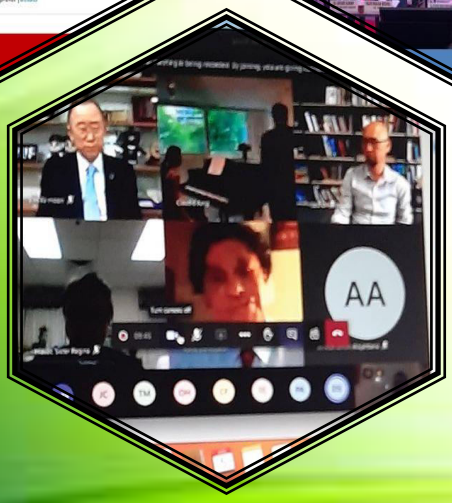

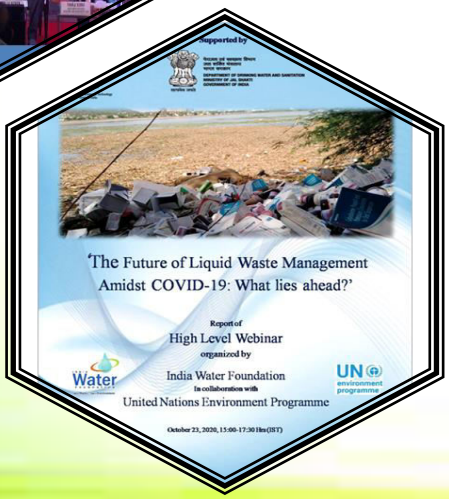

ANNUAL REPORT

2020-2021

INDIA WATER FOUNDATION

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Foreword

In the past year, we have seen devastation on a scale that we have never witnessed before and have perhaps been the most tragic time of our living memory. This tiny virus has shown us the urgent need for building a greener and sustainable future and also need for renewed investment in public health and water and sanitation. Covid-19 has shown our greedy relationship with nature and we need to reset our ways so that we can manage nature sustainably. Even before the COVID-19 pandemic, the world was not on track to achieve the Sustainable Development Goals by the target date of 2030. Now, we face the deepest global recession since the Second World War. Approximately 100 million more people could be pushed into extreme poverty. The virus has exposed the need for corporation on an international level. We are in a race against the virus, its variants and vaccination for all. There is no doubt that no one is safe, until all of the people in the world are vaccinated. This will require tremendous efforts from the governments to the common people.

During the period under review in this report, global warming, a prime driver of climate change and sustainable development remained the focal point of global attention, especially as the world is dealing with the effects of Covis-19. India Water Foundation could not afford to remain aloof from it as well.

The past year, when then world is still dealing the effects of the virus, extreme climatic and natural events have been showing up which is adding to the devastation that the economies have to bear. In June 2020, swarms of locusts, many billions strong, were moving from East Africa to West Asia and South Asia. The attacks destroyed fields and livelihoods of farmers—multiplying and magnifying the human distress because of Covid-19. We are seeing intensification in cyclones, extreme rain events like floods -which are leading to increased challenges of water management and also intense droughts. These extreme events cripple local economies and takes away years of development and public investment, which makes communities poorer and more vulnerable.

The other significant developments that profoundly influenced us at India Water Foundation and in an identical manner the activities conducted by India Water Foundation (IWF) during 2020-2021, inter alia, included identical themes of the 2021 World Water Day as well as 2021 World

Water Development Report. The theme for this year was "Valuing Water". The value of water is complex, the value of water is much more than its economic value- water has enormous value for our households, culture, food health, health of the natural environment and economics. The UN World Water Development Report 2021 stresses that there is enough water for everyone provided we use it judiciously but we end up consuming too much water which causes scarcities which in turn causes harm to the environment. Many of our problems arise because we don't value water highly enough. Value can be a guide in setting our goals.

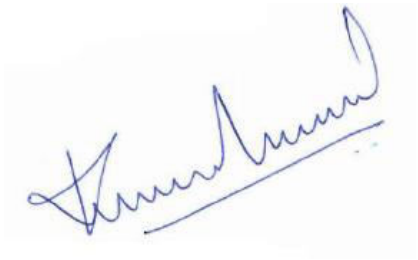
The Convention on Biodiversity (CBD) declared The Post-2020 Global Biodiversity framework which will be a stepping stone towards the 2050 Vision of 'Living in Harmony with Nature'. The framework sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled. After the second meeting of the Working Group took place, the updated zero draft of the Post-2020 Global Biodiversity framework was released on August 2020. The framework is built on a 'Theory of Change' which recognizes that there should be urgent action globally at national and regional levels is required to transform the world and reverse the trends of biodiversity loss. The framework aims to galvanize urgent action from governments and all of society, including indigenous peoples and local communities, civil society, and businesses, to achieve the outcomes it sets out in its vision, mission, goals and targets.

The New Education Policy 2020 was released after three decades and finally arrives embedded in transformational vision and directional change to meet the educational needs of the 21st century. PM Modi highlighted how the NEP focuses on "How to think" as opposed to "what to think" being followed by previous education models in India. Progressive in nature, NEP can touch real milestones in future to reap the rich demographic dividend that can power the socio-economic engines of the country. By 2030, we have our goals like ensuring that all girls and boys complete their free, equitable and quality primary and secondary education; eliminate gender disparities in education and ensure equal access to all levels of education and so on. Covid-19 pandemic has rightly called for 'education overhaul' to meet contemporary challenges and find answers to our concerns and streamline learning outcomes towards a qualitative paradigm of learning.

At the domestic national level, major development that influenced the perspective and activities of India Water Foundation, inter alia included: Release of NITI Aayog SDG India Index 2021, the release of the Post-2020 Global Biodiversity framework, 5th India Water Impact Summit, the launch of the UN Decade of Ecosystem Restoration, the release of the Emissions Gap Report 2020. Major activities undertaken by India Water Foundation during 2020-2021 veered round major themes of water, climate change and SDGs, which inter alia, included: India Water Foundation in collaboration with UNEP organized a high-level webinar on "The Future of

Liquid Waste Management amidst COVID-19: What lies ahead", India Water Foundation Celebrated world wetlands day 2021 by the success of collaborative event with National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Department of Water Resource, River Development & Ganga Rejuvenation, Government of India "Water, Wetlands, Life: Inseparable Coexistence: Safeguarding biodiversity, delivering water & food in the face of changing climate" etc., along with other activities. Some of the achievements if IWF during 2020-2021 are: As an endorsement of our efforts towards conservation of Environment, Nature and Biodiversity, India Water Foundation is delighted to be a member of IUCN, IWF was showcased in January 2021 as one of the four best civil societies in the world for their climate action story that inspires others, benefits the planet and its positive impact provide hope for the future, IWF became a member of the Global Partnership on Marine Litter (UNEP), IWF is pleased to present 'United Nations:75 and beyond' the iconic special publication of Focus Global Reporter (FGR), a publication of UN accredited India Water Foundation.

