

# ANNUAL REPORT 2017-18



**INDIA WATER FOUNDATION**



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# Foreword



Momentous developments occurring at global, regional and national levels in the realms of water, environment and sustainable development have bearing on the activities of India Water Foundation, both directly and indirectly. Coming into force the Paris Agreement on Climate Change (PACC) and 2030 Agenda along with Sustainable Development Goals (SDGs) along with their targets have emerged as the major determinants of international development discourse impacting almost all levels of development from local to global. Accordingly, the momentous developments that greatly influenced us at India Water Foundation and in a similar way the activities conducted by India Water Foundation (IWF) during 2017-2018 were greatly affected and influenced by significant developments like the similar themes of the 2017 World Water Day as well as 2017 *World Water Development Report*, which emphasized on wastewater management, release of *2017 Global Outlook of the Water Industry* by a private company in Sept 2017, World Bank Report on *The New Economics of Water Scarcity and Variability 2017* released in October 2017, Bonn Climate Change Conference (COP 23) convened on 6-17 November 2017 at Bonn in Germany, and US government's Global Water Strategy 2017 released in Nov 2017.

The 2017 *World Water Development Report* envisaged a paradigm shift by focusing on wastewater, the vast quantities of which originating from domestic, agricultural and industrial sources discharged into the environment everyday as a valuable resource, which entails the potential of playing critical role in the context of a circular economy, whereby economic development is balanced with the protection of natural resources and environmental sustainability, and where a cleaner and more sustainable economy has a positive effect on the water quality.

*2017 Global Outlook of the Water Industry* report was released in September 2017 by Frost& Sullivan, a business consulting, asserted that resilience would drive the water industry and address global climate change, water security and rapid urbanization. With its primary focus on urban water management, the report revealed that the demand for sustainable solutions in the municipal segment being driven by huge investments made to build resilient cities across the world, a continual push for circular economy could lead to innovation in making the water infrastructure sustainable.

World Bank's new report – *Uncharted Water: The New Economics of Water Scarcity and Variability* - launched in October 2017, while referring to the adverse impacts of droughts, also noted that repeated droughts around the world have shockingly large and often hidden consequences, destroying enough farm produce to feed 81 million people every day for a year, damaging forests, and threatening to trap generations of children in poverty.

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The UN Climate Change Conference also known as COP-23, convened from 6-17 November 2017, in Bonn, Germany under the Presidency of Fiji, adopted 31 decisions, 24 under the COP, seven under the CMP, that, inter alia give guidance on the completion of the Paris Agreement work programme, launch the Talanoa Dialogue (the name for the 2018 Facilitative Dialogue called for by decision 1/COP-21, which adopted the Paris Agreement) and give prominence to the pre-2020 implementation and ambitions under the “Fiji Momentum for Implementation”; decide that the Adaptation Fund shall serve the Paris Agreement subject to decisions to be taken at CMP 1-3; operationalize the local communities and indigenous peoples platform; establish a gender action plan; assess the technical examination process on mitigation and adaptation.

The vision articulated in the 2017 *Global Water Strategy* envisaged a water-secure world, where people and nations have the Water; they need to be healthy, prosperous, and resilient. In order to advance the vision of the *Strategy*, this document stressed that the U.S. government would work with partner countries and key stakeholders to achieve four inter-related objectives: (1) increasing access to sustainable safe drinking water and sanitation services, and promoting hygiene; (2) protecting freshwater resources; (3) promoting cooperation on shared waters; and (4) strengthening water governance and financing.

Major activities undertaken by India Water Foundation during 2017-2018 veered around major themes of water and climate change, which *inter alia*, included: exchange and sharing of views on salvaging river Yamuna, rejuvenating river Ganga, managing water resources, climate change, tackling water scarcity, focus on SDGs and proposal for generating awareness among school children about abandoning the use of plastic.

It gives me tremendous 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

India Water Foundation



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## Overview

In the wake of growing recognition of water as a crucial factor in the process of Climate Change, especially since 2016 onwards, a transitional trend is discernible towards viewing water as critical to both climate mitigation and climate adaptation. In the aftermath of water acquiring more explicit role within UNFCCC institutional mechanisms and processes, the 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. Besides, this has also become an integral part of the discourse on sustainable development as represented by 2030 Agenda and Sustainable Development Goals (SDGs).



India Water Foundation (IWF), a non-profit civil society organization, 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), as well as Observer Status with the United Nations Environment Assembly (UNEA), 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 as described below.

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## Momentous Developments

The year 2017 witnessed international water community engaged in efforts for evolving a consistent vision with projects and frameworks to manage wastewater. Besides, in the aftermath of coming into force of the Paris Agreement on Climate Change, the interdependencies of water and climate have become focal points, and added emphasis being focused on new technologies for managing 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.

Recent years have witnessed water gaining salience within the UNFCCC negotiations, particularly with the advocacy coordination of *Climate Is Water* 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 while the finite nature of water in the wake of growing demand for water in different sectors led the international water community to focus on managing wastewater for reuse in 2017. Wastewater was the main theme of World Water Day 2017 as well as that of World Water Development Report (WWDR) for 2017, release of the reports like *2017 Global Outlook of the Water Industry*, World Bank’s new report – *Uncharted Water: The New Economics of Water Scarcity and Variability*, *2017 Global Water Strategy and Bonn Conference on Climate Change (COP-23)* etc, wielded significant influence on the thought and action of the India Water Foundation during 2017-2018.

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## *World Water Day 2017 Theme*

Commencement of the World Water Day for 2017 began with the theme of "Why Waste Water?" which is about reducing and reusing wastewater. The theme assumes significance because it takes into account the aspect of wasting water as well as issues pertaining to wastewater, namely treatment of wastewater and its reuse. Water is a finite source and in view of shrinking water resources, recycling of wastewater assumes significance. Wastewater is a precious resource to help achieve the Sustainable Development Goal No.6 or SDG-6, especially its target 6.3 that stipulates to halve the proportion of untreated wastewater and also to increase the recycling and safe reuse of water worldwide. Harnessing of wastewater after appropriate treatment entails multiple uses, especially in industry and agriculture. For instance, treated wastewater can be reused in cooling towers and for irrigation in agriculture.



Encompassing more than two-thirds of the Planet Earth, water constitutes one of the most vital substances to human survival. Undoubtedly, the need for clean, drinkable water is indispensable for humans; nonetheless, it is the human activity that generates wastewater, which constitutes as one of the biggest threats to our environment. Bulk of the wastewater, over 80% of all the wastewater worldwide, generated by domestic use, municipalities, industry and agriculture

flows back to nature without being treated or reused with the resultant impact of polluting the environment, loss of valuable nutrients and other recoverable materials. Over the past few decades, there has been phenomenal increase in the quantity of wastewater generated and its resultant increase in overall pollution load globally due to burgeoning population growth, fast pace of urbanization and economic development.

Dependence of about 1.8 billion people on sources of drinking water that are contaminated with faeces, makes them vulnerable to water-borne diseases like cholera, dysentery, typhoid and polio. Indeed, wastewater is roughly comprising 99% water and 1% suspended, colloidal and dissolved solids and this means unsafe water, poor sanitation and hygiene leading to around 842,000 deaths each year. Nevertheless, wastewater management is not being paid serious attention and wastewater is totally underestimated as a potentially affordable and sustainable source of water, energy, nutrients and other recoverable materials. Now, there is growing recognition to construe wastewater as a resource, rather than a burden to be disposed of.

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Availability of various treatment processes and operational systems make it feasible to harness wastewater to meet the growing water demand in expanding cities, support sustainable agriculture, and enhance energy production and industrial development, therefore contributing to a more sustainable, efficient and equitable water use globally. It is in this context that 2017 World Water Day was observed with the theme ‘Why waste water?’ emphasizing on reducing and reusing wastewater.

Emphasis on recycling wastewater after treatment for reuse in industry and agriculture has been one of the major areas of focus at India Water Foundation and focus of this year’s World Water Day on wastewater has reinforced our belief in recycling this asset for reuse. In the wake of shrinking resources of fresh water, wastewater holds hope for meeting growing demand of water in industry and agriculture and it is in this backdrop that India Water Foundation has been emphasizing on the important role of wastewater in industry and agriculture to meet growing demands for water in these sectors.

### *World Water Development Report 2017*

Release of the 2017 edition of the World Water Development Report (WWDR), entitled “Wastewater: The Untapped Resource”, coincided with the observance of the World Water Day and interestingly with identical themes focusing on wastewater. The 2017 WWDR demonstrates as to how improved wastewater management generates social, environmental and economic benefits essential for sustainable development and is essential in achieving the 2030 Agenda for Sustainable Development. While emphasizing that wastewater is not something to be disposed of or neglected, the Report seeks to inform decision-makers, government, civil society and private sector, about the importance of managing wastewater as an undervalued and sustainable source of water, energy, nutrients and other recoverable by-products.

