ANNUAL REPORT
2016-17

INDIA WATER FOUNDATION

Foreword

According recognition to water as a vital component of climate change negotiations as well as coming into force of the Paris Agreement on Climate Change in early November 2016 were momentous developments that greatly influenced us at India Water Foundation and in a similar way the activities conducted by India Water Foundation (IWF) during 2016-2017 were greatly affected and influenced, apart from these twin developments, by other momentous developments like the similar themes of the 2016 World Water Day as well as 2016 *World Water Development Report*, which emphasized on inter-connectivity between water and jobs, release of World Bank's report in early May 2016 on *Climate Change, Water and Economy*, Conference on Climate Change or COP-22 at Marrakech (Morocco) on 7-19 November 2016 and convening of Budapest Water Summit on 28-30 November 2016.

World Bank's report on *Climate Change, Water and Economy*, released in early may 2016, cautioned that water scarcity, exacerbated by climate change, could cost some regions up to 6 percent of their GDP, spur migration, and spark conflict. It was a matter of serious concern for us at India Water Foundation, especially in view of the fact that our own country is fast becoming a water-stressed country.

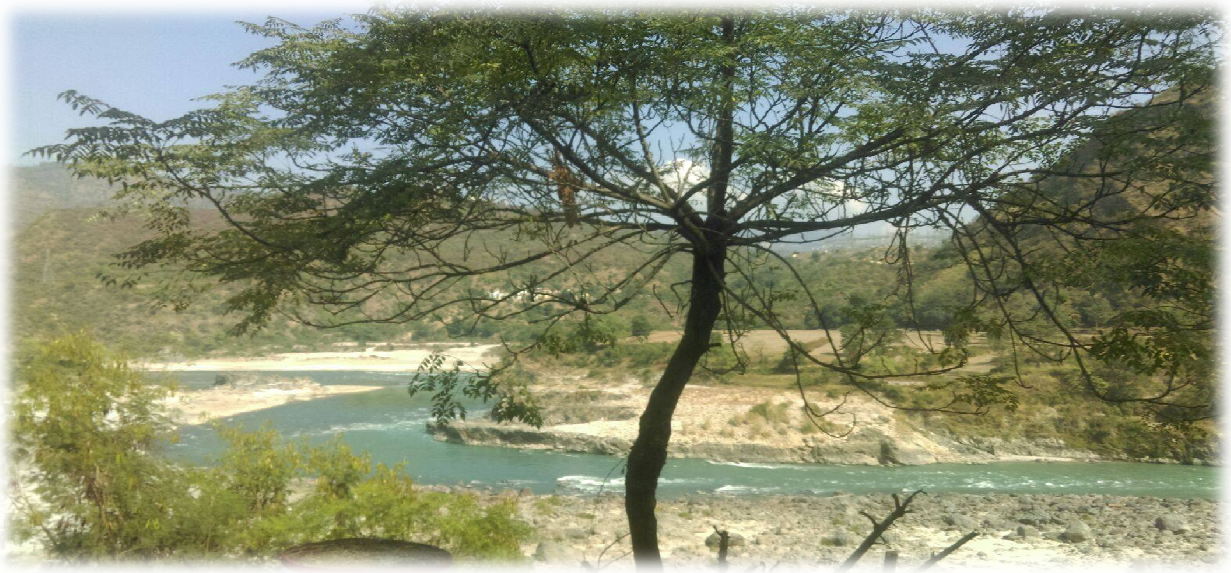
The UN Climate Change Conference was convened from 7-19 November 2016, in Marrakech, Morocco. Entry into force of the Paris Agreement provided certainty to parties' work on the rulebook and eliminating the possibility that a small "gang" of countries can demand concessions and weaken the treaty's operational rules in exchange for their ratifications. Today, governments, business leaders and investors routinely make climate-friendly decisions for the sake of their portfolios, if not the planet.

The Budapest Water Summit was convened in Budapest, Hungary, from 28-30 November 2016, also call for integrated water resources management (IRWM) and new global political water architecture to ensure consolidated and strong political governance for water within the SDGs and other international agendas.

Major activities undertaken by India Water Foundation during 2016-2017 veered round major themes of water and climate change, which *inter alia*, included: exchange and sharing of views on Salvaging River Ganga, managing water resources, climate change, meeting water shortages via desalination, continuation of conducting training programme for application of hydro-geo-morphological mapping for groundwater prospection in 8 states of the country, in addition to 12 states already covered in the previous year, launching of a new project titled "Integrated approach for empowering local communities for ecology, water body conservation, sanitation and hygiene through awareness enhancing campaigns and Use of environment friendly technologies" in Meerut South Block, by NCSTC, Department of S&T, Ministry of Science and Technology, Government of India .

I feel immense pleasure in presenting this annual report to our patrons, well-wishers, colleagues and the general public. We, at India Water Foundation, wish to convey our gratitude to all those who stood with us in accomplishing our tasks despite all odds and hope to continue to enjoy their trust and affection.

(Dr Arvind Kumar)
President, Chair & Founder
India Water Foundation



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Overview

Efforts for according due recognition to water as being at the core of Climate Change were being made since the onset of the 21st Century; nevertheless, these efforts have started ripening into fruition since 2016 because this period has transitioned towards viewing water as critical to both climate mitigation and climate adaptation. The year 2016 also witnessed water acquiring more explicit role within UNFCCC institutional mechanisms and processes. This increasing emphasis on water's role in the ongoing process of climate change entails the potential of reaping good dividends in terms of increased resilience to climate change and water-induced catastrophes in near future. This new perspective of growing nexus between water and climate change and its indispensability for tackling climate-induced and water-induced calamities is fast attracting the attention of almost all countries which are signatories to the Paris Agreement on Climate Change and consequently civil society organizations (CSOs) and non-governmental organizations (NGOs) are also responding accordingly.

India Water Foundation (IWF), a non-profit civil society organization, National Key Resource Centre with the Ministry of Drinking Water & Sanitation, Government of India since March 2015, which has been accorded Special Consultative Status by the UN Economic and Social Council (UN-ECOSOC), has been engaged in assimilation and dissemination of traditional wisdom, best practices and knowledge along with innovative techniques in water and environment sectors since its establishment in 2008. Like in the past, the activities of the IWF in 2016-2017 were greatly influenced by developments occurring in international and national arenas in water and environment sectors to which it responded accordingly within meagre resources at its disposal, as described below.

Momentous Developments

The year 2016 witnessed international water community evolving a consistent vision with projects and frameworks showcasing the interdependencies of water and climate, new knowledge for how to manage water resources despite uncertainty around future climate conditions, and articulated more clearly how climate policy and water policy need one another. This phase is also characterized by the expansion of the water community with the increased involvement of its circle of allies central to water management policies and decision making: national governments or "parties" in policy circles, climate finance, cities, and water-dependent sectors such as energy and agriculture.

Efforts at emphasizing linkages between policy and technical perspectives on water and climate change, initiated at the Frankfurt Water Symposium organized by Germany in 2013, started receiving wider attention in early UNFCCC water negotiation efforts and became significant component of the discussion. The importance of freshwater to climate change policy and action was highlighted in the UN General Assembly on two separate occasions. Recent COPs – COP-19 (South Africa), COP-20 (Peru), COP-21 (France), and COP-22 (Morocco) – have been increasingly effective and vocal about water in recent years following their leadership in each of their respective COPs.

Besides, strong arguments have also been advanced by experts for the economic need for integrated water and climate policies and these can be discerned from the OECD's report on the economic implications of water and adaptation, while SIWI 2016 explored the need for integrating water into climate mitigation policy and the World Bank's 2016 High and Dry report articulated the links between energy policy, water management, and climate strategy.

Past couple of years has witnessed water gaining salience within the UNFCCC negotiations, particularly with the advocacy coordination of #ClimateIsWater at the 2015 and 2016 COPs. Reports indicate that the 2015 COP-21 organizers increased the visibility of the water community within the COP-21 conference itself. A specific slot was allocated to water during a "Resilience Day" and a "Water Day", sponsored by France, was filled with activities for the public and negotiators on topics such as finance, ecosystem-based adaptation, and urban resilience.

Recognition of linkages between water and climate change was a momentous development of 2016. Besides, other international developments like theme of World Water Day 2016, World Water Development Report (WWDR) for 2016, World Bank report on Climate Change, Water and Economy and 2016 Budapest Water Summit etc, wielded significant influence on the thought and action of the India Water Foundation during 2015-2016.

World Water Day 2016 Theme

The theme for 2016 World Water Day was "Better water, better jobs", which highlighted the correlation between water and job creation, both directly and indirectly by water sources around the globe. The substantive part of the 2016 World Water Day theme highlighted by various UN agencies like UN Water, UNESCO-IHE, UNEP etc., pointed out that between 1990 and 2010, 2.3 billion people gained access to improved drinking water sources. Undoubtedly, it was hailed as a positive development; nevertheless, it not enough because more than 700 million people still did not have access to clean and safe water for a healthy life.