It is gives me profound pleasure in presenting this annual report for 2020-2021 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. I avail this occasion to reaffirm steadfast commitment of IWF to continue to render its yeoman services in the fields of water, climate change and sustainable development with renewed enthusiasm. In the ensuing period impacted by COVID-19 pandemic, I earnestly request everyone to observe guidelines issued by the government in this regard and wish good health to all.



(Dr Arvind Kumar)
President
India Water Foundation

Overview

A tiny virus brought a halt to our everyday life and has humbled the human race. The pandemic has demonstrated how fragile our world is and has shown the risks due to decades of ignorance: environmental degradation; climate crisis; inadequate health system; structural inequalities. The world came to a temporary stop and has brought out the need for renewed investment into public health, water and sanitation, and for building a greener and more secure future in the years to come.

In the past year, we have seen climate change impacts which are adding to the devastation caused by the virus. We are seeing intensification in cyclones, extreme rain events, which are leading to increased challenges of water management—floods and then droughts. The aftermath of these events is worse because it takes away the development dividend and years of public investment into building infrastructure to improve the lives of people. It cripples local economies; makes communities poorer and more vulnerable. This year in parts of Africa and India there have also been attacks from locusts, again linked to variable rainfall in the region, because of climate change impacts. The attacks destroyed fields and livelihoods of farmers—multiplying and magnifying the human distress because of Covid-19.

Today it is the poor of the world who are the worst hit; they are victims of Covid-19 and they are victims of climate change. The poor of the world are those who are not responsible for the stock of emissions in the atmosphere, but are at the frontline of the devastation. We have seen from across the world that the poor have been disproportionately hit by the virus. They have suffered twice: they lost lives to the virus and they lost livelihoods. We need to remember this because Covid-19 has taught us that we are as strong as the strongest link or as weak as the weakest. The poor are worst hit today, but if the disease survives, we will all be in danger. It is the same with climate change. We need development strategies that are sustainable for all— low carbon growth to push the poor out of poverty. But we also know that sustainability is about affordable and inclusive growth. Therefore, the challenge is not about technology or finance; it is about the approaches to development that will secure the wellbeing of the poorest in the world.

We need more information, not less. We need to know what is happening on the ground so that actions can be guided better; so that we do not make mistakes or repeat them. The pandemic has demonstrated the fragility of our world. It has laid bare risks ignored for decades: inadequate health systems; gaps in social protection; structural inequalities; environmental degradation; the climate crisis.

Momentous Developments

Although the Covid-19 has brought the world to a halt and has caused postponement of major Climate meets and reports. With the completion of five years since the Paris Agreement was signed, the all important 26th session of Conference of Parties (COP26) to the UNFCCC was originally scheduled to take place from 9-19 November 2020, in Glasgow, UK, but due to the pandemic it was postponed for a year and was decided that it will be held from 1-12 November 2021, in Glasgow, UK. The Paris agreement works on a five-year cycle with increasingly ambitious climate actions plans carried out by countries. The decision was taken by the COP Bureau of the UNFCCC with a hope that the rescheduling would help parties more time to prepare and focus on issues to be discussed in the conference.

On World Environment Day 2021, the UN Decade of Ecosystem Restoration was launched. The UNEP's campaign - "Recreate, Reimagine, Restore" - focuses on reversing the degradation of our ecosystems, the project “aims to halt and reverse the decline of our natural ecosystem on every continent and ocean”. This project will help in tackling poverty and combat climate change and taking the theme forward will be successful with people's participation.

The Conference on Biodiversity (CBD) also launched The Post-2020 Global Biodiversity framework. The framework aims to galvanize urgent action from governments and all of society, including indigenous peoples and local communities, civil society, and businesses, to achieve the outcomes it sets out in its vision. The updated zero draft of the Post-2020 Global Biodiversity framework was released in August 2020. CBD will conduct more meetings to review the inputs from experts and will update the framework and will be presented at COP-15 which will be held in Kunming, China 2021.

The United States of America has officially rejoined the Paris Agreement. When the then President, Donald Trump announced that the US would leave the Paris Agreement, it resulted in a lot of criticism by scientists and environmentalists in the US and abroad. The withdrawal would also affect other countries by reducing its financial aid to fight climate change, especially underdeveloped countries that are in need of that aid for their climate change projects. Therefore withdrawal from the agreement and decrease in funds would lessen the chances of achieving the Paris Agreement Goals. When Biden was elected as President, one of the first executions that he signed was to rejoin the Paris Agreement. This was greatly appreciated all over the world but people felt that a lot still needs to be done to combat climate change.

COVID-19

The Covid-19 pandemic spread at an alarming rate, infecting millions which has led to dramatic loss of human life worldwide and presents an unprecedented challenge to public health, food systems and the world of work. It has brought economic activity to a near standstill as countries imposed tight restrictions to curb the spread of the virus. The economic and social disruption caused by the pandemic is devastating: tens of millions of people are at risk of falling into extreme poverty. The vulnerable sections have felt the health and economic impacts of the virus more so than the rest of populations. For example, homeless people are more at risk to the virus because they do not a safe shelter

The COVID-19 outbreak affects all segments of the population and is particularly detrimental to members of those social groups in the most vulnerable situations, continues to affect populations, including people living in poverty situations, older persons, persons with disabilities, youth, and indigenous peoples. Early evidence indicated that the health and economic impacts of the virus are being borne disproportionately by poor people. For example, homeless people, because they may be unable to safely shelter in place, are highly exposed to the danger of the virus. People without access to running water, refugees, migrants, or displaced persons also stand to suffer disproportionately both from the pandemic and its aftermath – whether due to limited movement, fewer employment opportunities, increased xenophobia etc.

The first cases in India were reported in Kerala and quickly spread to other parts of the country. This resulted in the Government announcing lockdowns for the whole country on Match 25th. The lockdown was extended three times due to the growing number of infections in the country. It was considered that India was dealing well with the virus due to the lockdowns and social distancing, however as soon as the lockdown restrictions were removed, India experienced a large number of confirmed cases.

As India tried to get back to normal, people became more complacent thinking that the virus was out of our lives. The prevailing thought was that India had done a good job in curbing the virus. People dropped their guard, many becoming non-compliant with masking and social distancing protocols. Initially, it was considered that India was dealing well with a low number of positive cases from COVID-19 because of the constricted transmission during a lockdown and social distancing, however, at the end of all lockdown phases. Cities like Ahmedabad, Bengaluru, Bhopal, Chennai, Delhi, Hyderabad, Indore, Jaipur, and Kolkata were identified as the COVID-19 hotspots with four major metropolitan cities accounting for nearly 40% of the COVID-19 cases in India.

The Ministry of Statistics and Program Implementation released data indicating that Indian economy decreased by 7.3% in the April-June quarter of this fiscal year. This is the worst GDP decline since the ministry had started compiling GDP stats quarterly in 1996. In 2020, an

estimated 10 million migrant workers returned to their native places after the imposition of the lockdown. The government did help the migrant workers during the second wave while also setting up a digital-centralized database system

The second wave of Covid-19 that hit the country has brutally exposed and worsened the existing vulnerabilities of the Indian economy. Except for essential services and activities, the lockdown had a devastating impact on the economy as shops, industries, eateries, transport services, businesses establishments were all shuttered. The informal sector sectors of the economy have been worst hit by the pandemic. India's GDP contraction during April-June could have been above 8% if the informal sectors were considered.