The 2017 WWDR marks a paradigm shift by focusing on wastewater, the vast quantities of which originating from domestic, agricultural and industrial sources discharged into the environment everyday as a valuable resource, which entails the potential of playing critical role in the context of a circular economy, whereby economic development is balanced with the protection of natural resources and environmental sustainability, and where a cleaner and more sustainable economy has a positive effect on the water quality.

Ironically, a substantial proportion of wastewater is still discharged into the environment without being either collected or treated, especially in low-income countries, which on an average only treat 8 % of domestic and industrial wastewater, compared to 70% in high-income countries. Concurrently, water contaminated by bacteria, nitrates, phosphates and solvents is discharged into rivers and lakes, in many regions of the world, gets discharged in the oceans, entailing serious consequences for the environment and public health. In the wake of burgeoning population, rapid pace of urbanization and industrialization in developing countries, there will be considerable increase in volume of wastewater to be treated in the near future.

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Wastewater is most commonly used for agriculture and irrigation and at least 50 countries worldwide are known to use wastewater for this purpose, accounting for an estimated 10 % of all irrigated land. However, data remains incomplete for many regions, notably Africa. But this practice raises health concerns when the water contains pathogens that can contaminate crops. The challenge, then, is to move from informal irrigation towards planned and safe use as Jordan, where 90% of treated wastewater is used for irrigation, has been doing since 1977. In Israel, treated wastewater already accounts for nearly half of all water used for irrigation.

In industry, large quantities of water can be reused, for example for heating and cooling, instead of being discharged into the environment. By 2020, the market for industrial wastewater treatment is expected to increase by 50 %. Treated wastewater can also serve to augment drinking water supplies, although this is still a marginal practice. Windhoek, the capital of Namibia, has been doing this since 1969. To counter recurrent freshwater shortages, the city has installed infrastructure to treat up to 35% of wastewater, which is then used to supplement drinking water reserves. Residents of Singapore and San Diego (USA) also safely drink water that has been recycled. This practice can meet with resistance from the public, who may be uncomfortable with the idea of drinking or using water they consider to have once been dirty. Lack of public support led to the failure of a project to reuse water for irrigation and fish farming in Egypt in the 1990s. Awareness-raising campaigns can help gain public acceptance for this type of practice by referring to successful examples, such as that of the astronauts on the International Space Station which have been reusing the same recycled water for over 16 years.

Taking a note of the fact that wastewater generation is one of the biggest challenges associated with the growth of informal settlements or slums in the developing world, the Report reveals that wastewater is generated because of human activities relying on usage of water. Global increase in the quantity of wastewater produced and its overall pollution load are closely linked to the overall growth in demand for water. Bulk of the global wastewater, especially from developing and least developed countries, gets discharged into the environment without treatment and once released into the water bodies, this wastewater gets either diluted, transported downstream or infiltrates into aquifers, where it can affect the quality (and therefore the availability) of freshwater supplies. The discharge of untreated wastewater into the ocean via rivers leads to negative consequences for the marine environment.

The 2017 WWDR also emphasizes on affordable wastewater treatment technologies that should not be out of reach for developing countries as low-cost treatment solutions already allow for the extraction of energy and nutrients. Noting that such technologies may not yet allow for the direct recovery of potable water, the Report further asserts that they can produce viable and safe water for other uses, such as irrigation. It is further pointed out that proceeds from sales of raw materials derived from wastewater can provide additional revenue to help cover the investment and operational costs of wastewater treatment.

Referring to some progress having already been made, especially in Latin America, where the treatment of wastewater has almost doubled since the late 1990s and covers between 20% and 30% of wastewater collected in urban sewer networks, the report laments that also means that between 70% and 80% of wastewater is released without treatment, so there is still a long way to go. Emphasizing that improved wastewater management generates social, environmental and

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economic benefits, and is essential to achieving the 2030 Agenda for Sustainable Development, the 2017 WWDR has also come out with some key findings. According to this, wastewater is an undervalued and sustainable source of water, energy, nutrients and other recoverable by-products, rather than something to be disposed of or a nuisance to be ignored. Besides, wastewater is poised to play a critical role in the context of a circular economy, whereby economic development is balanced with the protection of natural resources and environmental sustainability, and where a cleaner and more sustainable economy has a positive effect on the water quality.

Construed on a broad spectrum, the goals, suggestions and recommendations envisaged in the theme papers of the 2017 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 harnessing wastewater after treatment as a key component of meeting growing water demands in industry and agriculture in sustainable manner, the IWF also accorded priority to these in its water-related activities during the period under review.

### ***2017 Global Outlook of the Water Industry***

In the last week of September 2017, Frost & Sullivan, a business consulting firm involved in market research and analysis, growth strategy launched a report *2017 Global Outlook of the Water Industry* – which asserted that resilience would drive the water industry and address global climate change, water security and rapid urbanization. With its primary focus on urban water management, the report revealed that the demand for sustainable solutions in the municipal segment being driven by huge investments made to build resilient cities across the world, a continual push for circular economy could lead to innovation in making the water infrastructure sustainable.

Focusing on the fact that decentralized treatment systems are gaining attention due to their efficiency, cost effectiveness and better reuse capabilities, the report observed that water stress, coupled with rapid industrialization, has pushed rapidly growing economies such as India and China to adopt stringent regulations and enforce sustainable technologies to manage water pollution and stress. Noting that implementation of the Internet of Things (IOT) in water and waste water infrastructure has helped in ensuring optimization and efficiency. The report also makes it discernible that the demand for smart and sustainable solutions has been a further fillip.

As per this report, key predictions for the municipal water and wastewater segment include sustainability, customer engagement, smart water management, etc. while the growing demand for sustainable solutions, water reuse and zero liquid discharge (ZLD) will drive the water and wastewater market in the industrial segment. According to this report, the global water market for the year 2017 was estimated to have revenue of \$652.38 billion, with advanced membrane technologies and disinfection techniques getting due attention in the municipal segment, along with the municipal segment exhibiting a growth of 3.8% from 2016, and the industrial segment had exhibited a growth of 5.7%.

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While making the predictions for the year 2017 with 2016 as the base year, also highlighting key market predictions for 2017 for both industrial and municipal water market covering the Total Expenditure (TOTEX) of the following across treatment plants and networks: design and engineering, operation and maintenance, water and wastewater technology, process control management, this report presents the municipal and industrial water market expenditure forecast for Asia-Pacific (APAC), North America, Europe, Middle East & Africa (MEA) and Latin America. Key market predictions for municipal and industrial segment for each of these regions, in addition to revenue, are presented in this report, which also encompasses the municipal and industrial technology outlook for various regions and the revenues for technology employed in water treatment, wastewater treatment, sludge management and smart water management.

This report has proved very useful for us at India Water Foundation, not only for the period under review but for the years to come as well, in the wake of added emphasis on recycling wastewater after treatment for reuse in industry and agriculture especially, because bulk of municipal and industrial wastewater is generated in urban areas and some of the recommendations of this report have helped us in pruning our competence and capacity building programmes accordingly.

### **World Bank Report on *the New Economics of Water Scarcity and Variability* 2017**

During the last week of October 2017, the World Bank launched a new report – *Uncharted Water: The New Economics of Water Scarcity and Variability*— that presents new evidence on how increasingly erratic rainfall impacts farms, firms and families. It also shows that although floods and storm surges pose major threats, droughts are “misery in slow motion,” with impacts deeper and longer lasting than previously believed. While referring to the adverse impacts of droughts, the report under reference notes that repeated droughts around the world have shockingly large and often hidden consequences, destroying enough farm produce to feed 81 million people every day for a year, damaging forests, and threaten to trap generations of children in poverty.

While drawing attention to the adverse impacts of drought, Guangzhe Chen, Senior Director of the World Bank’s Water Global Practice, has opined that these impacts demonstrate as to why it is increasingly important that we treat water like the valuable, exhaustible, and degradable resource that it is and there is need to better understand the impacts of water scarcity, which will become more severe due to growing populations and a changing climate.

While referring to the cascading impacts caused by drought in different aspects of society and human life, the Report notes that the effects of drought for families can span generations. The Report finds that in rural Africa, women born during extreme droughts bear the marks throughout their lives, growing up mentally and physically stunted, undernourished and unwell because of crop losses. New data shows that women born during droughts also have less education, fewer earnings, bear more children and are more likely to suffer from domestic

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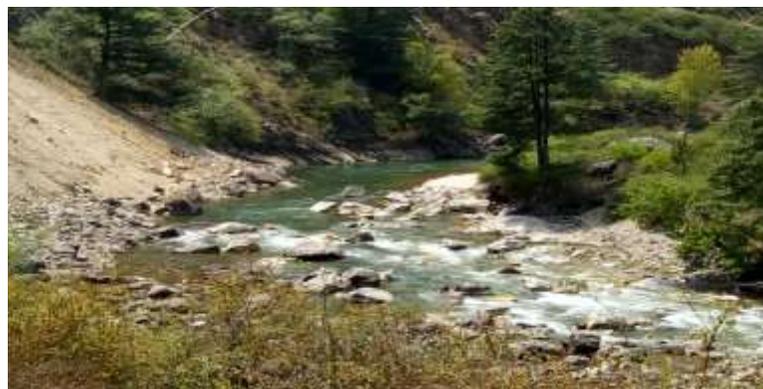
violence. Their suffering is often passed on to the next generation, with their children more likely to be stunted and less healthy, perpetuating a vicious cycle of poverty.