Besides, broad estimates showed that some 2 billion people required access to improved sanitation, with girls and women especially disadvantaged. Many developing countries were reported to be in water stress hotspots, and likely to be hit hardest by climate change. At the same time, demand for water was soaring, especially in emerging economies where agriculture, industry, and cities are developing at a fast pace.

This demonstrated that the stakes were high. Water is fundamental to life and it is crucial for more inclusive and sustainable development. This is why water stands at the heart of the new 2030 Agenda for Sustainable Development. Water is highlighted in Goal 6 on ensuring the availability and sustainable management of water and sanitation, and important for the success of all other objectives – including for advancing the prospect of decent work for all, which was the focus of the 2016 World Water Development Report.

Unquestionably, water is crucial for agriculture, industry, transport and the production of energy and is an engine for economic growth. It generates and sustains jobs worldwide, but attaining the development goals will not just be a matter of adequate resources of water as a raw material. Water quality and sanitation remains essential in providing a decent livelihood. Of the 2.3 million work-related deaths every year, 17 percent can be linked to communicable diseases and unsafe drinking water. This necessitates according priority to availability of safe drinking water and sanitation at the workplace everywhere.

The substantive part of the World Water Day theme also emphasized that meeting the challenge of creating and preserving decent jobs in the face of climate change and water scarcity would require far greater investments in science, technology and innovation. The evidence shows that investing in water infrastructure and services can have high returns for both economic development and job creation. It is important that these investments are planned with all relevant sectors, including agriculture, energy and industry, to ensure they produce the best outcomes for all.

In the wake of water scarcity becoming more of a reality, industries heavily dependent on water like textiles and agriculture are at risk of increased costs, which threatens salaries and jobs. Increased costs may then be passed on to consumers. The theme also highlighted how an abundance of quality water could change people's jobs and lives for the better. The 2016 celebration created recognition for those working to improve water quality and availability, and the need for many to transition to other and better jobs. Three out of four of the jobs worldwide are water-dependent. Water shortages and lack of access may limit economic growth in the years to come.

Undeniably, we at India Water Foundation have been emphasizing on water's key role in promoting sustainable livelihoods. The sub-themes of World Water Day 2016 have consistently been emphasized upon and articulated by us through our presentations and write-ups from time to time during 2016-2017. These sub-themes further have reinforced our conviction that water is the vital for sustainable livelihoods.

Undoubtedly, India Water Foundation has been emphasizing on the important role of water in promoting sustainable livelihoods for the past half decade; nevertheless, adoption of water as the key factor in sustaining jobs by the World Water Day 2016 has further reinforced the initiatives and campaigns launched by the IWF in water sector during the period under review.

World Water Development Report 2016

The World Water Development Report (WWDR) 2016 was released on the World Water Day on 22 March 2016, which coincided with the observance of World Water Day 2016. The theme of the 2016 edition of the United Nations World Water Development Report was *Water and Jobs*, which, inter alia, notes that half of the world's workers - 1.5 billion people - are employed in eight water and natural resource-dependent industries. Making a pointed reference that an estimated three out of four jobs that make up the global workforce are either heavily or moderately dependent on water, the WWDR 2016 denotes that water shortages and problems of access to water and sanitation could limit economic growth and job creation in the coming decades.

Launched on World Water Day and in the context of the 2030 Agenda for Sustainable Development, the WWDR 2016 demonstrated the key role water will play in the transition to a green economy. Speaking on the occasion, the Director-General of UNESCO, Irina Bokova said: "Water and jobs are inextricably linked on various levels, whether we look at them from an economic, environmental or social perspective. This edition of the World Water Development Report breaks new ground by addressing the pervasive relationship between water and jobs to an extent not yet seen in any other report."

Guy Ryder, Director-General of the ILO and Chair of UN-Water, who also spoke on the occasion, said: “This analysis highlights the fact that water is work – it requires workers for its safe management and at the same time it can create work and improve conditions. If the 2030 Agenda is to be a success and we are to build together a sustainable future, we must ensure that work in water is decent and that the water we all rely on is safe,” said.

The WWDR 2016, while mentioning water as a driver of growth, describes water is a key factor in the creation of jobs, from its extraction to its return to the environment, via numerous uses. Asserting that estimating the relationship of water with economic growth and jobs is particularly challenging, the Report states, emphasizing that there is a lack of data, particularly when it comes to determining the extent to which jobs are dependent on water. Nevertheless, the report notes a number of studies that find correlations between water related investments and economic growth.

Investment in small-scale projects providing access to safe water and basic sanitation in Africa could offer an estimated economic return of about US$28.4 billion a year, or nearly 5 % of gross domestic product (GDP) of the continent. Such investments also seem to have a beneficial effect on employment. In the United States, every US$1 million invested in the country’s traditional water supply and treatment infrastructure generates between 10 and 20 additional jobs. Meanwhile, the U.S. Department of Commerce's Bureau of Economic Analysis found that each job created in the local water and wastewater industry creates 3.68 indirect jobs in the national economy. The Report cites another study in Latin America, which found that investing US$1 billion in expanding the water supply and sanitation network would directly result in 100 000 jobs. The transition to a greener economy, where water plays a central role, will also lead to more jobs. The International Renewable Energy Agency (IRENA) estimates that 7.7 million people were already employed in renewable energy in 2014.

Taking a note of increasing pressure on freshwater resources exacerbated by the effects of climate change, the WWDR 2016 laments that the rate of groundwater withdrawals has increased by 1% per year since the 1980s. Between 2011 and 2050, global population is expected to increase by 33%, from 7 to 9 billion, while food demand will rise by 70% in the same period. The Report draws attention to forecasts made by the 5th assessment report of the Intergovernmental Panel on Climate Change (IPCC) that for each degree of global warming, approximately 7% of the global population will face an almost 20 % decrease in renewable water resources. This projected shortage will call for non-conventional sources of water, such as rainwater harvesting, recycled wastewater and urban runoff. Use of these alternative water sources will create new jobs in research and technology development and in the implementation of their results. Developments in forecasting techniques, in risk assessment and the use of satellite imaging are some other potential areas where better employment opportunities could lie.

According to the Report, almost 1 % of the total workforce in both developed and developing countries currently work in the water sectors – which include water management, construction and infrastructure maintenance, as well as water supply and sanitation. In recent decades, the number of people employed in water supply and wastewater treatment facilities has consistently decreased. The reasons: a lack of interest from new graduates in jobs in the water sector, lack of resources to hire and retain skilled staff, especially in the public sector, and an ageing workforce. In the United States alone, between 30 % and 50 % of the water utilities workforce will reach retirement age by 2020.

Added to these challenges is the difficulty in attracting skilled workers to live and work in rural areas and the stigma associated with the sanitation sector as a whole. In some regions, such as West Africa, it is particularly difficult to attract workers to what is considered a degrading occupation. Despite these challenges, the market for jobs in water supply and sanitation is promising and there is significant potential for growth.

According to the Report, the need for investment into aging and inefficient infrastructure is also a potential driver for employment in the sector. An estimated 30% of global water withdrawals are lost through leakage. In London the rate of loss is 25 % and in Norway 32%. In some countries, irrigation practices are either non-existent or outdated and result in poor agricultural productivity. In Africa for example, agriculture is mainly rain-fed and less than 10% of its cultivated land is currently under irrigation, holding back job creation.

Pointing out that achieving the 2030 Agenda on Sustainable Development will require a keen understanding of key role of water in the world of work' the Report mentions that decent jobs are directly linked to water management, in areas such as providing water supply, infrastructure and waste management; and water-dependent sectors, such as agriculture, fishing, energy, industry and health. Moreover, access to improved drinking water and sanitation facilitates job creation and a healthy, educated and productive workforce which is the foundation for growth.

Creating conditions that improve water productivity and favour the transition to a green economy, training more skilled workers in order to respond to increasing demands for labour in the water sectors are some of the points that the Report brings to the attention of the Governments to appropriately respond to the requirements of the United Nations Sustainable Development Goals – notably number 6, specifically dedicated to water and sanitation.

Construed in a broad spectrum, the goals, suggestions and recommendations envisaged in the theme papers of the 2016 World Water Development Report were apparently those with which India Water Foundation has already been dealing with. Nevertheless, keeping in view the added emphasis on water as a key component of sustainable creation of new job opportunities, the IWF also accorded priority to these in its water-related activities.

World Bank Report on Climate Change, Water and the Economy 2016

In early May 2016, World Bank released a report entitled, *High and Dry: Climate Change, Water and the Economy*, which says the combined effects of growing populations, rising incomes, and expanding cities will see demand for water rising exponentially, while supply becomes more erratic and uncertain. It further adds that water scarcity, exacerbated by climate change, could cost some regions up to 6 percent of their GDP, spur migration, and spark conflict.

Unless action is taken soon, the report says, water will become scarce in regions where it is currently abundant - such as Central Africa and East Asia - and scarcity will greatly worsen in regions where water is already in short supply - such as the Middle East and the Sahel in Africa. These regions could see their growth rates decline by as much as 6 percent of GDP by 2050 due to water related impacts on agriculture, health, and incomes. The report also warns that reduced freshwater availability and competition from other uses - such as energy and agriculture – could reduce water availability in cities by as much as two thirds by 2050, compared to 2015 levels.