On 1 January 2021, the Drug Controller General of India approved the use of Covishield, which is being made by the Serum Institute of India (SII) (under license from Oxford-AstraZeneca) and also approved the use of Covaxin, a domestic vaccine developed by Bharat Biotech in association with the Indian Council of Medical Research and National Institute of Virology.

The first phase of the vaccine rollout was planned to target 30 million people, including 10 million healthcare workers and 20 million frontline workers including police, paramilitary forces, sanitation workers, and disaster management volunteers. The second phase of the vaccine rollout began on March 1st and covered all residents over the age of 60, residents between the ages of 45 and 60 with one or more qualifying comorbidities, and any health care or frontline worker that did not receive a dose during phase 1. Amid the beginning of the second wave of infections in the country, there was an acute shortage of vaccines and the government suspended the export of vaccines to other countries. From 1 April, residents over the age of 45 were eligible for the vaccine. The Prime Minister also called for a four day "Teeka Utsav" (Vaccine Festival) to encourage eligible people to take the vaccines. The third phase of the vaccine rollout was announced on 19 April and to be started on 1st May. It extended the eligibility to all residents over the age of 18 and individual stakeholders were given more flexibility in how they conduct the vaccination programme. But due to supply issues, many states announced that they would delay their wider rollout of the vaccines to later that month.

After witnessing a devastating second wave of the COVID-19 pandemic, India is now preparing to face a third wave of the virus. Experts have already predicted that COVID-19 third wave is imminent and could be more severe. To prevent another with catastrophic consequences, vaccination should be our topmost priority, especially for the children who could be the next vulnerable group. People need to follow COVID-appropriate behavior like wearing masks, sanitization, and maintaining social distancing. Maintaining a good stock of life-saving drugs and oxygen concentrators should be scaled up on priority. Hospital beds should be increased with enough beds for children in hospitals, community centers, etc. It should be noted that the next 100-125 days are critical, both for the system and people.

World Water Day 2021

"The value of water is profound and complex. There is no aspect of sustainable development that does not fundamentally rely upon It." said UN Secretary General Antonio Guterres when he spoke on World Water Day.

What does water mean to me? Is the question asked at this year's World Water Day which was celebrated on 22nd March 2021. The theme for this year's event is "Valuing Water". The value of water is complex. The value of water is much more than its economic value- water has enormous value for our households, culture, food health, health of the natural environment and economics.

UN Secretary General Antonio Guterres spoke on World Water Day, he mentioned that water to him means protection. A well-managed water cycle which contains drinking water, sanitation and hygiene, wastewater, transboundary governance, environment, etc means protection against illness, global demand and a response to the challenges we are facing due to climate change. He stressed that this year they want to record and understand as many people's views as possible, so that decision makers are better informed and equipped to safeguard the rights of every person and purpose. He also mentioned that we are not on track to reach our Sustainable Development Goal 6 which is to ensure that everyone has access to water and sanitation by 2030. While advancements have been made, we are still far from reaching the goal and our efforts need to quadruple. He mentioned that he is encouraged by the joint statement signed by 161 Countries during the UN High-Level Meeting on Water on 18 March which shows great commitment to advancing all water related aspects of the Sustainable Development Goals.

This occasion also marked the release of the UN World Water Development Report 2021. The report stresses that there is enough water for everyone provided we use it judiciously. but we end up consuming too much water which causes scarcities which in turn causes harm to the environment. Many of our problems arise because we don't value water highly enough. Value can be a guide in setting our goals. This report explains various approaches to valuing water for environmental considerations, water related work, drinking water, sanitation and hygiene. It looks at the valuation issues in food, agriculture, businesses, industry, energy and financing. It also highlights the perspective of different value systems, cultures and social and gender-based considerations.

India on World Water Day 2021

"In the first phase interventions were made in 10,104,338 water conservation and rainwater harvesting projects, 7,536,381 renovations of traditional and other water bodies, 7,485,025 reuse and recharge structures and 9,696,381 watershed developments," minister of state for Jal Shakti Rattan Lal Kataria said recently, quoting figures from his ministry.

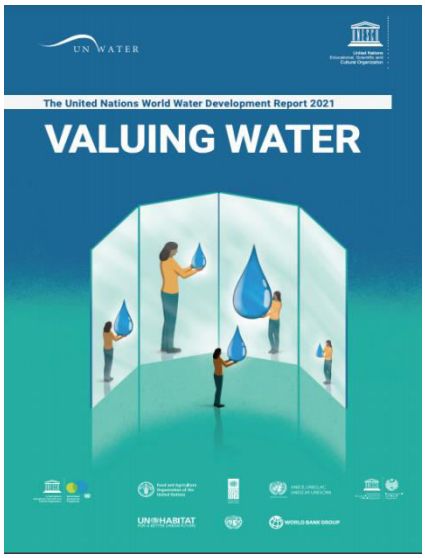
On the occasion of World Water Day, Prime Minister Narendra launched the "Jal Shakti Abhiyan: Catch the Rain" campaign. This campaign will be Jal Shakti Ministry's flagship water conservation campaign. During the campaign, geo-tagging of all the water bodies throughout the nation will be carried out which shall form the basis for assessment of the rejuvenation efforts for the water bodies across the country. It will be implemented between March 22nd and November 20th, which will cover the monsoon period of the country. The next leg of the programme, called "Catch the rain where it falls, when it falls" will be rolled out across the country's 734 districts covering over 600,000 villages.

According to NITI Aayog, 600 million Indians could face "high to extreme water stress" and the country's water demand is likely to double by 2030, which could potentially cost a loss of 6% in the gross domestic product GDP by 2050.

The programme will be rolled out across the country's 734 districts covering over 600,000 villages. Under the scheme, the government focuses on rainwater harvesting and water conservation, including initiatives such as renovation of traditional water bodies and tanks, reuse of water and recharge structures, watershed development and a forestation in 256 districts.

UN World Water Development Report 2021

The current state of our water resources highlights the need for proper water management. Recognizing, measuring and expressing water's worth, and incorporating it into decision-making, are fundamental to achieving sustainable and equitable water resources management and the Sustainable Development Goals (SDGs) of the United Nations' 2030 Agenda for Sustainable Development. 'Valuing Water' is the title for the 2021 edition of the United Nations World Water Development Report (UN WWDR 2021). This report groups current methodologies and approaches used worldwide to the valuation of water. The valuation of water is done into five interrelated perspectives: valuing water sources, in situ water resources and ecosystems; valuing water infrastructure for water storage, use, reuse or supply augmentation; valuing water services, mainly drinking water, sanitation and related human health aspects; valuing water as an input to production and socio-economic activity, such as food and agriculture, energy and industry, business and employment; and other socio-cultural values of water, including recreational, cultural and spiritual attributes. These are complemented with experiences from different global regions; opportunities to reconcile multiple values of water through more integrated and holistic approaches to governance; approaches to financing; and methods to address knowledge, research and capacity needs.