With regard to agriculture, the report points out, repeated years of below-average rainfall not only destroys crop yield -- it forces farmers to expand into nearby forests. Since forests act as a climate stabilizer and help regulate water supplies, deforestation decreases water supply and exacerbates climate change. In the realm of business, the report calculates the economic costs of droughts as four times greater than that of floods. A single water outage in an urban firm can reduce its revenue by more than 8%. And if that firm is in the informal sector, as many are in the developing world, sales decline by 35%, ruining livelihoods and stagnating urban economic growth.

In the wake of several regions most affected by drought overlapping with areas that are already facing large food deficits and are classified as fragile, heightening the urgency of finding solutions. Richard Damania, author of the Report and World Bank's *Water Global Practice Lead Economist* cautioned: "If we don't take deepening water deficits and the bigger and more frequent storms that climate change will bring seriously, we will find water scarcity spreading to new regions of the world, potentially exacerbating issues of violence, suffering, and migration, Current methods for managing water are not up to the challenge. This sea-change will require a portfolio of policies that acknowledge the economic incentives involved in managing water from its source, to the tap, and back to its source."

While offering proposals for how to tackle these challenges, calling for new policies, innovation and collaboration, the report recommends constructing new water storage and management infrastructure, paired with polices that control the demand for water. Utilities responsible for water distribution in cities also need to be properly regulated to incentivize better performance and investment in network expansion, while also ensuring a fair market return. The report also noted that when flood and droughts turn into economic shocks, safety nets must be put in place to ensure poor families can weather the storm.

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 management of water is essential to prevent situation culminating into a drought.



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## *Bonn Climate Change Conference (COP-23)*

The UN Climate Change Conference, convened from 6-17 November 2017, in Bonn, Germany under the Presidency of Fiji, included the 23rd session of the Conference of the Parties (COP 23) to the UN Framework Convention on Climate Change (UNFCCC), the 13th session of the Conference of the Parties serving as the Meeting of the Parties to the Kyoto Protocol (CMP 13), and the second session of the Conference of the Parties serving as the Meeting of the Parties to the Paris Agreement (CMA 1-2). Besides, three subsidiary bodies – the 47th sessions of the Subsidiary Body for Scientific and Technological Advice (SBSTA 47) and Subsidiary Body for Implementation (SBI 47), and the fourth part of the first session of the Ad hoc Working Group on the Paris Agreement (APA 1-4) – also held their sessions simultaneously.

The UN Climate Change Conference or COP 23 brought together over 16,000 participants, including over 9,200 government officials, 5,500 representatives of UN bodies and agencies, intergovernmental organizations and civil society organizations, and 1,200 members of the media. Negotiations, which did not conclude until early on 18 November, focused on the various aspects of the Paris Agreement work programme. Participating Parties adopted 31 decisions, 24 under the COP, seven under the CMP, that, inter alia: give guidance on the completion of the Paris Agreement work programme, launch the Talanoa Dialogue (the name for the 2018 Facilitative Dialogue called for by decision 1/COP 21, which adopted the Paris Agreement), and give prominence to pre-2020 implementation and ambition, under the “Fiji Momentum for Implementation”; decide that the Adaptation Fund shall serve the Paris Agreement subject to decisions to be taken at CMA 1-3; operationalize the local communities and indigenous peoples platform; establish a gender action plan; assess the technical examination process on mitigation and adaptation.

It was also decided to take work forward on long-term finance; and conclude reviews of the Standing Committee on Finance, the Adaptation Fund, capacity building in countries with economies in transition, and in developing countries; and give guidance to the Executive Committee of the Warsaw International Mechanism for Loss and Damage associated with Climate Change Impacts. The joint high-level segment under the COP, CMP and CMA brought together 15 heads of state and government, in addition to ministers and heads of delegation. Negotiations took place in the “Bula Zone” and side events were in the “Bonn Zone.” In the Bonn Zone, many state and non state actors announced initiatives for climate action, including the launch of the Ocean Pathway Initiative, to link healthy oceans with climate change action through the UN climate processes, and the Bonn-Fiji Commitment, which was adopted by over 300 local and regional leaders to deliver on the Paris Agreement.

The Fijian Presidency of the COP-23 set two goals for the COP – advancing work on the Paris Agreement implementation guidelines, and agreeing on the design of the Talanoa Dialogue, named after a Pacific storytelling tradition that fosters empathy and trust were met. This update highlights some of the more significant outcomes and decisions taken at the conference. It also adopted a decision on the ‘Fiji Momentum for Implementation’ that paves way for negotiations in 2018 in a transparent, inclusive and cost-effective manner; contains the design of the 2018 facilitative dialogue; and outlines the importance of pre-2020 implementation and action. In the

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decision, the COP agrees to accelerate completion of the Paris Agreement work programme by COP 24, and recognizes that this may require an additional negotiating session between SB 48 (April-May 2018) and COP 24. The COP welcomed the design of the 2018 facilitative dialogue, or Talanoa Dialogue, and agreed to launch the Dialogue beginning in January 2018.

Decision on long-term finance, as adopted by the COP, called upon developed countries to prepare their next round of updated biennial submissions on strategies and approaches for scaling up climate finance for 2018-2020; requesting the Secretariat to explore ways and means to assist developing countries in assessing their needs and priorities; along with calling upon the Secretariat to organize a 2018 in-session workshop and prepare a summary report for consideration by COP 24; and invited the COP Presidency, in organizing the 2018 high-level ministerial dialogue, to consider focusing on the topic of access to climate finance.

Participating countries to COP 23 discussed the Adaptation Fund in relation to its role serving the Paris Agreement on climate change, only reaching agreement on 18 November. In its decision, the CMP decided that the Adaptation Fund would serve the Paris Agreement subject to and consistent with decisions to be taken at CMA 1-3 in December 2018. It would consider whether the Adaptation Fund shall serve the Paris Agreement exclusively following a CMA recommendation to CMP 15 in November 2019. It noted the APA's progress in undertaking preparatory work to address governance and institutional arrangements, safeguards and operating modalities for the Adaptation Fund to serve the Paris Agreement.

Regarding the WIM, the COP agreed to *inter alia*, requested the Secretariat to organize, in conjunction with SB 48, an expert dialogue on loss and damage, and encouraged parties to disseminate, promote and utilize WIM products, including by establishing a loss and damage contact point through UNFCCC national focal points.

On gender, the COP agreed to, *inter alia*: adopting a gender action plan; requested the Secretariat to prepare for November 2019, a synthesis report on implementation of the gender action plan; and reviewed implementation of the action plan at COP 25. In closing statements, a number of delegates recognized the historic nature of this decision.

The COP requested the SBSTA and SBI to jointly address issues related to agriculture, including through workshops and expert meetings, and consider the vulnerabilities of agriculture to climate change and approaches to addressing food security. It also invited the submission of views by March 2018 on *inter alia*: assessment of adaptation, adaptation co-benefits and resilience; improved soil carbon, health and fertility; improved nutrient use and manure management; improved livestock management systems; and socio-economic and food security dimensions of climate change. It also requested the SBs to report on progress and outcomes of work at COP 26.

The decision to operationalize the local communities and indigenous people's platform, as a sequel to discussions regarding how much decision-making power to concede to non-party stakeholders, was applauded by many participants of COP 23. The COP specified shared chairmanship by state and indigenous peoples' representatives, similar to the Working Group on Traditional Knowledge, Innovations and Practices, or Article 8(j), under the UN Convention on Biological Diversity's (CBD). The COP decision also noted the platform's aim of: strengthening

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the knowledge, technologies, practices, and efforts of local communities and indigenous peoples related to addressing climate change; enhancing engagement of local communities and indigenous peoples in the UNFCCC process and facilitating the integration of diverse knowledge systems, practices and innovations in designing and implementing policies.

The COP also recommended that processes under the platform consider the interests and views of local communities and indigenous peoples; decided on the convening of a multi-stakeholder workshop on implementing the functions of the platform decided that the workshop would be co-moderated by the SBSTA Chair and a representative of local communities and indigenous people's organizations. It also requested SBSTA 48 to further operationalize the platform, including through the establishment of a facilitative working group, which would not be a negotiating body.

While welcoming suggestions and recommendations of the COP-23, the IWF made its efforts to disseminate the messages of the COP-23 through available means, especially the Social Media.