Water insecurity could multiply the risk of conflict, the report adds. Food price spikes caused by droughts can inflame latent conflicts and drive migration. Where economic growth is impacted by rainfall, episodes of droughts and floods have generated waves of migration and spikes in violence within countries, it says.

According to World Bank President Jim Yong Kim: "Water scarcity is a major threat to economic growth and stability around the world, and climate change is making the problem worse; if countries do not take action to better manage water resources, our analysis shows that some regions with large populations could be living with long periods of negative economic growth. But countries can enact policies now that will help them manage water sustainably for the years ahead."

According to the Report, the negative impacts of climate change on water could be neutralized with better policy decisions, with some regions standing to improve their growth rates by up to 6 percent with better water resource management. Richard Damania, author of this Report and World Bank Lead Economist, opines: "There is a silver lining. When governments respond to water shortages by boosting efficiency and allocating even 25 percent of water to more highly-valued uses, losses decline dramatically and for some regions may even vanish. Improved water stewardship pays high economic dividends."

The report says that in the world's extremely dry regions, more far-reaching policies are needed to avoid inefficient water use. Stronger policies and reforms are needed to cope with deepening climate stresses. It outlines policies and investments that can help lead countries to more water secure and climate-resilient economies. This includes better planning for water resource allocation, adoption of incentives to increase water efficiency, and investments in infrastructure for more secure water supplies and availability.

We at India Water Foundation have been broadly in agreement with the recommendations and suggestions enumerated in World Bank's Report and strongly feel that water is at the core of economic growth and adequate emphasis needs to be given to implement SDG-6.

Budapest Water Summit, 28-30 November 2016

The Budapest Water Summit was convened in Budapest, Hungary, from 28-30 November 2016 in which more than 2,600 participants from 117 countries, including Heads of State from Bangladesh, Mauritius and Tajikistan, participated in the Summit. The Summit concluded with a 'Messages' document containing a menu of options for possible use by governments in their efforts to implement water-related aspects of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals (SDGs).

The resulting 'Budapest Water Summit Messages' document notes that water is the most critical natural asset, and recommends that it be embedded within policies related to the entire 2030 Agenda for Sustainable Development. Describing water as an enabler and an inter-connector, the Messages also call for integrated water resources management (IRWM) and new global political water architecture to ensure consolidated and strong political governance for water within the SDGs and other international agendas. The document states that acting now on water is a matter of human dignity, justice and survival.

The Messages recommend a range of actions, including: establishing or revitalizing institutions that address the allocation and sustainable use of water in a fair, transparent and equitable manner, create mechanisms for participation of all stakeholders and increase public financial investments; ensuring and enhancing women's involvement in water management; developing a mechanism to support young people's initiatives; establishing and/or strengthening institutions to foster cooperation around water and enhance the application, effective implementation and accession to UN water conventions; strengthening the capacity to monitor water-related SDG targets and investing in open access to water data; and recognizing the need for an appropriate intergovernmental platform on water and sanitation.

The Summit convened six high-level plenary discussions that addressed: drinking water; sanitation and hygiene; water-use efficiency; IWRM; water quality; and ecosystems. Delegates also heard keynote presentations on four crosscutting issues: climate and disasters; urban systems; trans-boundary water management; and progress toward a global indicator framework for monitoring the SDGs, including SDG 6 (Ensuring availability and sustainable management of water and sanitation for all).

During the discussions, participants acknowledged the need for appropriate water pricing policies that support the most vulnerable, increased water productivity in agriculture, intersectoral and trans-boundary cooperation, and multi-stakeholder efforts towards implementation of SDG 6. They also discussed "blended finance" and public-private partnerships with a view to supporting the development of water infrastructure in developing countries.

János Áder, President of Hungary, identified water as the most significant issue of the 21st century. In his statement, Joaquim Levy, Managing Director and Chief Financial Officer, World Bank, mentioned the upcoming launch of a facility to help countries prepare bankable water projects and secure commercial lenders for resilient development. He said the World Bank Group and the UN Children's Fund (UNICEF) will host the next Sanitation and Water for All High-Level Meeting in April 2017, which will focus on attracting capital to close the financing gap.

A High-Level Special Session on Climate Change and Water underscored the need to maintain the "water momentum" from the UN Climate Change Conference in Marrakech, Morocco held in November. Several events took place in parallel to the plenary discussions, including Forums on Women, Civil Society, Science-Technology and Youth, as well as a Sustainable Water Solutions Expo.

At the margins of the Summit, the High-Level Panel on Water (HLPW) met to review progress since issuing the 'Call to Action on Water' in September 2016 and launching an Action Plan that addresses water innovation, valuing water and disaster risk reduction (DRR). The HLPW discussed the challenge of financing water infrastructure needs, and recommended that the water sector adopt a more collaborative financing paradigm where all stakeholders play an active role and where both existing and new financing sources are utilized.

The HLPW also issued a statement, which, among other things calls: for doubling the current level of investment in water infrastructure over the next five years; on countries and stakeholders to mobilize additional funds to the water sector in order to support the realization of SDG 6 and water-related targets; and on development partners to support improving water sector efficiency and mobilizing domestic finance. The HLPW, co-convened by UN Secretary-General Ban Ki-moon and World Bank Group (WBG) President Jim Yong Kim, was launched in April 2016.

We, at India Water Foundation, took note of the suggestions and recommendations of the Budapest Water Summit and made appropriate efforts to disseminate them, especially through Social Media.

Marrakech Climate Change Conference (COP-22)

The UN Climate Change Conference was convened from 7-19 November 2016, in Marrakech, Morocco. It included the 22nd session of the Conference of the Parties (COP 22) to the UN Framework Convention on Climate Change (UNFCCC), the 12th session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 12), and, with the entry into force of the Paris Agreement, the first session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA 1). Three subsidiary bodies (SBs)

also met, the 45th sessions of the Subsidiary Body for Scientific and Technological Advice (SBSTA 45) and Subsidiary Body for Implementation (SBI 45), and the second part of the first session of the *Ad Hoc* Working Group on the Paris Agreement (APA 1-2).

The UN Climate Change Conference brought together over 22,500 participants, including nearly 15,800 government officials, 5,400 representatives of UN bodies and agencies, intergovernmental organizations and civil society organizations, and 1,200 members of the media. Negotiations in Marrakech focused on matters relating to the entry into force and the implementation of the Paris Agreement, including under the COP, CMP, CMA, APA, SBI and SBSTA. During the first week, work was concentrated under the APA, SBI and SBSTA.

During the second week, following the closure of the APA, SBI and SBSTA, the CMA opened. The joint high-level segment under the COP, CMP and CMA brought together over 70 heads of state and government, in addition to ministers and heads of delegation to generate political will. In addition, work continued under the COP and CMP. On 17 November, the Presidency read out the Marrakech Action Proclamation for Our Climate and Sustainable Development to the COP plenary.

Throughout the meeting informal consultations convened under the COP on entry into force of the Paris Agreement and under the COP Presidency on the convening of CMA 1. These informal consultations were conducted back-to-back, engaging, *inter alia*, on where to house "orphan issues," the timing of the next or resumed CMA session (2017 or 2018), and whether the Adaptation Fund should serve the Paris Agreement.

Entry into force of the Paris Agreement provided certainty to parties' work on the rulebook and eliminating the possibility that a small "gang" of countries can demand concessions and weaken the treaty's operational rules in exchange for their ratifications. The US is no longer the world's largest emitter, meaning others can become climate leaders. Economically, the price and capacity of renewable energy rival fossil fuels in several developed and developing countries. Once China's national cap and trade system commences in March 2017, 60% of the world's gross domestic product will include a carbon price. During COP 22, 360 businesses, including global brands such as Nike and Starbucks, urged US President-elect Donald Trump to power the US economy with low-carbon energy. Today, governments, business leaders and investors routinely make climate-friendly decisions for the sake of their portfolios, if not the planet.

Occurring at the crest of this wave of momentum, COP 22 was perceived to have two tasks, each with a different audience. To the outside world, delegates had to demonstrate that the UNFCCC could contribute to the momentum generated post-Paris by the actions of non-state actors, as well as other international processes, including the Kigali Amendment to the Montreal Protocol that phases out the powerful greenhouse gas hydrofluorocarbons (HFCs), and the International Civil

Aviation Organization's new offsetting mechanism for carbon emissions from the international aviation sector. Internally, delegates had considerable technical work at hand, to build a foundation for the accelerated completion of the modalities, procedures and guidelines that will make the Paris Agreement implementable.

COP 22 rose to the challenges, by creating a sense of urgency and accountability for the development of a rulebook that will make the Paris Agreement implementable from day one. Parties also agreed to add to their workload by considering other items, such as the Adaptation Fund's role, as necessary components of the post-Paris climate regime, if not its rulebook. While delegates reached agreement on a fairly ambitious work programme and timeline for technical work, most of the high-level signals of commitment and energy came from outside the technical negotiations.