The various approaches to valuing water that is discussed are-

- Valuing the environment- the source of all water is from the environment and all water that is used for human consumption eventually returns to the environment. The status of our use of water resources clearly indicates that we need to proactively manage our resources. The existence of different value systems infers that it would be problematic to develop a unified system of, and metrics for, valuing water and/or the environment. What is feasible is to develop a common approach under which different environmental values or value systems can be compared, contrasted and used.

- Valuing hydraulic infrastructure- The value of water to society is underpinned by hydraulic infrastructure, which serves to store or move water, thus delivering substantial social and economic benefits. Socio-economic development is curtailed in countries that have insufficient infrastructure to manage water. While more infrastructure is needed, past experience shows that the valuation of hydraulic infrastructure has been seriously flawed.

- Valuing water supply, sanitation and hygiene (WASH) services- Water is a basic human need, required for drinking and to support sanitation and hygiene, sustaining life and health. Access to both water and sanitation are human rights. A direct extension of access to WASH services not only improves educational opportunities and workforce productivity, but also contributes to a life of dignity and equality. WASH services also indirectly add value in the form of a healthier environment.

- Valuing water for food and agriculture- Agriculture uses the major share (69%) of global freshwater resources. However, water use for food production is being questioned as inter-sectoral competition for water intensifies and water scarcity increases. Moreover, in many regions of the world, water for food production is used inefficiently. This is a major driver of environmental degradation, including depletion of aquifers, reduction of river flows, degradation of wildlife habitats, and pollution.

- Energy, industry and business- In the energy, industry and business (EIB) sector, water is seen as both a resource with withdrawal and consumption costs determined by prices, and a liability involving treatment costs and regulatory penalties, leading to a perception that water is a cost or risk to sales and compliance. Business tends to focus on operational savings and short-term revenue impacts, and tends to pay less attention to water value in administrative costs, natural capital, financial risk, future growth and operations, and innovation.

- Cultural values of water- Culture directly influences how the values of water are perceived, derived and used. Every society, group or individual exists in their own cultural setting that is molded by a varying mix of heritage, tradition, history, education, life experience, exposure to information and media, social status, and gender, among many other factors.

Unlike most other natural resources, it has proven extremely difficult to determine water's 'true' value. As such, the overall importance of this vital resource is not appropriately reflected in political attention and financial investment in many parts of the world. This not only leads to inequalities in access to water resources and water-related services, but also to inefficient and unsustainable use and degradation of water supplies themselves, affecting the fulfillment of nearly all the SDGs, as well as basic human rights. Consolidating the different approaches and methods for valuing water across multiple dimensions and perspectives will likely remain challenging. Even within a specific water use sector, different approaches can lead to strikingly different valuations. Trying to reconcile valuations across sectors would normally increase the overall level of difficulty, as would taking account of some of the more intangible values attributed to water in different socio-cultural contexts. While there may be scope to reduce complexities and standardize metrics in some circumstances, the reality is the need for better means to recognize, maintain and accommodate different values.

Digitalization Powering the Global Water Market, 2020

Following the onset of Covid-19, the global water industry has been significantly affected. Experts feel that the global water sector is due for a major digital transformation according to the report 'Digitalization Powering the Global Water Market' released by Frost and Sullivan, in November 2020. The analysis shows that due to the pandemic, there will be accelerated plans for digital transformation of the sector. The pandemic adversely impacted the global growth of the water industry as it disrupted supply chains and the lack of labour during the lockdowns.

The global water market was predicted to grow by 7% to US $1,014.54 billion in 2020 but instead witnessed a decline to US $805.31 billion in 2020, down from US $947.89 in 2019. The municipal water and wastewater market due to support from governments were the most resilient during the pandemic. The hydration treatment systems market was the worst affected in the water market.

The report finds that using AI based platforms will help the sector to rebound. The use of smart sensors with advanced artificial intelligence (AI) and ML based data platforms are increasing as it reduces human interference and requires minimal maintenance. Smart decentralized water and wastewater treatment solutions are already disrupting the market significantly with low OPEX and holistic economic sustainability becoming key drivers that enable the growth of decentralized treatment systems.

The Report also highlights the areas of growth that can be focused on in the near future.

- Municipal and industrial water and wastewater treatment systems market- Using smart operations and AI based virtual assistance platforms can help reduce OPEX costs of a treatment plant.
- Hydration Treatment Systems Market- Solution providers could offer a 'filter-as-a-service' business model to reduce costs.
- Irrigation systems and solutions market- Irrigation solution providers should invest in research and development to provide holistic smart irrigation solutions.
- Bottled Water Hydration Market- Leading brands are using recycled PET bottles while other companies are experimenting with degradable plastics and paper-cased bottles. Products with sustainable packaging will be in high demand.

The Post-2020 Global Biodiversity Framework

The Post-2020 Global Biodiversity framework will be a stepping stone towards the 2050 Vision of 'Living in Harmony with Nature', this will be adopted by The Convention on Biodiversity (CBD) as it was decided in the Conference of the Parties to the Convention on Biological Diversity adopted a comprehensive and participatory process for the preparation of the post-2020 global biodiversity framework.

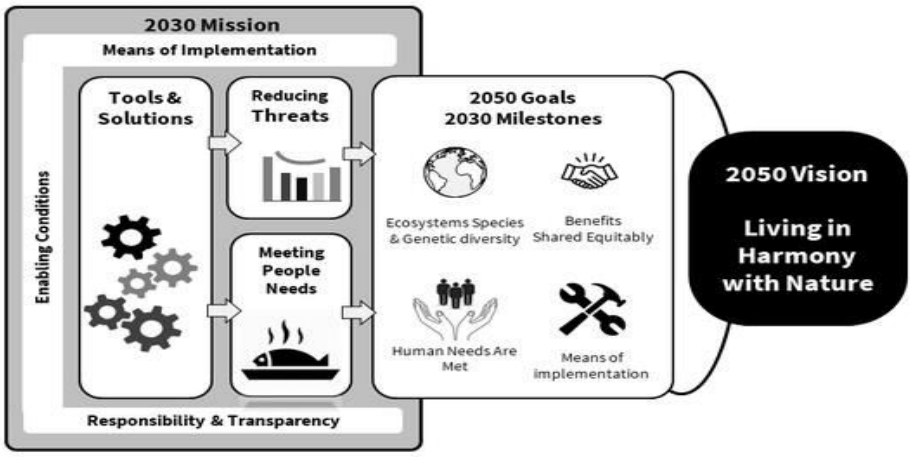
With the CBD Strategic Plan 2011-2020, which lays out the 20 Aichi Biodiversity Targets, is rapidly approaching its 2020 expiration date, the post-2020 global biodiversity framework builds on the Strategic Plan for Biodiversity 2011-2020 and sets out an ambitious plan to implement broad-based action to bring about a transformation in society's relationship with biodiversity and to ensure that, by 2050, the shared vision of living in harmony with nature is fulfilled. As a result, the Open-ended Inter-sessional Working Group on the Post-2020 Global Biodiversity Framework was developed and has been tasked with advancing preparations for the development of the framework. The first meeting of the Working Group which took place on 27-30 August 2019, at the UN Office at Nairobi, Kenya, agreed that the Co-Chairs and the CBD Bureau would develop a zero-draft text on the global biodiversity framework; the zero draft was released in January 2020. The second meeting of The Working Group took place in February 2020 at the Food and Agriculture Organization of the UN (FAO) in Rome. The participants were asked to give their inputs on implementation, raise ambition in goals and targets, provide financial and other means of implementation, and develop mechanisms to hold each other accountable and review progress. The updated zero draft of the Post-2020 Global Biodiversity framework was released on August 2020.