### ***Global Water Strategy 2017***

The U.S. government's *Global Water Strategy* for 2017 launched in Washington on 15 November 2017, by the U.S. Department of State and the U.S. Agency for International Development (USAID) while focusing on safe water and sanitation as fundamental to human health, economic development, peace and security, laments that globally, three in ten people lack safe drinking water in their homes, and six in ten people lack safe sanitation. Water scarcity is forecasted to intensify in the years and decades ahead. While alluding to a predicted two-thirds of the world's population will live in water-stressed conditions by 2025 along with many countries having no agreements or frameworks in place to share their water resources, this Report cautions that such challenges entail the potential of spreading disease, undermining economic development, exacerbating migration pressures, increasing civil unrest, leading to reduction in trade and export opportunities, and preventing countries from advancing policies and programs important to the United States.

The vision articulated in the 2017 *Global Water Strategy* envisaged a water-secure world, where people and nations have the water; they need to be healthy, prosperous, and resilient. In order to advance the vision of the *Strategy*, this document stressed that the U.S. government would work with partner countries and key stakeholders to achieve four interrelated objectives: (1) increasing access to sustainable safe drinking water and sanitation services, and promoting hygiene; (2) protecting freshwater resources; (3) promoting cooperation on shared waters; and (4) strengthening water governance and financing. It was further reported that the U.S. government's efforts would focus on countries and regions where needs and opportunities are greatest and where engagement can best protect our national security interests.

Impacts of water on human health, food, energy, security, economic growth, and environmental stability are recognized worldwide. According to the *Strategy* report, currently 2.1 billion people live without access to safe drinking water, and approximately 4.4 billion people are without access to adequate sanitation. The bulk of the burden of water collection, especially in rural

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areas in developing and least developed countries (LDCs), falls mainly on women and girls, and they are the most vulnerable when household sanitation is not available. Swift growth in urban areas puts already-stressed water infrastructure and services into a downward spiral. Inability to deal with these water issues exacts a high toll on productivity, opportunity, and social well-being, and creates the potential for instability and conflict.

The U.S. Agency for International Development (USAID), which is tasked with implementing the targets envisaged in this *Strategy* report, is actively addressing the challenge of improving water and sanitation access to a growing global population and engaging and empowering communities to become advocates, entrepreneurs, technical experts, change agents, and environmental stewards. In 2017, the release of *Strategy* report coincided with the launch of the new U.S. Government *Global Water Strategy* and corresponding *USAID Water and Development Plan*. The vision for the next iteration of water programming was a water-secure world. During the period under review, activities of the USAID sought to increase the availability and sustainable management of safe water and sanitation for the underserved and most vulnerable. All activities were designed to emphasize the need to strengthen governance and financing in the water sector. The new strategy was developed through a collaborative process involving more than 17 U.S. Government (USG) agencies and departments as well as USAID missions and other stakeholders.

In furtherance of the *Global Water Strategy*, the USAID Water and Development Plan sought to provide 15 million people with sustainable access to safe drinking water services and 8 million more people with sustainable sanitation. USAID's Water and Development Plan presents multi-year, country-specific plans for each of the designated high-priority countries, which described how USAID would meet strategic goals, align with host-country priorities, and complement programming by other USG agencies and departments. The *Global Water Strategy* and *USAID Water and Development Plan* proposed a new generation of water-related programming informed by lessons learned from the past and the latest evidence in the water and sanitation sector.

For us at India Water Foundation, the objectives of the *Global Water Strategy* and USAID's Water and Development Plan, were not only informative but also added to our understanding of the plight of vulnerable segments in different parts of the globe and learn lessons and good practices from the USAID's activities.

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## Developments in India

As a leading player in the international arena, especially in realm of water and climate change and domestically confronted with a vast array of issues being impacted by the vagaries originating from water-related and environment-induced activities, it is inevitable for India not only to take suitable measures at the domestic level; nevertheless, also actively participate in international negotiations pertaining to water and climate change. During the period under review, three momentous developments took place in India – World Conference on Environment 2017 (25 March 2017), India Water Week 2017 (10-14 October 2017), and 7th International Ground Water Conference (IGWC-2017) held on 11-13 December 2017.

### World Conference on Environment 2017

The World Conference on Environment 2017, held in New Delhi, India, on 25 March 2017 was organised by the National Green Tribunal (NGT), India's premier environmental watch dog. The United Nations Environment Programme (UNEP), the Union Ministry of Environment, Forest and Climate Change (MOEF & CC), the Union Ministry of Water Resources (MoWR), the Asian Development Bank (ADB) and the Delhi Pollution Control Board (DPCB) were the co-sponsors of the conference. While inaugurating the Conference, the President of India, Hon'ble Pranab Mukherjee welcomed the fact that conservation has now become inclusive and participatory. This shift has strengthened over a period of time due to sensitization of people in general and firm political will on part of governments all across. He quoted Mahatma Gandhi and said "Earth provides enough to satisfy every man's need but not every man's greed".

Alluding to recent studies and systematic reviews, which indicate that environmental factors are responsible for an estimated 24% of the global burden of disease in terms of healthy life years lost and 23 % of all deaths, the President said that children are the worst sufferers of the adverse impact of environmental diseases. In view of the reports that 24% of all deaths under the age of 15 are due to diarrhea, malaria and respiratory diseases – all of which are environment related. 19% of the deaths caused by Cancer worldwide are attributed to carcinogens that unmindful industrialization produces, the President cautioned that it was high time that we ask ourselves the questions- to what extent can we allow environmental degradation? What are we going to leave behind for our future generations? What steps need to be taken to curb this peril of environmental degradation?

Complimenting the National Green Tribunal, India's premier environment watch dog for facilitating this forum for wide ranging discussions on environmental issues of universal concern – the President said that global warming and rising sea levels is no more in the realm of the future. Environmental degradation and its impact on health, as also climatic changes are no more theoretical premises. While cautioning that global growth was subjected to responsible

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management of the planet's natural resources and excessive consumption of natural resources has to be impeded, the President expressed happiness that over the past decade, consciousness about environmental concerns had grown and also resulted in action on part of governments throughout the world. It was this consciousness that got reflected in the Paris Agreement under the aegis of the United Nation's Framework Convention on Climate Change (UNFCCC).

Various Chief Justices, Judges, Professors and other experts in the field of environment from all over the world participated in the conference and delivered their speeches. Constitutional and Environmental Law under different global jurisdictions was the prime subject for deliberation in the conference. The emphasis of the conference was on the tools that need to bring into service for dispensation of environmental justice by different Courts and Tribunals across the world.

While welcoming the major themes of this conference and their interconnectedness with water, we at IWF have already been conscious of the linkages between water and climate change and took serious note of the suggestions offered by this conference for future compliance.

### **India Water Week (IWW)-2017**

The India Water Week 2017 was held between October 10 – 14, 2017 at Vigyan Bhavan, New Delhi, on the theme “Water and Energy for Inclusive Growth.” India Water Week, being held since 2012, is an annual international event on order to establish an international event focused on water resources of India. India Water Week-2017 was projected as a platform to elicit ideas and opinions from global-level decision makers, politicians, researchers and entrepreneurs in the field of water resources development and management for mutual benefit and goodwill. The conference and exhibition were the major components of this event.

Focus on a multi-disciplinary dialogue in the form of a conference discussing issues of “Water and Energy for inclusive Growth”, was stressed with specific reference to Water, Food and Energy Security-Essential Requirement for Sustainable Development; Water for Inclusive Growth; Sustainable Energy Development-Key for All Round Economic Growth, and Water and Society. A large group of international and national persons of eminence was invited for sharing their experiences in the field of water and power management, technical and sociological interventions for achieving water and energy security in their individual areas and manage the assets created on a participatory basis. In addition, there were also Special Sessions involving dignitaries, delegates, politicians, experts from the fields related to the event. Expert professional bodies and think tanks were invited to put up side events addressing specific issues under the theme.

An exhibition was organized running in parallel supporting the theme and showcasing the technologies, latest developments and solutions available for the areas in, water and energy. The Government of India proposed to complete 99 prioritized Major & Medium Irrigation – AIBP Projects in 18 States along with their CAD works by December 2019 under Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) Mission established in MoWR, RD & GR. The Mission was expected to realize full irrigation potential and ensure completion of projects as per target; to improve water use efficiency (Both Ground and Surface Water); and promote Participatory

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Irrigation Management and formation of Water User Associates and NGOs. For this, the Government of India proposed a dedicated Long-Term Irrigation Fund (LTIF) in NABARD with an initial corpus of Rs. 20,000 crore for funding and fast tracking the implementation of projects under PMKSY. The final outlay including central and state share is of the order of Rs. 77,908 crore.

The exhibition was expected to provide a unique networking opportunity to the exhibitors for displaying their products and services to the practicing water resource professionals from participating countries. It was also stated that the organizers were committed to a liberal footfall to espouse the cause, along with exhibitors also having a unique opportunity to spread their network in this region and find new joint ventures and profit from the growing business in this emerging and technologically important area. It also facilitated business firms to have the opportunity of direct interactions with thousands of potential clients, highly qualified visitors including decision makers, enormous PR and promotional opportunities, joint ventures, expanding their business in the rapidly growing Indian water market and to increase brand visibility/image.