While welcoming the Paris Agreement on Climate Change entering into force and suggestions and recommendations of the COP-22, the IWF made its efforts to disseminate the messages of the COP-22 through available means, especially the Social Media.

Major Activities of IWF

Major activities undertaken by India Water Foundation during 2016-2017 veered round major themes of water and climate change, which *inter alia*, included: exchange and sharing of views on Salvaging River Ganga, managing water resources, climate change, meeting water shortages via desalination, continuation of conducting training programme for application of hydro-geo-morphological mapping for groundwater prospection in 8 states of the country, in addition to 12 states already covered in the previous year, launching of awareness enhancing campaigns and use of environment friendly technologies in Meerut's South Block in Uttar Pradesh and proposal for generating awareness among school children about water and climate change.

It was in this backdrop that India Water Foundation was granted in June 2016 a project on "Integrated approach for empowering local communities for ecology, water body conservation, sanitation and hygiene through supported by NCSTC, Department of Science & Technology, Ministry of Science and Technology, Government of India. The villages of Meerut South Block were covered under this project

Salvaging River Ganga

Ganga is one of the most vital lifelines of India's economy by catering to the livelihood, drinking water, agricultural and other related requirements of more than one-third of India's total population. However, over the years the mounting problem of pollution of Ganga has resulted in the diminution in its contribution to national economy. The River Ganga, with which the people of India are attached religiously, spiritually and emotionally, runs its course of over 2500 kms

from Gangotri in the Himalayas to Ganga Sagar in the Bay of Bengal through 29 cities and about 48 towns of 11 states. It is one of the most vital lifelines of India's economy, catering to the livelihood, drinking water, agricultural and other related requirements of more about 40% of India's total population.

The water of River Ganga, once said to be purer than anything in this world, is now no more pure. Its sanctity has been played with in an unbridled way and such a large scale of human intervention has destroyed the natural balance of the river. Lamentably, a concrete step has never been taken to contain the levels of pollution in the water.

It was in this backdrop that Dr Arvind Kumar, IWF President, was invited by New Delhi-based TERI to participate as a speaker and panelist in the 3rd India Water Forum 2016 organised by TERI on 20-22nd April 2016, where he presented a paper on "Is Mere Cleaning Ganga Sufficient for Sustainable Economic Development? A Civil Society Perspective". In his presentation, Dr Kumar lamented that most of the efforts undertaken in the past three decades in cleaning the Ganga had failed to yield tangible results. He summed up main problems faced by River Ganga in the three 'R's: Reduced flow of water; Reduced water-carrying capacity of the River; and Reduced water quality.

He further dwelt on the theme of stumbling blocks in salvaging River Ganga and added that there were multi-stakeholders, each nurturing its own interest at the expense of River Ganga's interest, each stakeholder is prepared to share the profit rather than sharing the credit. Besides, there was lack of synergy among different agencies and he also lamented at the over-emphasis on technological inputs at the expense of changing the mindset of the people, the main stakeholders.

As a way out, he suggested involvement of all stakeholders, inter-agency and inter-sectoral synergy between various agencies working for River Ganga; adoption of Meghalaya Model, which is based on inputs from India Water Foundation, for the management of Ganga Basin in a sustainable manner. He also emphasized on the need for changing the mindset of the people, the major stakeholders in River Ganga, by building up their capacities at the grassroots level.

IWF president was invited as a chief guest by IIT Roorkee (Uttarakhand) in early March 2017 at its annual technical festival Cognizance to recognize the Unsung Heroes that have worked tremendously to purify the River Ganga but have not received the recognition they deserve. In his address he, while lamenting at the miserable plight of River Ganga, stated that the river was contaminated from the various towns that have grown up on the banks of Ganga and every one of them is equally responsible for this. Industrial waste, untreated sewage, chemical and plastic wastes, human and animal remains etc have polluted the river beyond repair.

Citing sewage is an important source of pollution that accounts for about 75% of the total pollution from all point-sources, Dr Kumar lamented that huge amounts have been spent over the years on the pretext of keeping Ganga free from pollution without achieving any tangible outcome. Asserting that the chronic problem of pollution in the river Ganga required a comprehensive range of solutions that are synergistically supportive of each other, he further added: “It needs to be noted that the problem essentially is rooted in the governance crisis and no amount of inputs for technical, financial, or capability / knowledge enhancing will be able to reduce these core governance maladies. This is not to deny the need or utility of the technical, financial or knowledge inputs, but to warn against naiveté that prompts a search for simplistic solutions that often serve the vested interests rather than the cause of restoring the pristine glory of River Ganga.”

Managing Water Resources

In the wake of water being accorded priority in climate change policies, especially in the aftermath of the conclusion of Paris Agreement on Climate Change, we at India Water Foundation have started according equal emphasis on water and climate change and specific emphasis on judicious management and utilization of water resources.

At the request of World Bank in early May 2016 to send a brief note for World Bank EBA Project: Access to Water for Agriculture in India", IWF President, Dr Arvind Kumar sent a note entitled, "Water for Agriculture in India: A Case Study of Meghalaya", wherein he mentioned about the availability of water *vis-à-vis* agriculture in Meghalaya and made a pointed reference to the traditional methods of bamboo irrigation being adopted by the people of the state during the lean season when there is water shortage. He also mentioned about the innovative methods of setting up of multipurpose water reservoirs to store runoff storm water which is used for irrigation and drinking purposes during the lean season in the state of Meghalaya.

In the middle of May 2016, at the request of Mumbai-based online magazine, *One-India-One-People*, Dr Arvind Kumar sent an article entitled, "Managing Rainwater Meghalaya Style", wherein he dealt with the theme of how rainwater is managed in the state in the aftermath of the implementation of the IBDLP in a mission-mode and tried to show as to how the trend in water conservation and rainwater harvesting is gradually undergoing change for the better because mechanism is in place in the form of Jalkunds (small water reservoirs), Multi-purpose Reservoirs (MRs) and Roof-top Rainwater Harvesting to provide water during the lean period and these measures are reportedly yielding fruitful results in terms of easing the water situation during the lean season.

A key note presentation was made by IWF President at Workshop on Integrated Water Resources Management, organized by The Water Resources Department, Govt. of Meghalaya, on 23rd May 2016, at Shillong.

Invited as a Key note Speaker and Panelist at the 5th India-ASEAN Economic Forum at Hotel Taj Mahal at New Delhi, organized by ASSOCHAM, Dr Kumar made a presentation on "IWRM + Environment-Plus Approach for Sustainable Management of Water Resources: An IWF Perspective". While dwelling on the factors responsible for India's shrinking water resources, which *inter alia*, included: fast pace of melting of Himalayan glaciers; pollution of surface & ground water resources; burgeoning population, urbanization & industrialization; and the resultant increased demand than supply of water, Dr Kumar lamented at the lack of Integrated management framework facilitating cross-sectoral planning, development and management across competing uses. He also cited ambiguous legal and regulatory frameworks; enfeebled Water institutions at Centre & State levels without synergy; absence of participatory role of CSO & communities and lack of convergence between various water agencies as factors responsible for mismanagement of water resources.

The presentation laid emphasis on adoption of Environment-Plus initiative, pioneered by Dr Arvind Kumar, for the management of water resources in a holistic sustainable manner. While blending IWRM and water-energy-food nexus approaches, it also factors environment. It emphasizes on Actor-Synergy, Inter-Sectoral Convergence, equal emphasis on Soft Approach along with Hard Approach and from Silo Approach to Collective Approach in water sector. Many participants showed keen interest in ascertain more details about this initiative.

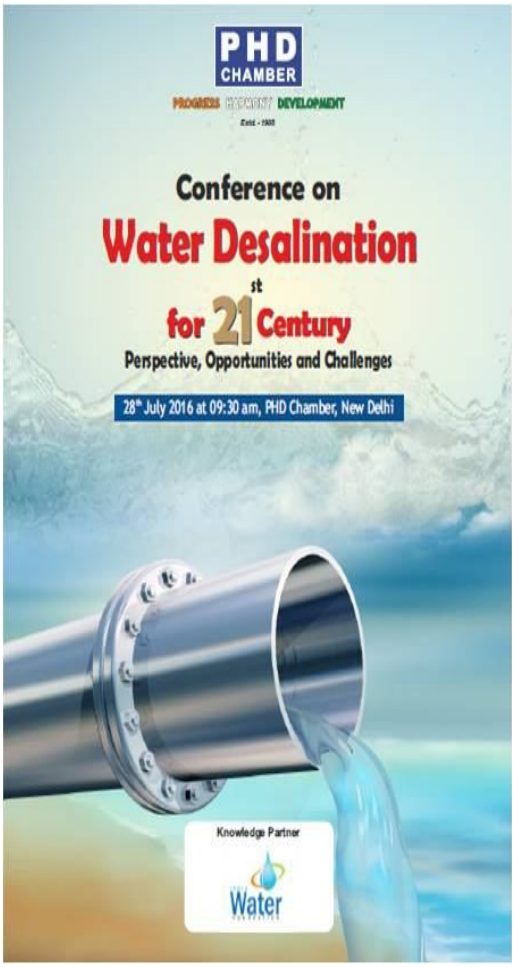
A presentation on 'Looking Beyond the Boundaries: Harnessing Meghalaya's Watershed Potential' was made by IWF President at the Conference on "Reducing Water Footprints of Thermal Power Plants in India" organized by TERI in technical collaboration with NTPC Energy and Technological Research Alliance (NETRA) and with support from Shakti Sustainable Energy Foundation and VA TECH WABAG Limited.