The framework aims to galvanize urgent action from governments and all of society, including indigenous peoples and local communities, civil society, and businesses, to achieve the outcomes it sets out in its vision, mission, goals and targets, and thereby to contribute to the objectives of the Convention on Biological Diversity and other biodiversity related multilateral agreements, processes and instruments. The framework will be implemented primarily through activities at the national level, with supporting action at the sub-national, regional and global levels. It aims to promote synergies and coordination with relevant processes. It provides a global, outcome-oriented framework for the development of national, and as appropriate, regional, goals and targets and, as necessary, the updating of national biodiversity strategies and action plans to achieve these, and to facilitate regular monitoring and review of progress at the global level. The framework will contribute to the implementation of the 2030 Agenda for Sustainable Development. At the same time, progress towards the Sustainable Development Goals will help to provide the conditions necessary to implement the framework.

Theory of Change

The framework is built on a 'Theory of Change' which recognizes that there should be urgent action globally at national and regional levels is required to transform economic, social and financial models so that the trends of biodiversity loss will change in the next ten years and will allow the recovery of natural ecosystems in the next twenty years so that in 2050 we can achieve the Conventions vision of "Living in harmony with nature by 2050". To achieve these changes the theory assumes that a Whole-of-Government and society approach is required now and also during the next crucial decade in order to achieve the 2050 vision.

The Theory also acknowledges the need for gender equality, women's empowerment, youth, gender-responsive approaches and the full and effective participation of indigenous peoples and local communities in the implementation of this framework. The theory implementation will be done with collaboration with many organizations at the global, national and local levels so that goals can be achieved successfully. The theory will be complementary to and supportive towards the 2030 Agenda for Sustainable Development.



The Framework

The framework has four long term goals for 2050 which are:-

1. The area, connectivity and integrity of natural ecosystems increased by at least [X%] supporting healthy and resilient populations of all species while reducing the number of species that are threatened by [X%] and maintaining genetic diversity;

2. Nature's contributions to people have been valued, maintained or enhanced through conservation and sustainable use supporting global development agenda for the benefit of all people;

3. The benefits, from the utilization of genetic resources are shared fairly and equitably;

4. Means of implementation are available to achieve all goals and targets in the framework.

2030 Milestones

The framework has stated eight milestones to be assessed in 2030 for the progress towards the 2050 goals. The milestones are divided into 4 goals which are briefly described below.

Goal A- Goal A aims at increasing the area of natural systems and also reducing the number of species that are threatened to extinction.

Goal B- It aims at having access to safe drinking water, food security and resilience to natural disasters. It also aims for green investment.

Goal C- It aims for access and benefit sharing mechanisms are available and established to all countries.

Goal D- By 2022, the means for implementation of the framework till 2030 should be identified and implemented. Also, by 2030, the means for implementation of the framework till 20490 should be identified.

2030 Action Targets

The framework has 20 action-oriented targets for 2030 which, if achieved, will contribute to 2030 Milestones and the outcome-oriented goals for 2050. These can be broadly divided into 3 groups-

A. Reducing threats to Biodiversity- This has 7 targets under it and by 2030 aims to retain existing wilderness areas, and allow the restoration of degraded freshwater, marine and terrestrial natural ecosystems and connectivity among them. There are also targets to protect areas with biodiversity importance while also conserving flora and fauna and preventing pollution from all sources. Also using nature-based solutions for climate change mitigation adaptation and disaster risk reduction.

B. Meeting people's needs through sustainable use and benefit-sharing- This has 5 targets under it and by 2030, ensure food security and well-being, for people, especially for the most vulnerable through sustainable management of wild species of fauna and flora, use of sustainable agriculture and sustainable use of ecosystems, use of nature based

solutions to contribute towards air quality and water quality, increase benefits from biodiversity and green/blue spaces for human health and wellbeing, increase benefits shared for the conservation and sustainable use of biodiversity.

C. Tools and solutions for implementation and mainstreaming- This has 8 targets under it and by 2030 aims to integrate biodiversity values into policies, poverty reduction strategies and accounts at all levels, eliminate unsustainable consumption patterns, control potential adverse impacts of biotechnology on biodiversity and human health, reform or eliminate incentives harmful for biodiversity, , increase financial resources from all international and domestic sources, ensure that quality information, including traditional knowledge, is available to decision makers and public, ensure equitable participation in decision-making related to biodiversity.

The Working Group at its Second meeting further requested the Co-Chairs and the Executive Secretary, under the oversight of the Bureau, to prepare a first draft of the global biodiversity framework, taking into account the conclusions adopted by the Working Group as contained in the report on its second meeting, as well as ongoing consultation processes, the outcomes of the Ad Hoc Technical Expert Group on Digital Sequence Information, the outcome of the twenty-fourth meeting of the Subsidiary Body on Scientific Technical and Technological Advice and the outcome of the third meeting of the Subsidiary Body on Implementation, and to make it available six weeks before the third meeting of the Working Group. After months of deliberations, the First draft of The Post-2020 Global Biodiversity framework was released on 5th July 2021.

We at IWF welcome the structure of the Updated Zero Draft, but point out that the relationship between the Goals, the Milestones and the 20 Action Targets needs to be made much clearer (the theory of change). Each target when implemented needs to "add up" to achievement of the 2030 Milestones and 2030 Mission (and ultimately the 2050 Goals). Each national target will also need to connect to global targets to make the national level contribution to the global target transparent and accountable. Therefore, Parties should aim to formulate national level targets that will collectively contribute to the relevant global target, using the same metrics and indicators. It will only be possible to gain a true picture of progress towards the achievement of this framework in the next 30 years if this is the case. Monitoring efforts will need to be scaled-up to assess whether national targets would 'add up' in terms of their impact, to yield the intent of the global target(s) when "combined with" voluntary commitments for biodiversity made by non-State actors, noting that a suitable mechanism to assess, curate and store such commitments will need to be developed.

