the founding partners, to help protect, preserve, and develop the water environment along the Indus Delta coastal belt which is particularly exposed to climate-related challenges. He said that ICIMOD welcomes the opportunity to not only strengthen existing partnerships with various organizations but also work together, learn from and assist the program. The Indus Delta is an important geophysical feature where the upstream and downstream are interconnected and cannot be separated. What happens in the upper delta directly impacts the lower delta especially in the form of disasters such as flash floods.

Dr. Gyamtsho mentioned that glacier melt brings both hope and despair. That is, glacier melt brings hope in the form of increased water flow and drinking water supply, but it also brings despair due to the dangerous threat of glacier lake outbursts resulting in floods. Loss of overall glacier mass also leads to water shortages in the long run. While many may assume that upstream-downstream connections flow in one direction only, Dr Gyamtsho noted that it is important to recognize that what happens in the lower delta also impacts the upper delta. When the lower delta faces excessive floods or droughts, the natural response of people living in the lower delta is to migrate to the upper delta, which then exerts more pressure on upstream resources. Air pollution from lower delta and wider regions is also carried upwards, resulting in the deposit of black carbon on snow and ice bodies, thus accelerating melting processes.

These upstream and downstream connections as well as complex water cycle dynamics are the kinds of topics which this platform will help us to better understand and discuss. These discussions – and the science behind them – will build greater understanding of long-term impacts of global warming and the short-term impacts of unpredictable weather patterns in this area.

Dr. Gyamtsho in his address also expressed confidence that ICIMOD will work together with WE Forum, IUCN, WWF and other partners on climate change impacts on the Indus Delta and on developing adaptation strategies to support the provincial government as needed. There are numerous climate change induced challenges such as sea level rise, decreasing environmental flows to the Indus Delta, intrusion of sea water into coastal agriculture lands and migration of rural

populations to urban centers. Dr Gyamtsho mentioned that WE will be an appropriate forum to understand the biophysical and socioeconomic connections between upstream and downstream areas which will help with designing and implementing appropriate adaptation strategies.

Dr. Gyamtsho concluded with the assurance that ICIMOD will continue to be a reliable partner in the journey towards the protection of the Indus Delta and coastal ecosystem, expressed his hope for continued support to ICIMOD's work both in Pakistan and across the HKH region and invited all to be part of ICIMOD's HKH Call to Action whose principles well align with the WE Call 2 Coastal Climate Action.

Speaker – Country Representative Mr. Mahmood Akhtar Cheema

Pakistan Representative Mr. Mahmood Akhtar Cheema from International Union for Conservation of Nature (IUCN) expressed his pleasure in joining the WE Call 2 Coastal Climate Action 2021 by saying that 'I am glad to see we have all come to ground realities' He said that IUCN welcomes to join hands for this Nobel cause. IUCN office in Karachi is working in coastal areas for more than 30 years. Due to climate change the pressure on natural resources is growing manifold. There are several successful examples that IUCN and member organizations have made significant achievements but these require integration, consolidation and upscaling.

Citing success stories Mr. Cheema mentioned that using the nature-based solutions, like mangroves plantation by Sindh govt. and other organizations have made significant achievement in bringing back this degrading ecosystem and this move needs to be promoted and projected.

Describing importance of non-traditional approaches, he mentioned that IUCN worked with institutions like Pakistan Navy, and brought them on board, they have successfully planted more than 6 million mangrove plants in last four years. Under business and biodiversity platform, Businesses that IUCN brought together and other member organization that it is working in coastal areas because it is important to understand the economic valuation of these resources as one-hectare fetches 1300 US dollars benefit, so protection and promotion is going to work well by using these economic terms as well.

He said that Making use of platforms that already exists, like National Coordinating body, Mangroves for the Future Programme, which has 26 members, where IUCN will be very happy to facilitate dialogue, debate, discussion and research which will result in knowledge products like ICIMOD being famous for its efforts of upper Indus basin knowledge products.

In his address Mr. Cheema reassured his sincere support and shared his keen interest of working with WEFForum and its program partners on behalf of his organization and mentioned that IUCN has been working with ICIMOD on regional level, not only in Pakistan, but in India, Bangladesh and Nepal and on a regional level also this collaboration can further be built between these institutions.