Dr Arvind Kumar participated in the talk on "Reference group discussion and validation of the regional scoping study of sustainable intensification of agriculture in SAARC region" on 27th December 2016 in SAC, Dhaka, Bangladesh organized by SAARC Agriculture Centre (Sac), Dhaka under the directives of SAARC Secretariat.

Meeting Water Shortage via Desalination

India's share of global population stands at 16%; nonetheless, it is endowed with only 4 percent of water resources. The major sources of water are surface water and groundwater, which are unevenly distributed. The yawning deficit between growing water needs of urban population and scarcity in supply urban areas, especially in major coastal cities in India, is assuming serious proportions. Thus, desalination is seen as a relevant and economically feasible solution to water problems in coastal areas.

The earth encompasses about 70% of the planet surface area; the percentage of salt water in this huge amount is 97.5%. The remaining 2.5% is fresh water with 80% of this amount frozen in the icecaps or combined as soil moisture. Both forms are not easily accessible for human use. The remaining quantity, about 0.5%, is believed to be adequate to support all life on Earth. India has a long coastline of 7,600 km, hence available of plentiful seawater makes desalination viable for meeting water requirements.



Possibilities of harnessing desalination of seawater to meet water shortages have been explored in and are being explored in many countries, including India. In this context, the PHD Chamber of Commerce, based in New Delhi, organized a conference on 28 July 2016 on "Water Desalination 21st Century: Perspective, Challenges and Opportunities", at New Delhi in cooperation with India Water Cooperation. A publication entitled, *Water Desalination for 21st Century*, jointly prepared by India Water Foundation and PHD Chamber of Commerce, was also released on the occasion.

Invited to make a presentation at the conference, Dr Arvind Kumar, president of IWF, presented a paper on "Can Desalination Alone Meet India's Growing Water Needs in a Sustainable Manner? A Civil Society Perspective," wherein while dwelling the prospects of desalination in India, he focused on the main challenges being faced by desalination in India, which *inter alia* included: high plant costs, costly technology and technology being highly energy intensive. Emphasizing that desalination was more suitable for coastal states in where surface or groundwater was either salty or brackish; where henceforth availability of plentiful seawater there desalination could be seen as a more viable option, Dr Kumar lamented that high costs in terms of plants, technology and high energy consumption prevented adoption of desalination at large-scale.

As a way out, he suggested that making desalinated water available in the coastal states, it was essential to ensure involvement of all stakeholders essential along with added emphasis on the need for inter-agency and inter-sectoral synergy in desalination processes. Emphasizing on the

need for formulating a comprehensive national desalination policy with active involvement of states, especially the coastal states, he also stressed on the necessity of making available sufficient funds to install new desalination plants and eliciting latest technologies. While emphasizing on the dire necessity of encouraging use of renewable energy in desalination process, he stressed that involvement of Civil Society was essential for capacity building of local communities with regard to environmental concerns and impact of greenhouse gases in order to reap good dividends out of desalination to meet growing water demand of various sectors.

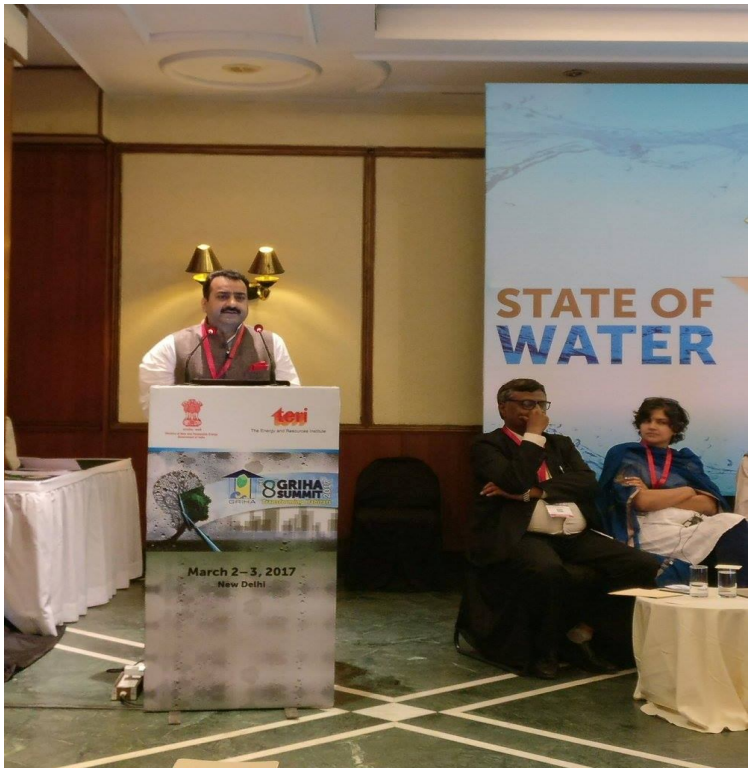
Climate Change

In the wake of conclusion of the Paris Agreement on Climate Change, India Water Foundation had started according priority to climate change along with water in terms of the Paris Accord and it laid emphasis in its presentations and Social Media messages accordingly.

The IWF president attended the workshop on Climate Finance Readiness as a technical resource person in August 2016 organized by UNEP with the National Bank for Agriculture and Rural Development (NABARD) as well as the Adaptation Fund Board (AFB) in Mumbai.

Dr Arvind Kumar participated in the panel discussion and presented a paper at the 17th Regulators and Policy Makers Retreat (RPR 2016) which was held on 22nd – 25th September 2016 at Goa, organized by IPPAI and IWF was also the knowledge partner. He was invited by Meghalaya Government for stakeholders consultation (Different line departments of Meghalaya Government, V.C. NEHU) for SDGs preparation.

In his presentation on "Green Habitat in Meghalaya", made at the 8th Annual GRIHA National Conference, the GRIHA Summit 2017, held on 2nd -3rd March 2017 at India Habitat Centre, New Delhi, while asserting that water and climate change are fundamental to a sustainable green habitat, he further explained that a sustainable green habitat is an ecosystem that is endowed with food and shelter for people and other organisms, without resource depletion and in such a manner that no external waste is produced and the habitat can continue into future tie without external infusions of resource.



While stating that urban habitats in India usually entail frenetic building construction activities to meet the growing demand for homes, offices, and shops, he lamented that these activities bring the habitat under pressure to share strong linkage with energy use, resource depletion, especially water, natural habitat destruction and climate impacts. While referring to the green habitat in Meghalaya, Dr Kumar said that **s**ustainable green habitat mission in Meghalaya is covered under its Green Mission, under which emphasis is laid on encouraging dissemination, use and development of 'green' construction technology. Besides, building construction activities in the state are carried out in accordance with the guidelines laid down by the National Green Habitat Mission under the Union Ministry of Urban Development, Government of India.

He further mentioned that the Raj Bhavan in Shillong and Mawlynnong village in Meghalaya's East Khasi Hills had recently been awarded by the Indian Green Building Council (IGBC) for successfully achieving the Green Building Standards, required for the level of certification under IGBC, for Green Existing Buildings Operation and Maintenance (O&M) Rating System and also for Green Village Rating System respectively.

Training Programmes

Training in Hydro- Geo-morphological Mapping

In continuation of its conducting of training programme on "Application and Uses of Hydro-Geomorphological Maps (HGMs) for Groundwater Prospection" tasked by the Union Ministry of Drinking Water & Sanitation, Government of India, in 20 states, India Water Foundation, as a Key-Resource Centre of the MDW&S, had successfully completed the training programme in 12 states in the financial year 2015-16. The task of conducting training programmes in remaining eight states was resumed by IWF in November 2016 and was completed by the end of January 2017. Undoubtedly, the task was challenging especially in view of the very short span of time within which it was to be accomplished; nevertheless, IWF was able to conduct the training program successfully within the stipulated period.

The training programme was conducted by the experts of IWF in 8 states as per following schedule: on 11-12 November 2016 at Chandigarh (Punjab), on 15-16 November 2016 at Dehradun (Uttarakhand), on 25-26 November 2016 at Gangtok (Sikkim), on 16-17 December 2016 at Hyderabad (Telegana), on 23-24 December 2016 at Karnal (Haryana), on 6-7 January 2017 at Gandhinagar (Gujarat), on 20-21 January 2017 at Bhubneswar (Odisha) and on 30-31 January at Nagpur (Maharashtra).