UN Decade of Ecosystem Restoration

"Studies in recent years have shown that due to climate change and degradation the crop yields may reduce by 10 percent globally and up to 50 percent in certain regions in upcoming years (Aronson, 2013). This will affect India's economy and growing food demand. Ecological restoration can help to mitigate the impacts of climate change and increasing vulnerability"

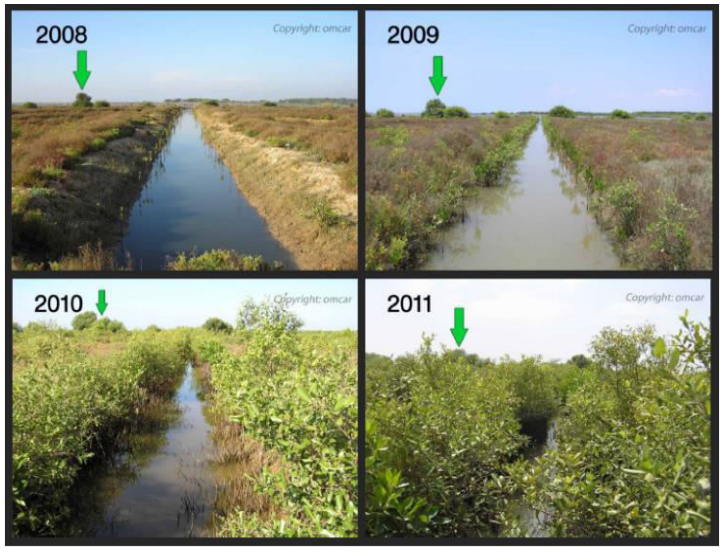
On this year's World Environment Day on June 5, to give a global platform for inspiring positive change to the environment, the UN decade on Ecosystem Restoration was launched. It will be a ten-year project that "aims to halt and reverse the decline of our natural ecosystem on every continent and ocean" according to the UNEP. The UNEP's campaign - "Recreate, Reimagine, Restore" - focuses on reversing the degradation of our ecosystems, this will help in tackling poverty and combat climate change and taking the theme forward will be successful with people's participation. The objective of ecosystem restoration is to help contribute towards the conservation of our ecosystems and also the sustainable use of biodiversity as well as to create economic, environmental and social benefits and would be applied at many scales-with everyone having a community driven role.

Ecosystem restoration being one of the main components of environmental conventions like Ramsar convention on wetlands and Rio conventions on biodiversity, desertification and climate change is one of the best ways of applying nature-based solutions for tackling water and food insecurity, climate change mitigation and adaptation, and biodiversity vulnerability. Although the restoration requirements are and will be different depending on the type of ecosystem in which they are to be applied (Convention on biological diversity, 2021), as earth having diversity of ecosystems from fresh water, farm lands, forests, oceans etc, with all these ecosystems being vital for the prosperity and wellbeing of human beings. Following this year's UNEP report have called the actions for ecosystem restoration on large scales in order to achieve the sustainable development and have launched a campaign for everyone to join refer as Generation Restoration.

Ecological restoration has also impacted the Indian agriculture. Studies in recent years have shown that due to climate change and degradation the crop yields may reduce by 10 percent globally and up to 50 percent in certain regions in upcoming years (Aronson, 2013). This will

affect India's economy and growing food demand. Ecological restoration can help to mitigate the impacts of climate change and increasing vulnerability.

India in recent years has seen many success stories and booming research in the positive direction of ecological restoration. In 2005, a group of 20 tribal women from 6 villages in the Surguja district in the state of Chhattisgarh decided to grow a traditional crop called Jeera phool(n indigenous, superfine, aromatic variety of rice) and formed a self-help group to protect and promote it. They started selling the crop and when its popularity began to grow, it was eventually registered with the Plants Varieties and Farmers Rights Authority of India. The success of the Jeera Phool initiative was recognized and adopted by project funded by the Global Environment Facility, with support of the United Nations Environment Programme (UNEP), and was implemented by the Alliance of Diversity International, CIAT and the Indian Council of Agricultural Research. (UNEP, 2020). Another study conducted by the scientists from Nature Conservation Foundation, India and Columbia University based on restoration projects that have been under way for over 20 years in Anamalai Hills, a biodiversity hotspot in India's Western Ghats, which has witnessed extensive deforestation between 1890 and 1940 for tea, coffee, cardamom, and eucalyptus plantation by the British. Since 2000, three plantation companies have conducted restoration activities on the plateau. The sites were carefully chosen after ensuring they were degraded rainforests alone and didn't include the famously misunderstood native grasslands of the Western Ghats. The active restoration process included steps to prevent cutting of wood, preventing the growth of weeds, and planting a diverse variety of native species. Researchers studied an average of 1,099 plants, spanning 106 species, per hectare. They also studied 50 plots of land in the region, half of which underwent 'active restoration', while the other half underwent 'natural regeneration' where nature took over with no human intervention. These types of studies helped to discover that active restoration came closer to the natural ecosystem and healthy growth of the benchmark areas. Compared to natural regeneration, these plots also showed more consistent and prominent results. (Shankar, 2003).



Globally, now we recognize that ecosystem restoration is key for the long term sustainability of our planet and also a key component in conservation programs (Aronson, 2013). Restoration by repairs and replanting of wetlands, river beds, forest and other habitats, eliminate invasive species, replacing turf grass with native species and planting rain gardens to absorb rainwater from the roof or asphalt, with addition to proper planning, political and social support, environmental risk assessments, resource management, and reconstruction of all ecosystem attributes (Miao and Marrs, 2000) will help in restoring our local ecosystem.

Ecological restoration is not quick or easy, and will take deep changes in the way we measure economic progress, but it will help to improve the productivity and capacity of ecosystems to meet the needs of the society. Restoring the ecosystem gives us a healthy and sustainable life by nurturing nature by collective responsibility to conserve it. As Jordan Sanchez who is the pen and voice behind this year's poem for the World Environment Day implies that people understand the situation that we are in is serious but there is always something we can do, by remaining positive and acting together.

G7 Summit 2021

"One Earth, One Health" was the phrase coined by the Prime Minister Shri Narendra Modi at the first outreach session held at the G7 Summit in Cornwall, UK. This is the first meeting of the leaders of the largest economies since the Covid pandemic began last year. The UK currently holds the presidency and this year has invited India, along with Australia, South Africa and South Korea, as guest countries for the summit.

The theme for this year's summit is "Build Back Better". The UK outlines four priorities for the summit which are-

- Leading the global recovery from Corona virus while strengthening resilience against future pandemics.
- Promoting future prosperity by championing free and fair trade.
- Tackling climate change and preserving the planet's biodiversity.
- Championing shared values and open societies.

PM Modi attended the outreach session titled 'Building Back Stronger – Health' virtually from India calling for a global response against the Corona virus and future pandemics. India was hit hard by the covid-19 virus due to its large population especially when the second all-India surge of the virus. The Indian government believes that the best way to fight the pandemic is to vaccinate the whole population but there is a shortage of vaccines. There are currently two locally made vaccines for the coronavirus: Covishield and Covaxin. The Serum Institute of India (SII) makes Covishield (under license from AstraZeneca), while Bharat Biotech makes the locally-developed Covaxin. The Sputnik V vaccine, which was approved for use in April, is also now available, with three million doses supplied by Russia. This vaccine is also being produced locally, with supplies expected to be available for use from July or August. The government set a target to make 2 billion doses to be made between August and the end of the year to fully vaccinate the

population. But India is facing a shortage in vaccine manufacturing and supply, earlier this year US President Biden invoked the US Defense Production Act (DPA), giving US vaccine makers priority access. This caused a severe shortage of raw materials that is required to produce the vaccines. The US administration later agreed to provide 'specific raw materials' for the manufacture of Covishield vaccine in India. At the G7 summit, the leaders pledged to deliver an additional 870 million vaccine doses for the developing world on top of the 250 million already promised by the US and 100 million from the UK and deliveries will take place over the next year. In his speech at the G7 President Biden quoted, "This is about our responsibility, our humanitarian obligation, to save as many lives as we can ". US NSA Jake Sullivan said the G7 will make a further joint declaration on "a comprehensive plan to help end this pandemic as rapidly as possible". The World Health Organization Director General, Dr Tedros Ghebreyesus welcomed and thanked the leaders for their donations but also stated that more vaccines are needed and at a faster pace.