India Water Foundation participated in this event and interacted with other participants for exchange of views and best practices.

### **The 7th International Ground Water Conference (IGWC-2017)**

The 7th International Ground Water Conference (IGWC-2017) was hosted by India in New Delhi from December 11 to 13, 2017. The theme of conference was “**Ground water Vision 2030- Water Security, Challenges and Climate Change Adaptation**”. The event was celebrated with a multi-disciplinary conference and a concurrently running exhibition enriching theme and showcasing technologies and solutions available for areas under deliberation of the meet. The event had many major components like water, food and energy security – essential requirement for sustainable development, water for inclusive growth, water and society and sustainable energy development – key for all round economic growth.

An International conference is being organized on the ground water issues in the country with a theme of “Ground water Vision 2030-Water Security, Challenges and Climate Change Adaptation” from December 11 to 13, 2017. The conference has been organized by the National Institute of Hydrology (NIH), Roorkee and Central Ground Water Board (CGWB) under the aegis of Ministry of Water Resources, River Development and Ganga Rejuvenation, Government of India.

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Delegates from 15 countries participated in the conference and 250 research papers were presented, including 32 Keynote papers. The conference was inaugurated by Shri Nitin Gadkari, Union Minister for Water Resources, Ganga Rejuvenation and River Development, Sushri Uma Bharti Union Minister for Drinking water and Sanitation, Dr. Harsh Vardhan, Union Minister for Science and Technology, Union Ministers of State for WR, RD & GR Shri Arjun Ram Meghwal and Dr. Satya Pal Singh. The Conference took stock of present status and challenges of groundwater management in the country under the changing water use and climatic scenarios.

The Conference was organised at a time when water scenario in the country, especially the ground water scenario, is getting worse day by day. During the past decades, groundwater usage in the country has grown many folds and today 80% of the rural domestic needs and 65% of the irrigation water requirement and 50% of industrial and urban water needs are sourced from our ground water resources. Over exploitation of ground water has started threatening the sustenance of agricultural activities in many key regions in the country including Punjab, Bundelkhand and Rajasthan posing a grave threat to the food security in future. Moreover, climate change is expected to alter the ground water recharge regimes across the country due to increase in extreme rainfall events. Over exploitation of ground water has also started affecting the ground water quality in many areas from the geogenic source of contaminants such as arsenic. The Conference discussed these burning issues in 10 focal themes spread over three days. It looked into the synergistic policy options between various sectors linked with water resources in the country and drew a roadmap to address these challenges for the development goals of 2030.

## Major Activities of IWF

Major activities undertaken by India Water Foundation during 2017-2018 veered round major themes of water and climate change as well as SDGs, which *inter alia*, included : exchange and sharing of views on Salvaging River Yamuna, Rejuvenating River Ganga, managing water resources, climate change, meeting water shortages, tackling water scarcity, integrating SDGs into development policies at provincial and national levels and proposal for generating awareness among school children about non-use of plastic.



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## Tackling Water Scarcity



India Water Foundation was represented by its president Dr Arvind Kumar as a panelist at 4th Water India 2017 Expo at One Mega Event on 10th - 12th May at Pragati Maidan. In his PPT presentation on “Water Scarcity: Need for Convergence”. Describing water as a finite source, Dr Kumar asserted that major sources of water – surface water and groundwater – were unevenly distributed and growing demand for water was outstripping the supply. Water scarcity in India was attributable to factors like shrinking water resources while increasing demand for water in India; limited supply; pollution of surface and groundwater resources; and over-exploitation of groundwater resources.

While highlighting major issues and challenges confronting water scarcity in the Indian context, the presentation enumerated factors like lack of political will to accord priority to water sector; water being a state subject, absence of coordination between water-related policies between the Centre and State governments; existing policies pertaining to water pollution control are not strictly implemented for extraneous reasons; and lack of policy measures to build capacity of stakeholders in water conservation, keeping water resources free from pollution and recycle waste water for reuse etc. Besides, the tendency of multi-stakeholder’s willingness to share the profit rather than sharing the credit, lack of commitment in good governance coupled with the fact of multiple agencies at work lacking in synergy and convergence etc. along with absence of well-concerted national industrial water use policy could be termed as stumbling blocks.



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In order to overcome these stumbling blocks, Dr Kumar’s presentation suggested a way forward by emphasizing on the need for inter-agency and inter-sectoral synergy in water sector along with urgency for framing a comprehensive national industrial water use policy with active involvement of industries and the states. Another suggestion dealt with the availability of sufficient funds and electricity and harnessing of latest technologies for installing wastewater treatment plants. Furthermore, the presentation also vouched for encouraging the use of recycled waste water, especially for agriculture and industrial use. Apart from these, the presentation also emphasized on the need for capacity building of local communities with regard to judicious use of water, water conservation, keeping water resources free from pollution and recycling wastewater for reuse etc.

## Rejuvenating River Ganga

Ganga is one of the most sacred rivers and most vital lifelines of India’s economy catering to the livelihood, drinking water, agricultural and other related requirements of more than one-third of India’s total population. Nevertheless, 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. India Water Foundation has been putting in its best efforts to support the official and non-official measures designed to rejuvenate Ganga River from time to time within means available at its disposal.

India Water Foundation was represented by its president, Dr Arvind. Kumar as a panelist at the conference on Swachh Jal: Cleaning Indian Rivers: Multi-stakeholder Partnerships to Facilitate Namami Gange” held on 21 July 2017 at Hyatt Regency, New Delhi. In his presentation entitled



**“Can Synergy of Multi - stakeholders Facilitate Namami Gange?”**, Dr Kumar emphasized on the priorities to be accorded to the main problem in cleaning the Ganga and dwelt on as to why there was a failure in getting tangible results and how Ganga could be restored to its pristine glory. While dealing with main challenges confronting in rejuvenation Ganga River, he summed these challenges in three ‘R’s: Reduced flow of water; Reduced water-carrying capacity of the River; and Reduced water quality.

While enumerating the stumbling blocks that impede mechanism of rejuvenating Ganga River, Dr Kumar’s presentation lamented that multi-stakeholders seem to be prepared to share the

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profit rather than sharing the credit and there is lack of commitment to good governance. The Presentation points to the existence of multiple agencies at work resulting in lack of synergy and convergence, coupled with the fact of each State located on the banks of River Ganga catering to its own interests. Another reason attributed is the over-emphasis on technological inputs instead of changing the mindset of the people.



In order to overcome these stumbling blocks and tide over challenges confronting rejuvenation of River Ganga, the presentation suggests for involvement of all stakeholders essential, need for inter-agency and inter-sectoral synergy and greater emphasis on the need for changing the mindset of the people via capacity building. While calling for holistic approach to tackle perennial problem of Ganga's pollution, it also emphasizes on the need for emulating best practices based on traditional wisdom and to shift emphasis from business-based approach to passion-based approach.

### **Initiative for Salvaging Yamuna River**

India Water Foundation has been consistently drawing attention of the concerned authorities to the miserable plight of River Yamuna because of pollution of its water for the past decade with the plea to devise measures to salvage the River and restore its pristine glory. IWF's efforts in this regard have been in the form of concept note, proposal for outreach programme for generating awareness for Clean Yamuna Campaign and communications addressed to the concerned authorities from time to time.

On 24 November 2017, in a communication addressed to Prime Minister of India with copies addressed to Dr Harsh Vardhan, Hon'ble Union Minister, Ministry of Environment, Forest and Climate Change, Science & Technology and Earth Sciences, GOI, Sh. Nitin Gadkari, Hon'ble Union Minister, Ministry of Water Resource, RD & GR, M/o Road Transport & Highways & Shipping, Government of India and Hon'ble Lt. Governor of Delhi, Government of N.C.T. of Delhi, Block, India Water Foundation drew the attention of the Government towards degrading environmental conditions and water-related woes of Delhi, with special focus on urgency for central government's intervention in salvaging river Yamuna.

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While referring to Delhi's geostrategic, geopolitical and geo-economic significance nationally and internationally, the communication drew the attention of the government towards Delhi's perennial problem of pollution – air and water – and their resultant adverse impacts on the people of the NCR. While alluding to the mounting pressure on per capita water demand levels in Delhi that has outstripped the supply too often, the communication further adds that Delhi depends on river Yamuna and partially on river Ganga for its share of raw water, and with surface water contributing to over 86% of Delhi's total water supply, Yamuna, a perennial river, provides the major share of this water supply.

Lamenting at the half-hearted approach by the concerned authorities to various projects underway to salvage Yamuna River despite judicial intervention, the communication called upon the Union Government to empower Lt. Governor of Delhi to intervene in tackling these problems of air and water pollution in the National Capital, with specific emphasis on Yamuna River. The IWF communication suggested for the constitution of the Yamuna River



*Image Yamuna River, Fatehpur, UP*

Development Authority (YRDA) under the chairmanship of Lt. Governor, Delhi to manage Delhi stretch of River Yamuna and that would forge synergy between Central agencies/ministries and the agencies/ministries of Delhi Government thereby culminating in effective implementation of Yamuna River related plans and yield quick results.