The overall outcome of this training programme was very salutary in terms of enthusiastic response from the participants from the states and their keen interest in harnessing satellite imagery for water prospection. Accordingly and in consonance with the desire of the participants, special emphasis was laid on the application and use of lineaments and drainage as well as DEM factors by the instructors of the IWF in course of deliverances by the training instructors.

The quiz-test result following the 2-day training session in each state was interesting in as much as over 98% of the answers to questions were found given as correct answers by the trainee participants. There was unanimous resolve by participants to reducing any failure in future while making explicit use of HGMs in developing and augmenting rural water supplies to uncovered, partially-covered and water-quality-affected habitations.

We at India Water Foundation are convinced that these training programmes will prove instrumental in fostering synergy between the states, where these training programs have been conducted, and Central agencies in water sector. Water authorities in some states insisted on conducting such programs with increased frequency.

Training Workshop on "Application and Uses of Hydro- Geo-morphological Maps (HGMs) for Groundwater Prospection" 2016-17

PUNJAB

UTTARAKHAND

SIKKIM

TELANGANA

HARYANA

GUJARAT

ODISHA

MAHARASHTRA

Awareness Enhancing Campaign on Eco-WASH

India, already faced with acute water shortage, is also confronted with some crucial issues severely affecting water quality as well, especially in rural areas where even traditional sources like dug-wells, ponds, lakes etc are either drying up or polluted. Water-borne diseases are severely affecting health of the people. Apart from adhering to policy measures, there is also need for spreading public awareness through extensive communication, outreach programme and building capacity of people to conserve water resources; develop wider understanding on protection of ponds/lakes/dug-wells, rainwater harvesting, environment conservation; promote sanitation and hygiene.

It was in this backdrop that India Water Foundation was granted in June 2016 a project on "Integrated approach for empowering local communities for ecology, water body conservation, sanitation and hygiene through awareness enhancing campaigns and Use of environment friendly technologies" in Meerut South Block supported by NCSTC, Department of Science & Technology, Ministry of Science and Technology, Government of India. The villages of Meerut South Block under this project are Gagol, Fafunda, Chansara, Narhara, Mahiuddinpur, Bhudbaral, Gumi Jurranpur, Jurranpur, Mahrauli, Uplehda, Khedabalrampur, Bajot and Jalalpur. In our proposal we had to choose 10 villages out of these proposed villages, but later during our survey we found that for sustainable integrated approach to empower the local community and to get tangible outcomes all 13 villages which are in red zone should come under the identified project area to carry out the project work mentioned in the proposal.

The first phase of the project started with an extensive survey in all the villages of the block to understand specific problem areas. We sent messages, reminders through SMS about the planned activities in respective villages. Information regarding different aspects of sanitation, hygiene, health and water conservation etc was disseminated through flyers distributed by hand and posters pasted at key areas in the respective villages. Painting competition was held in the schools of the villages of Meerut South Block on the said topics and the winning entries were incentivized accordingly. Nukkad nataks were also organized for the villagers to spread awareness about personal hygiene, sanitation and ills of open defecation.

Two stakeholder consultations (on 9 September 2016 and on 26 October 2016) in the form of training workshops were also organized wherein the trainers and experts imparted ECO-WASH training to the delegates. Different line departments of local administration, political representatives, students, gram pradhans, women and other nominated delegates from villages and media were also present in the consultation.

Various audio visual shows were organized during the consultations, especially for students and women, about personal hygiene, sanitation and ill-effects of open defecation, water harvesting and different techniques of irrigation in order to conserve water. Water samples were collected from four villages which were tested on 12 parameters. From the start of the projects till date around 25,000 people have been sensitized and galvanized through the above mentioned outreach programmes.

This project involved close interaction and participation of multiple agencies like Panchayats, Block & District administration and State Department as well as multiple stakeholders like students, educationists, civil societies, media, line departments of the district, women, children. We received overwhelming response from all stakeholders. We also focused on convergence of multiple agencies. The salutary outcome was in terms of capacity building of various stakeholders in water quality, sanitation, hygiene, judicious use of water for day- to-day activities and irrigation through folk media and audio visual campaign.

Generating Awareness among School Children

The youth and children are brimming with energy, skill, hopes, determination and exuberance, which if properly harnessed can make them harbingers of socio-economic transformation of the society. Wrong channelization of these energies entails the potential of making the children as agents of societal destruction because they lack proper guidance and critical thinking. Thus, here lies the role of the teachers and parents in guiding the youth and children to the correct way of living and utilizing their vital energy for the betterment of society.

During the summer vacations, students nurse ambitious plans to spend their vacations. The manner in which students spend their time often provides a window through which their wellbeing can be appraised. Bulk of the vacation period is spent, apart from doing school homework for the period, in good constructive activities like playing, sports, watching TV and reading etc. Many experts opine that children's constructive use of time and participation in positive activities are indicators of healthy positive development, particularly in the attainment and development of skills.

Accordingly, in the last week of March 2017, India Water Foundation, in a general letter addressed to the principals of the schools of Delhi, called upon each school to help build capacity building of the students in cooperation with India water Foundation in sensitizing them about Sustainable Development Goals (SDGs) and about the decisions and recommendations of the Paris Agreement on Climate Change because involvement of youth was essential for the realization of these goals.

Asserting that capacity building of the students was essential with the help of a civil society to carry forward the missions of the SDGs and Paris Agreement on Climate Change, IWF expressed its willingness to cooperate with the schools in capacity building programmes of the students in the management of natural resources, especially water, energy and environment, sanitation and personal hygiene. It was also emphasized that the students thus trained with the help of capacity building programs could students could spend a part of their summer vacation to interact with the village residents, spread literacy, impart them training in personal hygiene, avoid open defecation, conservation and preservation of natural resources, especially water from contamination and encouraging the rural folks for judicious use of water, thereby becoming agents of change in transforming the face of rural India.

Asserting that such a program could have serious positive outcomes for the entire nation, the IWF hoped that thousands of villages would be adopted by school children every year and improved rural life in terms of good health and hygiene, potable drinking water and spread of literacy could help in the realization of SDGs and enhance resilience to climate change, thereby ushering in prosperity in rural India.

International Cooperation

Earnest efforts were continued by India Water Foundation during 2016 to foster close rapport and cooperation with UN Specialized Agencies, international agencies, organizations and institutions in SDGs and Climate Change with specific reference to Paris Agreement on Climate Change, especially in water, energy and environment sectors, in the aftermath of water having been accorded priority in negotiations on climate change. IWF continued to maintain its synergy with UNEP, ESCAP-SSWA office, WHO, UNICEF, FAO, UN-Habitat etc. While keeping a tab on the process of implementation of the SDGS and the provisions of the Paris Agreement on Climate Change in different parts of the globe, IWF has been monitoring the progress and other developments in this regard and has been reflecting on them in the Indian context through the social media and other media write-ups.

Miscellaneous Activities

- Presentation of a paper on "Is Mere Infrastructural Connectivity Sufficient for Regional Economic Integration and Development in Eastern South Asia?" by IWF president at the Economic Cooperation Dialogue on Regional Connectivity and Border Special Development Zones in Eastern South Asia, jointly organized by the UNESCAP, the Government of Meghalaya, India and the North Eastern Council on 25-26th April 2016 at Shillong, was highly appreciated by the participants. Asserting that an efficient infrastructural connectivity also entailed cultural and socioeconomic factors that could not be ignored.

- IWF president participated in residential training programme on "Climate Change and Disaster Risk Management in Planning And Investment Projects", organized by Asian Development Bank and Asia Pacific Adaptation Network on June 27-29, 2016 at New Delhi, India. He had meeting and interaction with experts and delegates, especially from the SAARC nations.

- IWF president spoke at the platform of Stakeholders Consultation-I on "Integrated approach for empowering local communities for ecology, water body conservation, sanitation and hygiene through awareness enhancing campaigns and Use of environment friendly technologies" in Meerut South Block, on 9th September 2016. An awareness campaign by India Water Foundation supported by NCSTC, Ministry of Science and Technology, Government of India.

- Dr Arvind Kumar, president IWF, spoke at the platform of Stakeholders Consultation-II on "Integrated approach for empowering local communities for ecology, water body conservation, sanitation and hygiene through awareness enhancing campaigns and Use of environment friendly technologies**"** in Government School Mohiuddinpur a village of Meerut South Block, on 26th October 2016. An awareness campaign by India Water Foundation supported by NCSTC, Ministry of Science and Technology, Government of India**.**

- Dr Arvind Kumar took part in the symposium as a panelist on Income Security for Older Persons in South Asia organized by UN-ESCAP in collaboration with the National Institute of Public Finance and Policy (NIPFP), on 27th February 2017 at New Delhi. During the panel discussion, Dr Kumar remarked that it was essential to ensure the economic security of the senior citizens, especially those who were either uncared or neglected.