At the session PM Modi sought for a proposal to waiver the patents protections regarding the Covid-19 vaccines and technologies. In October last year, India and South Africa, along with 57 members of WTO proposed a waiver from certain provisions of the Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement for prevention, containment, and treatment of COVID-19. Many countries including Australia have shown support of the PM's call to waiver the patents. The PM also emphasized on the special responsibility of democratic and transparent societies to deal with the global challenge. The PM also highlighted India's "whole of society" approach to fight the pandemic while synergizing the efforts of all levels of the government, industry and society, and also explained India's successful use of open-source digital tools for contact tracing and vaccine management, and conveyed India's willingness to share its experiences and expertise to other developing countries.

One of the big themes of this year's G7 summit is Climate Change. The leaders of the G7 nations have committed to a "green revolution" that would limit the rise in global temperatures to 1.5C and pledged to halve emissions by 2030, relative to 2010. They have also promised to reach net zero emissions by 2050, with measures including ending all unabated coal "as soon as possible", ending almost all direct government support for the fossil fuel energy sector overseas and phasing out petrol and diesel cars. The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at COP 21 in Paris, on 12 December 2015 and

entered into force on 4 November 2016.Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.

To achieve these ambitious targets, countries have to reduce their greenhouse gas emissions and invest to reach a carbon neutral world as soon as possible.

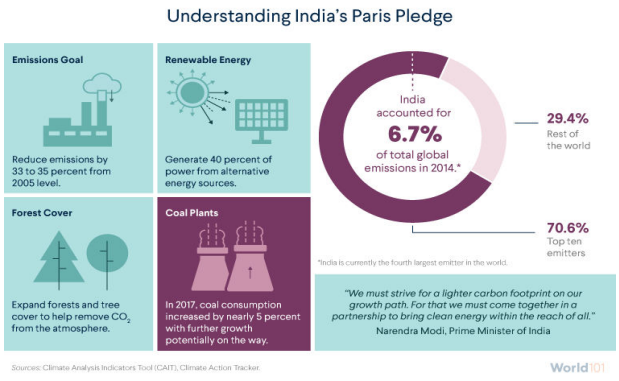
The Paris Agreement is a landmark in the fight against climate change because, for the first time, a binding agreement brings all nations into a common cause to undertake ambitious efforts to combat climate change and adapt to its effects. The reason coal is being targeted is because coal is the world's dirtiest major fuel and ending its use is seen as a major step by environmentalists, but they also want guarantees rich countries will deliver on previous promises to help poorer nations cope with climate change. The G7 will end the funding of new coal generation in developing countries and offer up to £2bn ($2.8bn) to stop using the fuel.

As part of the 'Build Back Better for the World' plan the UK Prime Minister launched the UK's Blue Planet Fund. The £500 million fund will support countries including Ghana, Indonesia and Pacific Island states to tackle unsustainable fishing, protect and restore coastal ecosystems like mangroves and coral reefs, and reduce marine pollution. The G7 also endorsed a Nature Compact to halt and reverse biodiversity loss by 2030 – including supporting the global target to conserve or protect at least 30 percent of land and 30 percent of ocean globally by the end of the decade. The PM Boris Johnson said 'Protecting our planet is the most important thing we as leaders can do for our people. There is a direct relationship between reducing emissions, restoring nature, creating jobs and ensuring long-term economic growth. As democratic nations we have a responsibility to help developing countries reap the benefits of clean growth through a fair and transparent system. The G7 has an unprecedented opportunity to drive a global Green Industrial Revolution, with the potential to transform the way we live'.

PM Modi spoke at this session highlighting the need for climate action to include all dimensions of mitigation, adaptation, technology transfer, financing and equity, climate justice and lifestyle change to provide the necessary space for developing countries to grow. The PM of India called on the G7 nations to keep their unfulfilled promise of setting aside $100 billion annually to finance mitigation and transfer of technology to developing countries to meet the challenges posed by climate change. Developed countries at the 2009 Copenhagen climate summit had pledged to put aside $100 billion annually to fight climate change by 2020. The PM then highlighted India's initiatives to mitigate the impact of climate change stating that India has shown leadership and innovation in addressing climate change while also highlighted the importance of recognizing India's different trajectories and historical responsibilities in the making of this crisis. The PM highlighted that the planet's atmosphere, biodiversity and oceans cannot be protected by countries acting in silos, and called for collective action on climate

change. Speaking about India's unwavering commitment to climate action, he mentioned the commitment by Indian Railways to achieve Net Zero Emissions by 2030. He stressed that India is the only G-20 country on track to meet its Paris commitments. India's headline Paris pledge was to reduce the emission intensity of its gross domestic product (GHG emissions per unit GDP) by 33-35 per cent over 2005 levels by 2030. But assessing progress towards this target is tough: Official emissions data, which India communicates to the UNFCCC, is available until 2014 only. Also, data is available only for select years (1994, 2000, 2007, 2010 and 2014), not including the baseline year 2005. India's also committed to ensuring that at least 40% of its installed power capacity would be from renewable energy by 2030. Non-fossil sources accounted for about 37 per cent of India's power capacity, as of September 2019, according to the Central Electricity Authority (CEA). Thus, the larger 2030 target seems like an easy one to achieve.

He also took note of the increasing effectiveness of the two major global initiatives nurtured by India i.e. the Coalition for Disaster Resilient Infrastructure (CDRI) and the International Solar Alliance (ISA). The CDRI is a multi-stakeholder global partnership which aims to promote new and existing infrastructure systems to be resilient to climate and disaster risks in support towards sustainable development. The Prime Minister of India launched CDRI during his speech at the UN Climate Action Summit on 23rd September 2019. The ISA is an alliance of 121 countries initiated by India that are mostly sunshine countries with the aim to work towards efficient use of solar energy to reduce our dependence on fossil fuels. The Prime Minister stressed that developing countries need better access to climate finance, and called for a holistic approach towards climate change that covers all dimensions of the problem- mitigation, adaptation, technology transfer, climate financing, equity, climate justice and lifestyle change.



Addressing the session 'Building Back Together - Open Societies and Economies' as the lead speaker, PM Modi recalled that democracy and freedom were a part of India's civilization ethos. He stressed the need to ensure that cyberspace remains an avenue for advancing democratic values and not of subverting it. These comments came amid much criticism of India's alleged curbing of free speech. India signed off on the 'open societies' joint statement by the G7 and guest countries, which encourages values such as "freedom of expression, both online and offline, as a freedom that safeguards democracy and helps people live free from fear and oppression but India pushed to dilute the language related to Internet shutdowns, saying shutdowns are sometimes necessary for maintaining 'law and order' and combating communal

violence. The UK had moved to agree to a compromise on the language in the summit document, to refer to only shutdowns that are “politically motivated”.