## **Water and Sanitation**

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.

### ***Need for Industrial Water Policy for India***

In an article published in the May 2017 issue of the Mumbai-based magazine *One India One People*, Dr Arvind Kumar, president of India Water Foundation, while asserting that industrial sector in India had emerged as the second highest consumer of water after agriculture and the major sources of water for the industrial sector are groundwater and surface water, noted that in the wake of industrial development gathering momentum, demand for industrial water was mounting. While lamenting that lack of effective regulations and coordination between regulatory bodies' often leads to mismanagement of industrial water problem, which is further compounded by dearth of incentives provided to industry for efficient water use, Dr Kumar

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observed that the resultant impact could be discerned in conflicts between industry and local communities over water allocation and water pollution.

In the wake of the fact that water is a finite source and in the wake of shrinking glaciers, depletion of groundwater resources and pollution of ground and surface water resources, the increasing demand for water by different sectors of economy can't keep pace with its supply, Dr Kumar cautioned that in view of water scarcity, domestic, agricultural and industrial water needs are pitted against each other and the resultant conflicts between these sectors could become unmanageable if water related issues are not addressed now. Lamenting that subject of water in India is dealt with by a multiplicity of authorities/ministries having different mandates which are not clearly defined and overlapping, the article observes that the Central Pollution Control Board (CPCB) and state pollution control boards (SPCBs) are not mandated to control sourcing of water from various sources, as a result of which water conservation and pollution control measures have thus far not shown any significant success.

Conceding that several industries have launched zero-discharge projects in their factories/plants; it is reported in this article that many others still continue to discharge effluents without treatment. In this backdrop, Dr Kumar called upon industry associations like FICCI, CII and ASSOCHAM to facilitate dissemination of best practices in water and wastewater management. These aspects should constitute main paradigms of new industrial water policy in India. He emphasized that the solution, amongst various other solutions, lies in chalking out a comprehensive Industrial Water Policy, which should address industrial water related issues in a holistic manner and it should be followed by the establishment of a national nodal agency to coordinate with water related issues with other departments/agencies in a mode of convergence.

On 10-12 May 2017, Dr. Kumar as panelist highlighted the “major issues and challenges on the scarcity of water” at 4<sup>th</sup> Water India 2017 Expo at One Mega Event on 10<sup>th</sup> - 12<sup>th</sup> May at Pragati Maidan, Dr. Arvind Kumar expressed his concern on need for convergence. He said “solution lies in judicious use of water resource, capacity building of stakeholders and community participation, use of 3Rs (Reduce, Recycle and reuse) in industries and agriculture and a dire need for formulation of stringent industrial water use policy”.

### *Harnessing Science for Water Management at Grassroots Level*



India Water Foundation was represented by its president at the UN Science-Policy-Business Forum on the Environment held during Third session of the United Nations Environment Assembly (UNEA) at Nairobi, Kenya on 1-6 December 2017. IWF presentation entitled “Harnessing Science for Water Management at Grassroots Level: Civil Society Perspective” emphasized on the need for bringing science from laboratory to the grassroots level because real utilization of new scientific inventions and

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discoveries is facilitated when science is brought from the laboratory to grassroots level for mass utilization in the larger interest of humankind. This requires assimilation of best knowledge and practices and their subsequent dissemination amongst the people to tackle their problems. To enable the people to utilize scientific knowledge requires building their competencies and capacities to reap adequate benefits accruing from harnessing science in a sustainable manner. This task of competency building and capacity building in utilizing science can best be accomplished by a civil society which has expertise and experience along with resource persons to impart training in competency building and capacity building.

While underlining IWF's ability of garnering adequate expertise and experience in assimilating scientific knowledge and techniques in managing water by participating and interacting with international experts in international and national seminars, symposia, conferences and workshops for over a decade now; and disseminating the same knowledge and wisdom thus amassed through its competency building and capacity building training programmes from time to time, the IWF presentation dwelt on its role in Meghalaya where it is engaged in disseminating scientific knowledge about Integrated Water Resource Management (IWRM) through its competence and capacity building programmes, both of the actor and the sector. It has resulted in bearing fruitful outcomes in terms of better implementation of IWRM, water conservation, judicious use of water resources and water quality monitoring. It is worth mentioning here that IWF is a knowledge partner of Meghalaya Basin Development Authority (MBDA), Government of Meghalaya in managing water resources in the State for about a decade now. The presentation also dealt with capacity building programmes undertaken by IWF in Meghalaya in consonance with the objectives of Meghalaya government's flagship programme entitled Integrated Basin Development and Livelihood Programme (IBDLP), with partial inputs from IWF, which has been under implementation since 2012, in a mission-mode through more than twenty missions.

The presentation finally noted as to how harnessing of science and technology by Meghalaya at the grassroots level had yielded multiple positive outcomes in terms of alleviation of poverty and improvement in livelihoods in terms of SDG-1, increased water security, energy security and food security in terms of SDG-2, SDG-6 and SDG-7. Besides, there is also increased resilience to climate change in terms of SDG-13 along with augmented biodiversity conservation and eco-services in terms of SDG-13 and SDG-15.

### ***SDG-6 on Water & Sanitation in Meghalaya***

India Water Foundation participated in the Asia Pacific Forum on Sustainable Development 2018 (APFSD 2018) held on 28-30 March 2018, at Bangkok (Thailand) with thematic focus on "Transformation towards sustainable and resilient Societies in Asia and the Pacific." The theme of focus of the presentation made by IWF president dealt with "SDG 6 on Clean Water and Sanitation: A Case Study of Meghalaya (India)". Describing Meghalaya's geographic location, IWF's PPT presentation explained availability of water in abundance in the state but during the dry season there was problem of water scarcity. This presentation explained target-wise analysis of SDG 6 on water and sanitation in the context of Meghalaya.

***Target 6.1 stipulates that universal and equitable access to safe and affordable drinking water is to be achieved for all by 2030.***



Management of water resources in Meghalaya is looked after by Water Mission which is operating under the aegis of Integrated Basin Development & Livelihood Programme (IBDLP), a flagship programme of the government of Meghalaya. Undoubtedly, appreciable progress has been achieved universal and equitable access to safe and affordable drinking water by the state government. Nevertheless, there is need for more to be done. Besides, the pace of water infrastructure development has to be expedited.

***Target 6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations***

Interestingly, emphasis on access to adequate and equitable sanitation and hygiene has been under implementation in Meghalaya from 2009 onwards and the IBDLP under implementation since 2012 has accorded priority in this regard. In order to provide further fillip to sanitation and hygiene programmes, emphasis on strengthening institutional set-up and capacity-building programmes of the stakeholders has been stressed. Priority to constructing toilets, especially in rural areas has led the state to effectively do away with the evil practice of open defecation. Sanitation coverage in Meghalaya increased from 61.66 per cent in 2014 to of 89.74 per cent in 2017 and in percentage wise Meghalaya is the best among the northeastern states.

***Target 6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.***

- Satisfactory progress in improving water quality by reducing pollution
- Adequate institutional & legal mechanism to minimize release of hazardous pollutants
- Slow progress on wastewater treatment
- Treated wastewater, though small in proportion, is being recycled for safe reuse

**Target 6.4** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

- About 90% water-use efficiency across all sectors
- Partial success in sustainable withdrawals
- Adequate arrangements to ensure supply of freshwater to address water scarcity

**Target 6.5** By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate.

- IWRM and Governance under implementation since 2002
- IWRM an integral part of IBDLP
- Meghalaya entails potential for Transboundary Cooperation in SDG-6

**IBDLP - 20 Point Integrated Basin Development Framework**



**Target 6.6** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

The issues envisaged in SDG 6.6 are comprehensively

covered under the IBDLP programme as shown in the Figure.

**6.a Target 6.6a** By 2030, expand international cooperation and capacity-building support to developing countries in water- and sanitation-related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies.

Meghalaya enjoys national and international cooperation and capacity-building support in water and sanitation related activities and programmes.

**Target 6.6b** Support and strengthen the participation of local communities in improving water and sanitation management

Land & water resources in Meghalaya are owned by local communities and their participation is ensured in improving water and sanitation management

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## 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.

### *Tibet's Ecological Problems*

On 7 April 2017, India Water Foundation was represented by its president Dr Arvind Kumar at the 3rd symposium in the memory of Professor Dawa Norbu in Jawaharlal Nehru University (JNU), New Delhi. One of the sessions of the symposium was themed “Tibet's Ecological Problems and Its Impact on Down Stream Countries”, which was organized by the Tibet Forum-JNU. Dr Kumar in his paper described the Tibetan Plateau (TP), encompassing an area of about 2.5 million square kilometers, as the largest and highest region on Earth that stretches for almost 3,000 kilometers from west to east and 1,500 kilometers from south to north, and is ringed by high mountains –the Himalayas to the south, the Karakorum in the west and the Kunlun across the north; dominating the geography of Asia and containing more than 45,000 glaciers.