Mr. Cheema concluded with expressing his desire in collaborative work by saying that that the plans and strategies that IUCN have prepared require coordinated efforts for effective implementation and this can only happen if we join hands.

Speaker – WWF Director General Mr. Hammad Naqi Khan

Director General Mr. Hammad Naqi Khan from World Wide Fund for Nature (WWF) expressed his pleasure in joining WE Call 2 Coastal Climate Action 2021 acknowledging the fact that the academic Institutions, government department and the key civil society organizations are present and committed to work together for the protection of Indus Delta ecoregion.

In his address Mr. Hammad focused on the opportunities of Indus Delta, he said that WWF as the largest environmental organization, did an exercise to identify the important ecological regions of the world. Indus ecoregion is one of the global 200 important ecosystems and this is because of the rich biodiversity and services, which this Delta provides.

He said that Indus Delta is the sixth largest Delta with the population of Millions of people whose livelihoods depend on the ecosystem services. Unfortunately, most of these people live below the poverty line. The people who used to rely on agriculture, livestock and fisheries but due to multiple reasons, the main livelihood now depends on the coastal fisheries.

He mentioned that in late 90s WWF exercised comprehensive scientific assessment of the root causes of biodiversity loss, based on that study WWF as a leading environmental organization, convened a forum to develop an Action Plan for Indus delta ecosystem.

He weighed on using the existing platforms to address the important challenges of the region, he said that short term, and the medium-term, Action Plan document is owned and endorsed by all the key stakeholders, leading policy and decision makers and that document is still valid. In early 2000s a Steering Committee headed by the Additional Chief Secretary Sindh, was established and it was agreed upon that the P&D will provide the leadership, and all the other organizations will facilitate the process to ensure that the challenges being faced in this region are addressed. This committee still exists and ensures that we avoid duplication and plays a very important role to address challenges and issues present in this region.

Mr. Hammad highlighted the opportunities for private sectors by saying that the Dutch Fund for Climate and Development (DFCD) has selected Pakistan and Indus Delta as one of the key areas, through WWF's efforts and WWF is willing to provide support (not grants) in soft term loans to private sector, the private sector state action, which reduces, not only their footprint, but also creates good social and environmental impact, which is a great opportunity that must be capitalized. The Green Climate Fund funded Recharge Pakistan, and the Prime Minister, mentioning that Recharge Pakistan is one of his government's top five national priority, is an opportunity which can revive the wetlands he added.

He concluded with expressing the importance of collaboration by saying that this is the right time to collaborate and join hands to ensure that through this collective and collaborative efforts, which involves not only the NGOs, but the government departments and private sector by taking advantage of already existing forum.

Speaker- Former Vice President FPCCI Mr Muhammad Waseem Wohra

M.r. Muhammad Waseem Vohra is the former Vice President of Federation of Pakistan Chambers of Commerce & Industry (FPCCI) and currently the CEO of Eastern Enterprises. He shared his unique insight on the issues and challenges faced by the industry due to coastal climate change.

Mr. Vohra considers WEFForum to be an excellent opportunity for different stakeholders to get together and discuss water issues and its governance. His presentation focused mainly on water governance and its impact on industry. Pakistani industry is very concerned with the lack of supply and the scarcity of water. This is terrible not only for the rise in cost of production due to cost of tankers, but the loss of business due to the erratic nature of water supply. He claims the coastal areas are more important than ever, due to its intrinsic source of water supply.

In his address, Mr. Vohra explained that 95% of water supply from the Indus river goes towards agriculture and due to their outdated irrigation methods, there is a significant wastage of water. Whereas the industry, which contributes 22% to the GDP, only gets access to 2% of water supply which is insufficient. He urged the Government to re-evaluate the distribution and wastage of water.

Similarly, Mr. Vohra also expressed his concern over urban pollution. The factory workers use the public transport system, with its high level of pollution and traffic congestions impact the quality of the workers' health, which in term impacts productivity.