About India Water Foundation

India Water Foundation (IWF), a non-profit civil society and think tank, is engaged in enhancing public awareness about Sustainable Development Goals (SDGs) and major components of the Paris Agreement on Climate Change, with specific emphasis on SDG-1 on About Ending Poverty, SDG-2 about Food Security, SDG-6 about Water & Sanitation, SDG-7 about Energy and SDG-13 about combating Climate Change, in Asia-Pacific region in general and India in particular. It also emphasizes on familiarizing the people regarding the vital role water, energy and environment play in human lives, their impact on health, economic growth, livelihoods of the people and calamities that wreak havoc due to non-judicious harnessing of these natural resources. Generation of this awareness is facilitated through seminars, conferences, symposia, outreach and personal contact programs etc. As water is an essential component of power generation and food production, therefore, IWF is also engaged in ensuring environmental security, water security, energy security and food security which are essential for sustainable development.

Vision

IWF envisions attainment of the 17 SDGs along with targets and the objectives of the Paris Agreement on Climate Change within the stipulated period. It also nurtures its vision to visualize Asia-Pacific region as a water-surplus region sans environmental hazards by 2050 by integrating IWRM, Nexus and EbA approaches as key components of sustainable development goals into national policy at local, provincial, national and regional levels by harnessing water-energy-climate-food nexus approach, assimilation and dissemination of wit and wisdom from local to global level and *vice versa*, promotion of inter-sectoral convergence in water, energy and environment sectors, capacity-building of all stakeholders

in water, energy and environment sectors, equal emphasis on Soft and Hard Solutions to water and environment related problems and to change the mind-set of the stakeholders by sensitizing, incentivizing and galvanizing the people about water-energy-environment related issues.

Mission

The IWF works amongst the people at the grassroots level, especially amongst the marginalized and weaker sections, women, tribal's and the poorest communities in India and the Asia-Pacific region, in cooperation with local, state and national governments, and with other like-minded civil society organizations (CSOs), to help them develop water, sanitation, hygiene and climate change adaptation services that are not temporary, but lasting forever. The IWF identifies the roadblocks to sustainable development and helps overcome them. It helps the people to make the change from short-term gains to long-lasting services that could transform their lives and their futures.

Partnership, Accreditation and Rapport of IWF

India Water Foundation has been empanelled as National Key Resource Centre (KRC) under Ministry of Drinking Water & Sanitation GOI, and has Direct Membership with ICID, New Delhi, Member of the General Body of CAPART (Council for Advancement of People's Action and Rural Technology) under the Ministry of Rural Development, Government of India. It has partnership, rapport and accreditation with many national and internationally reputed organisations, NGOs and CSOs etc., especially rapport with UNEP, UN-ESCAP and other UN/International Organisations. It is also a knowledge partner of Meghalaya Basin Development Authority (MBDA) Government of Meghalaya, and Meghalaya Water Foundation and President of the IWF has been appointed as member of Meghalaya State Water Resources Council, Member of the World Water Council and Member of the Global Compact Network India.

The IWF has worked as a Civil Society Organization (CSO) to provide its services to carry out social development and Public Awareness and Public Participation (PAPP) activities under the JICA- assisted Ganga Action Plan project for a period of three years in Varanasi.

IWF's Thought Leadership

India Water Foundation has amassed a plethora of knowledge wealth through its exposure and participation in leading national and international deliberations in water, energy and environment sectors and on the basis of this accumulated knowledge it has pioneered non-engineering and non-technical solutions which are of equal significance in tackling water and environment related problems by encompassing PPT (People – Process – Technology). The gives the IWF advantage of thought leadership in many areas like policy formulation, facilitating conferences, seminars,

symposia, workshops etc., capacity-building and sustenance, eco-sustainability, facilitating technology intervention, nexus approach, assimilation & dissemination of Water, Environment and Sanitation related knowledge, Inter-Sectoral Convergence, emphasis on Soft Approach, collective approach on Water and other related sectors etc. These are briefly described below:--

Catalyst for Policy Formulation

India Water Foundation has highly qualified, experienced and dedicated experts in the field of water management and governance, climate change mitigation and adaptation. These experts have immense exposure to national and international leading practices and innovative techniques and as such their expertise can be utilized in the formulation of critical policies. This expertise can be extremely effective in policies creation that will support inter-sectoral 3Cs – Cooperation, Coordination & Convergence - enabling effective impact as a result of optimized implementation of the policies. The IWF is capable of contributing to a great extent in designing, planning and monitoring of highly specialized programmes which can be helpful in improving the water management system in a sustainable manner, especially at the grassroots level.

Facilitating Conference/Workshop/Seminars

Prolonged vast exposure to national and international conferences, seminars, symposia, workshops and round-tables has enabled India Water Foundation to amass a very rich experience in organizing conferences/seminars/workshops etc at regional, national and international levels. Owing to its close partnership and rapport with various leading national and international organizations /agencies/institutes, the IWF can elicit the cooperation and participation of technical experts. The IWF is equally well placed to interact with private sector companies engaged in water, energy and environment sectors. Thus, the IWF is privileged to extend wide variety of facilities which are essential for making conferences/seminars/symposia a gala success.

Key speakers constitute the spine of the conference/seminar/workshop and their pronouncements cast a wide-ranging impact on the audience and provide news material for the media. Owing to its good relations with the leading national and international agencies, the IWF can facilitate the availability of senior advisors/experts for the designated conference/seminar. Besides, it can also elicit the cooperation of experts from leading academic and technological institutions for the same purpose.

Concomitantly, the IWF maintains very cordial relationship with media, both print as well as electronic. Media wields tremendous impact on global politics and society owing to its vast reach. Media coverage provides opportunity to disseminate the message and helps in boosting the image. The IWF can facilitate interaction with print and electronic media.

The IWF can be instrumental in providing a platform for the regional and international stakeholders to encourage greater coordination and collaboration among policy makers, authorities, professionals, researchers, civil society representatives, private sector as well as operators of water, energy and environmental facilities. It can be helpful in bringing together the public and private sector players, and central and local authorities, thus offering most up-to-date solutions.

Capacity Building and Sustenance

Capacity building enables the stakeholders to efficiently deploy their resources for the sustainable development of natural resources, especially water and energy. Capacity building programs for resources at ground level and especially Engineers and Hydrogeologists of all the water-user state agencies as well as for ULBs and community are essential for the better management of water resources.

In Capacity building exercises, India Water Foundation involves all stakeholders and includes local traditional knowledge and wisdom to ensure better adaptability and acceptance. The Capacity Building programs organized by IWF in water sector generally include areas like Groundwater and Hydro-geology, Water Harvesting including Urban Storm Water harvesting, Drinking Water Quality Monitoring and surveillance including establishing Brackish Ground Water (BGW) Desalination plants to reducing pressure on fresh water resources, sustainability activities - Designing and implementation, improving community participation involvement in management of Urban Drinking Water, supply schemes - establishing water project groups made up of community leaders who are trained by experts on how to monitor, maintain and repair water systems and training of trainers for District and Subdivision level trainers for the states on technical capacity building of the community etc.

Nexus Approach

India Water Foundation envisions integrating sustainable development into national policy at national, regional and global level. Sustainable development is a new paradigm for economic growth, social equality and environmental sustainability. Water is a key component of sustainable development and all ecosystems are inextricably linked with water. Keeping in view the close nexus between water, environment, energy and food, solution to water related problems can better be facilitated through this ‘nexus approach’, which seeks to find solutions based on convergence between various sectors or disciplines and is being widely regarded along with resilience to attain sustainable development. The nexus approach can serve as a bridge that could engulf the gap between the social, economic and environmental pillars of sustainable development. In pursuance of this ‘nexus approach’, the IWF focuses on Environmental Security, Water Security, Energy Security and Food Security.

Assimilation and Dissemination of Water Knowledge

India Water Foundation is engaged in assimilation and dissemination of plethora of wit and wisdom generated locally, regionally and globally in water sector and making it accessible to all stakeholders in water sector in their vernacular language so that the concerned stakeholders are benefited by it. Water related knowledge is generated through innovation experimentation and techniques, seminars, conferences and workshops etc. However, the knowledge thus generated remains confined to printed reports in different languages that adorn the shelves of the archives and it seldom reaches the masses which are main stakeholders of water sector. The IWF plans to make efforts in this regard to assimilate such knowledge and get it translated into local languages for further dissemination amongst the people. However, it is gigantic task requiring collective support of national, regional and international agencies.

Inter-Sectoral Convergence

There are about eleven ministries of the Government of India which deal with water related issues in one way or the other. These ministries inter alia include Ministry of Water Resources, Ministry of Urban Development, Ministry of Rural Development, Ministry of Health, Ministry of Drinking Water and Sanitation, Ministry of Environment & Forests, Ministry of Agriculture etc. Besides, water being a state subject is being looked after by each state according to its requirements. Thus, there exists a sectoral approach to water related issues and there is lack of coordination, cooperation and convergence in water sector between and amongst various Central ministries on the one hand and between the Central Government and states on the other. This results in duplication of work and extra expenditure without achieving tangible outcome of significance.