Asserting that the glacial runoff from TP, this region feeds the largest rivers in Asia, including Brahmaputra, Yangtze, Yellow, Mekong, Ganges and Indus River and that these major rivers flow into India, Bangladesh, China, Nepal, Pakistan, Thailand, Burma and Vietnam, the article describes that for China alone, 30 percent of its fresh water supply is met from the rivers flowing from Tibet. Owing to its significant role in feeding the major river systems in South Asia, TP is often described as the “Water Tower of Asia”. In view of TP’s significance as the water tower of Asia, the article calls for more attention and close cooperation between China and the countries dependent on rivers originating from Tibet with regard to safeguard of water resources in Tibet and judicious use of water by the main stakeholders.

Stressing on the fact that much effort was needed on the ground in Tibet to restore wetlands, adapt farm and pastureland, and preserve forests before the impacts of climate change could render it more difficult to save ecosystems, the article suggested that it was through state and people working together that the process of desertification might be reversed. The fate of future developments and social security of the lower riparian countries relied on how well the ecological services are restored in and managed in Tibet.

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Calling upon the lower riparian countries of eastern part of South Asia to forge a Mekong Commission like organization, especially in the aftermath of conclusion of the Paris Agreement on Climate Change, the article suggested that thereafter both organizations should negotiate with China regarding sharing of water of rivers originating from Tibet. Asserting that merely raising a hue and cry against China was not going to serve the purpose because China is a major factor helpful in restoring ecological equilibrium in Tibet, Dr Kumar in this article stated that a healthy and sustainable Tibetan Plateau would not only benefit the entire Asian Continent, but also it could help in promoting peace and harmony within the region. Apart from serving as a land bridge connecting South Asia with Southeast Asia, Tibetan Plateau is the *raison d'être* of the very survival of about 2 billion people who are dependent on the water resources emanating from there. The impact on Tibet's landscape and its natural resources due to climate change and human intervention would threaten not only future water and food security of the region's nations but also subdue their ambitious efforts of realizing the sustainable development goals (SDGs) as well as fulfilling the objectives of the recently concluded Paris Agreement on Climate Change.

### ***IWF and Sustainable Development Goals (SDGs)***

Since the adoption of 2030 Agenda and Sustainable Development Goals (SDGs) by the international community in 2015, India Water Foundation has incorporated these SDGs into its vision and mission with a way to ensure their integration into the national development discourse of respective countries in the Indo-Pacific region in general and India in particular. We at IWF are convinced that water (SDG-6) and climate change (SDG-13) constitute the core of the 2030 Agenda and water is climate change; therefore, IWF is engaged in enhancing public awareness on Sustainable Development Goals (SDGs), with specific emphasis on SDGs one to seven, SDG-11, 12, 13 15 and 17, with water and climate change at the core of successful implementation of the SDGs, in Indo-Pacific region.

India Water Foundation participated in the UN-ESCAP's meeting "South and South West Forum on Implementation of the Sustainable Development Goals" held in Kathmandu on 1-2 November 2017. Intervening on behalf of IWF, its president Dr Arvind Kumar, while alluding to deliberations held in the forum having shed ample light on diverse aspects of implementation of these SDGs along with complexities and fruitful outcomes expected from the effective implementation of these SDGs so that no one is left behind, further added that India Water Foundation had during the past couple of years helped in implementing these SDGs, which were under consideration in this Forum, in Meghalaya in its capacity as a knowledge partner of Meghalaya Basin Development Authority (MBDA), Government of Meghalaya.

Stating that these SDGs along with other ones, constituted a part of Meghalaya government's flagship program of IBDLP (Integrated Basin Development and Livelihood Programme), prepared with partial inputs from India Water Foundation, and under implementation since 2012 in a mission mode through more than 20 missions, Dr Kumar further added that effective implementation of these and related development goals had enabled the state government to reap good dividends in terms of improvement in livelihoods of the people leading to increased rate of economic growth, reduction in poverty, enhanced climate resilience, ensuring water and energy

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security, augmentation of forest cover and biodiversity conservation and sustainable urban life, which almost resemble with the SDGs under deliberation of this forum.

While reiterating IWF's cooperation with the government of Meghalaya in fostering partnerships with Central Government, UN agencies and international organisations in terms of SDG-17, Dr Kumar shared the following experiences and lessons learnt with the other participants at the forum with regard to implementation of these SDGs at the grassroots level in tandem with government departments and other agencies in Meghalaya:

- There is a pressing need to build capacity and competence of local communities in water and energy conservation.
- Strong institutional mechanism is required to implement the SDGs, which should also periodically monitor the progress and exchange notes to remove the bottlenecks.
- There is need for sharing knowledge and data implementing SDGs between the national nodal agencies and its regional agencies and adopt best practices.
- Competence and skill development of the stakeholders in accordance with each SDG should be regular exercise.
- Successful implementation of these SDGs calls for inter-sectoral convergence to avoid replication and proper utilization of expertise.
- Emphasis on frequent exchange of expertise and experiences between the countries of the region to help adopt innovative ideas and best practices in implementing these SDGs, and leverage the comparative advantage of the region to generate livelihood opportunities

### *Generating Awareness among School Children*

The youth and children are harbinger of change and transformation. Undoubtedly, proper harnessing of youth's energy, skills, hopes, determination and exuberance entails the potential of making them as agents of socio-economic transformation of the society; nonetheless, erroneous channelization of these potentials entails the likelihood of turning them into agents of societal obliteration 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. India Water Foundation has been according priority to capacity building programmes of youth and school children in water, climate change and sustainable development goals from time to time.

Accordingly, in the last week of March 2018, 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 the theme of "Beat Plastic Pollution", and urged all the schools to consolidate this effort by banning single use plastics. IWF called upon all the schools to take a pledge not to use single use plastics in order to save our environment, water bodies, marine life etc. It further informed about creating a page on its portal for the same where students could write down their comments and suggestions to take this humble step of IWF forward. Adding that owing to its sustained endeavors like conducting Eco WASH program at block level in Uttar Pradesh supported by

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NCSTC, Department of Science & Technology, Ministry of Science and Technology, Government of India, India Water Foundation has been recognized by NCSTC, Ministry of

## **YES WE CAN CHANGE .....JAL MITRA**



Science and Technology as Key Resource Hub for Networking; therefore, IWF deemed itself as guardian of resources and strive to unfold a virtuous cycle of responsibility and accountability towards environment sustainability and water conservation.

Children are the future of this country hence, it is essential to inculcate the idea of sustainable environment in them from a very young

age. If done rightly, they will ensure in future that the country develops sustainably. They will be the flag-bearers of a clean and green environment and sustainable development. IWF would appreciate if schools take ownership for this program. Adopting this program will add value to the school's curriculum. Expressing its pleasure in guiding school authorities in this regard, IWF would be keen on giving talks and helping schools in drawing up ideas for their own activity on Beat Plastic Pollution. By participating in these activities, the schools will get an opportunity to showcase their talent and relate it with water awareness.

### **International Cooperation**

India Water Foundation continued its earnest efforts during 2017 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 also monitored 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.

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## Miscellaneous Activities

- Dr Arvind Kumar, President, IWF spoke at the platform of 3<sup>rd</sup> Stakeholders Consultation on “Hamara Gaon – Swachh Gaon” conducted by India Water Foundation at Uchh Prathmik Vidyalaya, Khedabalrampur, South Block, Meerut on 8th April 2017. An awareness campaign by India Water Foundation supported by NCSTC, Ministry of Science and Technology, Government of India.
- On 13 April 2017, India Water Foundation sent an abstract on “Initiative for Upper Umian River Basin Restoration in Meghalaya” as a part of IWF presentation at 20th International River symposium and Environmental Flows Conference organized by Australia-based International River Forum (IRF).
- Speaking at the final stakeholders’ consultation at Bhudbaral, Meerut South on August 19th, 2017 IWF president said “Effective community participation is essential for sustainable environment, ecosystem management, proper water and effective sanitation, proper hygiene in peri-urban and rural block like Meerut South Block. Need of right convergence between the stakeholders especially children, women who can be the champions of the change. This model should be replicated in other blocks as well for sustainable development of rural population and to turn our villages into model villages”.
- IWF was part of the talk by H.E Dr. Assia Ben Salah Alaoui, Ambassador at large of his Majesty Mohamed VI, the King of Morocco on "Morocco's Security Strategy: preventing terrorism and countering extremism", at Sapru House, 28 February, 2018.
- IWF participated in the meeting of Technical Advisory Committee for NCSTC programme "Mission Eco Next" which was held in Amritsar being hosted by Punjab State Council of Science & Technology on 17<sup>th</sup> March 2018.
- Participation of IWF was represented by its president at Regional Consultative meet- *Eco Next Connect* for NCSTC programme "Mission Eco Next", which was being organized on 18th March 2018 in Amritsar and hosted by Punjab State Council for S&T, Chandigarh.
- IWF was part of the talk in the Round table workshop of Industrial Water Benchmarking study at ONGC Limited on March 20th, 2018 at New Delhi to brainstorm and help co-create an index which becomes an industry gold standard for water management. This has been a pioneering effort by ONGC, UN GCNI and Accenture India in understanding the industrial water use, global and Indian benchmarks across seven sectors.
- IWF was part of the Asia-Pacific Peoples’ Forum for Sustainable Development 2018, held on 25-27 March 2018 and was also represented by its president as a speaker at the Asia-Pacific Forum on Sustainable Development 2018, held on 28-30 March 2018 at Bangkok.