Mr. Vohra explained FPCCI has developed a Standing Committee Academia-Industry Collaboration on Water Resources where researchers and business entities work together to find solutions to overcome challenges of water scarcity, access and management. This water crisis issue is extremely serious as it impacts not only cost of production, but also clean water availability. According to him, the government is the sole provider for water, and it has failed to provide water to one of the highest tax paying sector of the economy. Mr. Vohra stated that water is a crucial commodity for all industry and its supply needs to be managed by the government.

Mr. Vohra also brought to notice another important issue facing the coastal area, which is the amount of untreated solid waste dumped into the land fill site and sea by factories. According to him, Pakistan is lacking water treatment plants. Karachi needs at least 10 treatment plants in the industrial area urgently.

Mr. Vohra supported the global mantra "recycle reuse and save water" which needs to be followed in Pakistan as globally water will become a scarce and expensive resource as oil.

Mr. Vohra extends the support and willingness of the industry to work together with NGOs such as IUCN and WWF to better manage water supply. Industry needs support from the government,

to both regulate water supply and water treatment plants so that the sea water does not get dumped with toxic waste from factories. This dumping of hazardous water which has been dumped back in the sea is adversely impacting the coastal areas.

Mr. Vohra then explained how exports orders need to comply to all health and safety standards, therefore the dumping of solid waste is an issue that needs to be addressed soon. The uncertainty of water supply also hinders the manufacturing turnaround time, which adversely impacts export orders. Unfortunately, the authorities do not realize the implications these things have on business.

Mr. Vohra concluded by pointing out the 1000km coast line of Pakistan, which has huge economic potential, but the government needs to work seriously with maritime industry to explore future expansion projects. Coastal areas need to be developed and desalination plants need to be set up all around the coast. Low-cost desalination plant based on solar energy, are the only option for cheap water supply to industry.

Mr Ghulam Rasool – ICIMOD Regional Program Manager

Mr. Ghulam Rasool focused on the issues of Indus delta and the coastal problems such as reduced water flow to the Indus delta, rising sea levels and deforestation of Mangroves. According to Mr. Rasool, there is only a surge of water flow during monsoon season other wise the rest of the year the water supply is inadequate. This issue needs to be studied and addressed.

He also talks about the global warming which results in rise in sea level and its impact to the coastal agricultural areas. These coastal agriculture areas, due to the influx of sea water have seen a rise in salinity in their soil, which in turn impacts their yield of crop production. The trend observed is due to this decline in crop production, these inhabitants are forced to immigrate towards the urban centers in search of livelihood, overcrowding an already crowded urban center. The fall in crop yield due to salinity is not the only issue, the other issue of rise of ground water level, which results in soil erosion, is another factor impacting agriculture production. This issue is not new, but is now increasing in gravity in Sindh coastal areas. Also, the increased occurrence of storms which is due to the increase in cyclogenetic activity in North Arabian sea. In the past there weren't that many cyclones and they used to move in the west direction affecting some areas of south eastern Sindh, but now Arabian sea is also becoming extremely prone to tropical cyclones

due to rise in ocean levels and are now washing up the shores of coastal areas of Sindh and Baluchistan provinces, which in turn effects the infrastructure of big cities such as Karachi and Hyderabad. Mr. Rasool shared that there is a new project coming up with collaboration with UK MET office, sea level rise projections, which will not only predict the future projections but will also study the current profile of climate on the coastal belt and then project the future climate changes and its impact on sea levels, with policies to work on adaptation. ICIMOD with collaboration with WEFForum, IUCN and WWF will work on a report to study the impact of climate change on Indus delta and coastal eco-system. Mr. Rasool concluding by stating that these activities will comprehensively address the issues of this region along with the other initiatives already ongoing with collaboration between ICIMOD and the government of Sindh.