It is in this backdrop that the IWF has been making efforts to promote inter-sectoral and intergovernmental convergence in water sector and it has succeeded to some extent as well. India Water Foundation has been espousing the case for establishing **India Water Hub** as an apex body where all stakeholders in water sector share their knowledge and get their water-related grievances redressed at national and local levels.

Emphasis on Soft Approach

India Water Foundation has taken up the initiative of laying equal emphasis on ‘Soft Approach” along with ‘Hard Approach’ to tackle water related problems. Thus far the major emphasis has been on finding engineering and technological solutions to water related issues and policy making, its implementation and feedback process from the stakeholders has generally not received due emphasis which it deserves. The Soft Approach entails capacity building of the people and as such India Water Foundation is affirmative about the need for capacity-building of

the people and institutions in water sector. This task of **capacity-building** of the people can be accomplished by sensitizing, incentivizing and galvanizing the people about water-related issues.

Sectoral to Collective Approach

Adverse impact of the ongoing process of climate change, fast depletion of global surface and ground water resources and rapid melting of glaciers coupled with mounting problem of pollution of water resources cumulatively add to the already grim problem of acute shortage of drinking water in almost all parts of the globe. Various UN agencies like UNEP, UN Habitat, UN ESCAP, UNESCO, WHO, FAO, UNICEF etc and international water organizations look upon water from their regional or problem-centric perspective. Nevertheless, water governance is a global issue that calls for collective approach and not sectoral approach. India Water Foundation lays emphasis on international and inter and intra-organizational synergy in water sector to tackle the problems pertaining to water and thereby ensuring sustainable supply of safe drinking water globally.

YES WE CAN CHANGE .....JAL MITRA

शुद्ध जल के प्रति लोगों को किया जाएगा जागरूक

इंडिया वाटर फाउंडेशन की पहल

मेरठ, संवाददाता। शुद्ध पानी सभी का हक है शुद्ध पानी के प्रति लोगों को जागरूक करने के उद्देश्य से बृहस्पतिवार को इंडिया वाटर फाउनडेशन के विशेषज्ञ मीडिया से मुखातिब हुए। उन्होंने कहा शुद्ध जल उपलब्ध होना सभी देशवासियों का अधिकार है। दूषित पानी पीने से अनेक रोग शरीर में उत्पन्न सकते हैं। स्वस्थ जीवन जीने के लिये शुद्ध पानी मिलना बहुत आवश्यक है।

ऐसा ही प्रयास इंडिया वाटर फाउनडेशन का है वाटर फाउनडेशन के अध्यक्ष अनिल कुमार ने बताया कि इंडिया वाटर फाउंडेशन को मेरठ दक्षिण ब्लॉक में एनीएसटीसी विज्ञान और प्रौद्योगिकी मंत्रालय भारत सरकार के द्वारा जागरूकता संवर्धन अभियान एवं पर्यावरण अनुकूल प्रौद्योगिकी हेतु परिस्थितियों, जल संसाधन संरक्षण, स्वच्छता एवं स्वास्थ्य के लिए एकीकृत दृष्टिकोण के माध्यम से स्थानीय समुदायों का सशक्तिकरण 2016-17 परियोजना मिली है। जिसके अन्तर्गत मेरठ दक्षिण के 13 गांव गगोल, फफूंदा, चनसारा, नरहारा माहीउद्दीनपुर, बुडबराल, गुमी जुर्रानपुर, जुर्रानपुर, मेहरौली, उपलेहडा, खेडबलरापुर, बेंजोट और जलालपुर शामिल है।

इस परियोजना केअर्न्तगत इंडिया वॉटर फाउंडेशन एक दिवसीय कार्यशाला का आयोजन 9 सितंबर 2016 को प्रातः नौ बजे से गैलैक्सी फार्म एल ब्लॉक शास्त्री नगर के सामने हापुड रोड पर कर रहा है।

कार्यशाला के उद्घाटन समारोह की अध्यक्षता आलोक सिन्हा आईएएस कमिश्नर मेरठ मंडल एवं समापन समारोह की अध्यक्षता जगत राज आईएएस जिलाधिकारी मेरठ करेगे। विशिष्ठ अतिथि विपांक अय्यर आईएएससीडीओ मेरठ, सांसद डॉ यशवंत सिंह, अश्विनी त्यागी महामंत्री बीजेपी, रविन्द्र भड़ाना एवं अन्य गणमान्य व्यक्ति व प्रमुख प्रशासनिक अधिकारी इस कार्यक्रम की गरिमा बढ़ाएंगें।

इस कार्यक्रम में ग्रामीण क्षेत्रों के 10 स्कूलों के छात्र-छात्राएं व शिक्षकगणों को शुद्ध पानी के प्रति जागरूक किया जायेगा तथा 13 गांवों के प्रतिनिधि भी उपस्थित रहेंगे जो इस कार्यक्रम का हिस्सा बने शुद्ध पानी के फायदों को समझकर अपने-अपने गांव की जनता को शुद्ध पानी के प्रति जागरूक करेंगे।

जल संरक्षण को जागरूक करेगा इंडिया वाटर फाउंडेशन

निचले स्तर से हो जल संरक्षण की शुरुआत : मंडलायुक्त

इंडिया वॉटर फाउंडेशन की एक दिवसीय कार्यशाला 9 सितम्बर को

मेरठ ग्लोब न्यूज | September 8, 2016 | मेरठ न्यूज | No Comments

मेरठ : इंडिया वॉटर फाउंडेशन को मेरठ दक्षिण ब्लॉक में एनसीएसटीसी, विज्ञान और प्रौद्योगिकी मंत्रालय भारत सरकार के द्वारा जागरूकता संवर्धन अभियान एवं पर्यावरण अनुकूल प्रौद्योगिकी हेतु पारिस्थितिकी, जल संसाधन संरक्षण, स्वच्छता एवं स्वास्थ्य के लिए एकीकृत दृष्टिकोण के माध्यम से स्थानीय समुदायों का सशक्तिकरण 2016-17 परियोजना मिली है। जिसके अंतर्गत मेरठ दक्षिण ब्लॉक के गांव गगोल, फफूंदा, चनसारा, नरहारा, माहीउद्दीनपुर, भूड़बराल, गुमी, जुर्रानपुर, मेहरौली, पल्हैड़ा, खेड़बलरामपुर, बेंजोट और जलालपुर शामिल हैं

जल का दोहन नहीं रोका तो होंगे भयावह परिणाम: डा. अरविन्द

इंडिया वाटर फाउन्डेशन का ईको वॉश कार्यक्रम

इंडिया वाटर फाउंडेशन ने स्वच्छ जल का महत्व बताया

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देश में गांवों और शहरों के बीच असमानता दूर करने के प्रयास

IWF workshop on ground water

SE Report

GANGTOK, November 25: A two-day workshop on 'Application & Uses of Hydro Geomorphologic Maps (HGMs) for Ground Water Prospection" conducted by India Water Foundation (IWF), a national key resource centre of Ministry of Drinking Water and Sanitation, started today at Janta Bhawan here.

The inauguration ceremony was attended by Rural Development superintendent engineer Bhupendra Kothari, IWF president Dr. Arvind Kumar, former CGWB chairman Dr. S.C. Dhiman, former CGWB member Dr. S.K. Sharma and IWF executive secretary Shweta Tyagi, informs a press release.

In his address, Kothari applauded the efforts of India Water Foundation and encouraged the delegates to be interactive and motivated them to have productive two days of training workshop.

While welcoming the dignitaries, the IWF president talked about the need of sharing knowledge between Central and State governments, organizations and various other agencies to enable bringing all the stakeholders on a common knowledge platform and enable forward linkage with Sustainable Development Goal-6, which envisages achieving universal and equitable access to safe and affordable drinking water and to achieve access to adequate and equitable sanitation and hygiene for all.

Dr. Kumar laid emphasis on the practical implementation of available technologies and knowledge along with the convergence of the line departments and all other stakeholders to positively impact outcomes. He talked about a dire need to have a planned road map for water security plan.

Dr. Kumar, a member of Meghalaya Water Resources Council, also mentioned the Meghalaya Model here where the convergence of top-down and bottom-up approach has brought various departments to work together for a common outcome. He emphasized the fact that such trainings while enhancing the current engineering solutions would also support and help newer technology adoptions.

The release informs, Dr. Kumar also met with Governor Shriniwas Patil.

During the meeting, they shared concern on climate change and rapid urbanization in Sikkim.

Dr. Kumar expressed a need for a centre of excellence in the State to cater to the various needs of not only sustainable water supply and water conservation but also of spring revival, multi-utility reservoirs, small hydro grid and also water as a sustainable goal which helps to create alternative livelihood using bottom-up approach and inputs and funding from various international and UN organizations and Central government to develop entrepreneurship and sustainable livelihood in Sikkim like the IWF did in Meghalaya to combat the futuristic requirements, the release mentions.

Shweta Tyagi
Chief Functionary
India Water Foundation
201, South Ex. Plaza-I, South Extn. Part-II,
New Delhi-110049, India
shweta.tyagi@indiawaterfoundation.org
www.indiawaterfoundation.org