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## 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, and their impact on health, economic growth, and livelihoods of the people and calamities that wreak havoc due to non-judicious harnessing of the 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, tribals 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.

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## Partnership, Accreditation and Rapport of IWF

India Water Foundation has been empanelled as Key Resource Centre (KRC) under Ministry of Drinking Water & Sanitation GOI, and has direct membership with ICID, New Delhi. It has partnership, rapport and accreditation with many national and internationally reputed organizations, NGOs and CSOs etc., especially rapport with UNEP, UN-ESCAP and other UN/International Organizations. Since 2012, India Water Foundation has been a knowledge partner of Meghalaya Basin Development Authority (MBDA) Government of Meghalaya, and Meghalaya Water Foundation as well as member of Meghalaya State Water Resources Council. The Govt of Meghalaya vide its official notification dated 29 November 2017, further renewed the appointment of India Water Foundation as member of the State Water Resources Council of Meghalaya as the member of the State Council for Climate Change and Sustainable Development.

IWF has been granted accreditation on 2 August 2017 as an observer to the Governing Body of United Nations Environment Assembly (UN Environment) of the United Nations.

On 21 September 2017, the Niti Aayog, (WR & LR Division) of Govt. of India appointed IWF as member of Working Group on Water Resources Development, Management and Efficient utilization to seek inputs for development agenda for New India @75.

A memorandum of understanding between **India Water Foundation and the Government of Sikkim** was signed on **11 December 2017** for cooperating with government of Sikkim in the field of water resources, environment, sustainable development, and recently launched **“Sikkim Comprehensive Water Resources Plan”**.



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On 30 January 2018, India Water Foundation was appointed as a member of the Technical Advisory Committee for India's Third National Communication and Biennial Update Reports to UNFCCC, constituted by the Ministry of Environment, Forest and Climate Change (Climate Change Division), GOI, New Delhi.

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). This confers IWF the 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.

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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, 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, 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. IWF can facilitate interaction with print and electronic media.

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 Hydro-geologists 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

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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. 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 IWF has been making efforts to promote inter-sectoral and inter governmental 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. So 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

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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.

### **BEST WATER NGO - WATER EDUCATION**

On March 21, 2018, India Water Foundation was honored with the Water Digest Water Awards “Water Warriors - United for Water!” 2017-18 under the Category **“BEST WATER NGO - WATER EDUCATION”** on the eve of the World Water Day 2018 in New Delhi supported by Ministry of Water resources, River Development & Ganga Rejuvenation, GOI and UNESCO. It was presented by the Hon’ble Chief Guest Shri Arjun Ram Meghwal, Minister of State for Parliamentary Affairs and Water Resources, RD & GR, MoWR, GOI.



Photo: BEST WATER NGO – WATER EDUCATION



**इंडिया वाटर फाउंडेशन को अवॉर्ड**



**डॉ. अरविंद कुमारी** : जल संरक्षण पर इंडिया वाटर फाउंडेशन को सर्वोच्च 'जल एनजीओ- जल शिक्षा' श्रेणी में वाटर इन्फोर्मेटिव वाटर अवॉर्ड्स 'जल शिक्षा-शान्ति के लिए' एवम्बुट हो' 2017-18 से सम्मानित किया गया। यह अवोडन जल संरक्षण, नदी विकास और गंगा पुनरुद्धार मंत्रालय और युवाओं की ओर से किया गया। मुख्य अतिथि सार्वजनिक कार्य और जल संसाधन मंत्री अर्जुन राम मेघवाल ने यह सम्मान प्रदान किया। इस मौके पर सचिव युवा रिश्ते, एन एम्बुट हुसैन, पोस्टरमैन, सीएचएलसी, राजीव मिश्रा जीजी, एनामसीजी, WAPCOS के अध्यक्ष आरके गुप्ता सीएचएलसी। फाउंडेशन के अध्यक्ष डॉ. अरविंद कुमार ने कहा कि इस अवॉर्ड से हमें और महान तो काम करने की चेष्टा मिलेगी।

**डा. अरविंद कुमार को अचीवर्स अवार्ड से किया गया सम्मानित**

मेरठ, 7 जून। डॉ. अरविंद कुमार, अध्यक्ष, इंडिया वाटर फाउंडेशन को पर्यावरण के क्षेत्र में अनुकरणीय योगदान व पर्यावरण की रक्षा के लिए इंडिया वाटर फाउंडेशन द्वारा अवॉर्ड व यु. एन. इनफार्मेशन सेंटर फॉर इंडिया एन. ए. द्वारा प्रमुख पर्यावरणविदों, विचारकों,



विश्वविद्यालयों/उद्योगजति से, पत्रकारों, देश भर से आये हुए वार्षिक नेताओं की उपस्थिति में विश्व पर्यावरण दिवस पर अचीवर्स अवार्ड से सम्मानित किया गया। इस अवसर पर मुख्य अतिथि यूरे लाल, IAS (Retd)-अध्यक्ष, डी. पी. सी. ए., विशिष्ट अतिथि एस. एम. खान, डायरेक्टर जनरल आर. एन. आई. (युवमंत्र और प्रसारण मंत्रालय) और सम्मानित अतिथि करमना रिग्गेरो हेड ऑफ नेपाल एंड यूरोप फॉर बुद्धिज्म उपस्थित रहे। डॉ. कुमार पिछले आठ वर्षों से मेरठ में वृक्ष एक घाटी से मेरठ दक्षिण दिशा में एन. सी. एन. टी. सी., विश्वान और प्रौद्योगिकी मंत्रालय भारत सरकार को सा 'जागरूकता सांकेतिक अभियान एवम् पर्यावरण अनुकूल प्रौद्योगिकी हेतु पारिस्थितिकी, जल संरक्षण स. खाण, स्वच्छताएवम् स्वास्थ्य के लिए एकीकृत कार्यक्रम के माध्यम से स्थानीय समुदायों का सशक्तिकरण 2018-17 परियोजना को अंतिम चरणीय स्तरपरकाम कर रहे हैं। इंडिया वाटर फाउंडेशन (ई.सी.ओ. एन.ओ.सी.) के साथ विशेष परामर्श वाली दली) एक गैर-लाभ विधिल शीखा इटी है जो एशिया-प्रशांत के क्षेत्र में जलरक्षा पर्यावरण संबंधी मुद्दों के बारे में बुद्धित लोक जागरूकता उपग्रहण करने में रत है और इन मुद्दों में मानव जीवन में जल तथा पर्यावरण का सबसे की जाने वाली महत्वपूर्ण भूमिका, स्वास्थ्य, आर्थिक बुद्धि तथा लोगों की आजीविका पर उनके प्रभाव शामिल है। इस जागरूकता सृजन को सांगीतियों, समेलनों, विचार-मार्चियों, बाह्य मधुन और व्यक्तिगत संपर्क कार्यक्रमों आदि के माध्यम से सुकर बनाया जाता है। युक्ति जलविद्युत उत्पादन और भोजन उत्पादन का एक प्रमुख घटक है। इंडिया वाटर फाउंडेशन पर्यावरणीय सुरक्षा, जल सुरक्षा, ऊर्जा सुरक्षा तथा खाद्य सुरक्षा को भी सुनिश्चित करने में रत है जो राष्ट्रीय विकास हेतु आवश्यक है।



**भूखराल में पर्यावरण पर कार्यशाला का आयोजन**

मेरठ। राष्ट्रीय जल शोध संस्थान (एन.सी.एन.टी.सी.) के अख्यक्ष डॉ. अरविंद कुमार ने मेरठ में पर्यावरण पर कार्यशाला का आयोजन किया। इस अवसर पर डॉ. कुमार ने बताया कि पर्यावरण की रक्षा के लिए हमें जल संरक्षण और जल संचयन को बढ़ावा देना चाहिए। उन्होंने बताया कि जल संरक्षण के लिए हमें जल संचयन और जल सफाई को बढ़ावा देना चाहिए। उन्होंने बताया कि जल संरक्षण के लिए हमें जल संचयन और जल सफाई को बढ़ावा देना चाहिए।



**जल संरक्षण में भागीदारी जरूरी : सांसद**

विद्युत विभाग दूर करेगा

जल संरक्षण में भागीदारी जरूरी : सांसद

विद्युत विभाग दूर करेगा







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