Speaker- Syed Raghieb Abbas Shah

Mr. Shah started his presentation by reminding everyone the importance and significance of Indus river. Not only did it host the oldest civilization known to man, it is the heart of Pakistan economy. The Indus basin irrigation system is one of the largest in the world, developed over 140 years. Pakistan is highly dependent on its irrigation system, which is the water resource to 90% of its agriculture produce. He explained about the importance of delta, and how they play a vital role in human civilization as they are a major agriculture production due to its rich nutrient and population hub in the world. Indus river delta exists where the Indus river flows into the Arabian sea. It is ranked the 7th largest delta in the world. Not only is it a rich agriculture land, Indus delta also boasts hosting the 5th largest mangrove forest in the world. Mr. Shah further explained the various factors which determine the characteristics of a delta, which include the volume of river flow, sediment, coastal topography, character of wave and current, tidal range, storm frequency, water depth, sea level and climate. According to Mr. Shah, Pakistan will increase in range of 2.2C – 2.8 C by 2050 and 3-9- 4.4 C by 2080 as apposed to global warming which is predicted to rise to 2.8 degree C by the 21st century. This rise in temperature will not only impact the rise in water flow in Indus river system due to glacier melts, increasing the risk of floods in the early years followed by droughts, unpredictability of monsoon and depletion of ground water. Available data from the 1960s shows a steady drop in the inflow of fresh water to the Indus delta. There is concern that the abstraction of large volumes of water from rivers in upper regions have left inadequate water

supply for the downstream ecosystem. Coastal and marine regions have been impacted adversely due to lack of water supply downstream. Upstream intrusion of saline water in Indus delta will adversely affect coastal agriculture, mangroves and this rise in sea level in turn affect Karachi. Bottom line is that lower Indus delta needs water. How do we achieve this? By making agriculture irrigation more water efficient, plant more climate resistant variety of crops and trees, develop water storage systems, development of water shed management, sediment affects on reservoirs to be mitigated, adaptation of modern technologies such as efficient irrigation system and conservation of surface and ground water, develop proper water accounting arrangements, re-routing of flood water through deserts, regulate water flow from the delta and the saved water can be allowed to flow back and help regenerate the delta.

Speaker - Qamar uz Zaman

Mr Zaman, the author of the first climate change policy, has agreed to share the updated climate change policy with all the partners and welcomes feedback from all colleagues.

Concluding Remarks

This webinar was extremely comprehensive, with representatives from the government sector, the institutions such as WWF, ICIMOD and IUCN as well as the private sectors unique insight, providing us with a wide-ranging comprehensive view of the challenges ahead.

Water Environment Forum is not here to create new forums and platforms or duplicate things, but rather WEFForum aims to work together with its various partners, in collaboration providing support and assistance to each other in realising a common goal. The aim of this session was to bring into limelight all the programs undertaken by our partners, both on-going as well as in the past, with a special focus given to the limitations, challenges faced and identifying potential gaps in these programs.

To summarise some of the key issues identified were urban flooding, heatwave, loss of livelihood of poor coastal population, loss of mangrove and marine life, impact on industry and commerce, pollution, lack of water salinization plants, urban water crisis followed ineffective and inefficient use of water in agriculture etc., just to name a few.

ICIMOD emphasized the linkage of between the up-stream and down-stream Indus delta, and has intended to launch a study to further understand the impact of climate change on the Indus delta and develop its adaptation strategy in collaboration with the WEFForum. ICIMOD along with IUCN and WWF has agreed to provide support to WEFForum on this initiative.

Success stories such as the vast plantation of mangroves and rehabilitation setup, projects of biodiversity, wildlife and wetlands gives us hope that if executed properly, these adaptation and mitigation plans will go a long way in overcoming the impacts of climate change on the coastal areas.

Another key insight taken from this session is there is no shortage of policies, strategies or plans, but unfortunately the shortcoming lies in the implementation and execution of these policies. Therefore, WEFForum's approach will be collaboration, partnership with a special focus on implementation. WEFForum will try and make use of all the existing laws, policies and projects, and find the most effective and efficient way of successful implementation.

Moving forward, Mar Memon has recommended establishing a steering committee which will ensure WEFForum's commitments are implemented, followed by meetings with the advisory committee and then hosting a stakeholders conference inviting various institutions, organizations, academia, bureaucraties and other stakeholders to create awareness and work in collaboration with each other to help in mitigating and adapting to the impact of climate change on the Indus delta and its coastal population.