"Tackling climate change is now as much a political and communications challenge as it is a scientific or technological one. We have the skills to address it in time, all we need is the global will to do so." said Sir David Attenborough, who was recently appointed as the UK’s COP26 People’s Advocate, when he addressed leaders in a pre-recorded video. There has been mixed reaction to the announcements made at the G7 summit, many stakeholders have welcomed the commitments made by the G7 in regards to combating climate change but many felt that the G7 leaders failed to make new pledges on climate finance. People now hope that there will be concrete pledges made by the world’s biggest economies at the upcoming COP26 in November at Glasgow, which could arguably be the most important UN climate talks since the Paris Agreements.

UNEA 5.1

UNEA 5.1 conducted from 22 February 2021 to 23 February 2021. With the theme of 'Strengthening Actions for Nature to Achieve the Sustainable Development Goals' was the first global conference in direction to deal with environment and sustainability issues, under the Decade of Action 2021-2030.

Due to the exceptional circumstances under the COVID-19 pandemic, the two-part session (UNEA 5.1: 22nd Feb to 23rd Feb and UNEA 5.2: June 2021) was held online and was attended by 151 countries, above 100 ministries and high level representatives of the society. Green recovery, plastic management, marine litter, climate change and nature-based solutions were the highly discussed topics. The UN Secretary-General, also launched the flagship UNEP report "making peace with nature".

Some of the key messages from the Leadership Dialogue: Contribution of the environmental dimension of sustainable development to building a resilient and inclusive post-pandemic world are summarized below.

One of the lessons that we learnt from the Covid-19 pandemic is that health of nature and human health are interlinked. It shows that our overexploitation of nature has consequences which in turn affects human lives.

Degrading our ecosystem both contributes to increased emissions and also reduces our resilience to climate change.

The pandemic has exposed our vulnerability but has also given us with an opportunity to change our ways and to put in place a green recovery that will transform our relations with nature and restore our planet.

We should invest to transform our economy into a circular economy to achieve our sustainable goals and to use nature-based solutions to address climate change, nature loss and pollution.

The green recovery must include ways to help the poorest and most vulnerable. It must generate new green jobs and should also ensure that countries have the means to implement green recovery.

Many Members of States are already putting in place key components of a green recovery. These include more stringent National Determined Contributions, nature protection, ban on plastics, ocean cleanup, energy transition to sustainable sources, there should be a whole-society approach that fully engages the youth, businesses and local communities.

This decade is the most important decade for ecosystem restoration and with the launch of the UN Decade of Ecosystem Restoration should provide opportunities to change our ways.

As the leading global authority, UNEP has a crucial role to play in the integrating medium-term strategy, coordinated response and multilateralism.

While the members showed commitment and understanding during the sessions, the issues of technical glitches faced by various delegates and mostly by developing countries providing connectivity challenges which reduced the effectiveness and shed the light on the issue of digital divide due to varied challenges like multilingualism, different time zones and internet connectivity, which led to lower transparency, inclusivity, and equitable participation as compared to previous UNEA.

Although the virtual platform is beneficial in reducing environmental footprint and provide a means of knowledge sharing, the difference in time zones and technical difficulties in substantive decision making leading to weaker outcomes. Training and for technical improvements may address the technical divide and ensure equal participation.

UNEP as a leading global authority has a huge potential for substantive outcomes, with multilateralism at its core it achieves global participation, inclusivity and effective outcomes, however, India Water Foundation appreciate the huge impact and outreach of the assembly sessions and its importance in reaching a global collaboration for the environment.

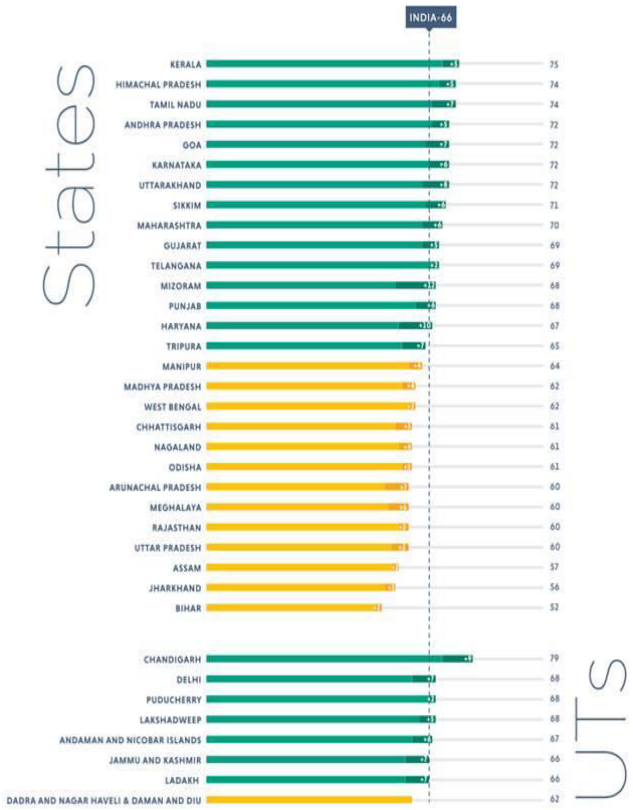
NITI Aayog SDG India Index 2020-2021

"Our effort of monitoring SDGs through the SDG India Index & Dashboard continues to be widely noticed and applauded around the world. It remains a rare data-driven initiative to rank our States and Union Territories by computing a composite index on the SDGs. We are confident that it will remain a matter of aspiration and emulation and help propel monitoring efforts at the international level," Dr. Rajiv Kumar, Vice Chairman, NITI Aayog said during the launch.

The Sustainable Development Goals (SDGs) encompass all the key development sectors including education, health, sanitation, employment, infrastructure, energy, and environment, and set time-bound targets to achieve them. India played a prominent role in the formulation of the United Nations Sustainable Development Agenda 2030 and much of the country's National Development Agenda is mirrored in the Sustainable Development Goals (SDGs). The progress of the world to meet the SDGs largely depends on India's progress. NITI Aayog, as the nodal institution for SDGs, has striven to provide necessary encouragement and support to forge collaborative momentum among the states and union territories in India. Since 2018, NITI Aayog has released 2 SDG India Index & Dashboard and it has worked as a powerful tool to bring SDGs clearly and firmly into the policy arena in the States and UTs. The Index has, undoubtedly, become the mainframe instrument to measure progress of the States and UTs and provide inputs for evidence-driven action towards the attainment of SDGs, while instilling a tremendous spirit of competition among our sub-national constituents.

The SDG India Index scores ranges between 0-100. The higher the score for a state, the closer the state is to achieving its target. States and UTs are classified in four categories based on their SDG India Index score- aspirant: 0–49; performer: 50–64; front-runner: 65–99, achiever: 100. Currently, there are no states in the aspirant and achiever category; 15 states/UTs are in the performer category and 22 states/UTs in the front runner category. The index was developed in collaboration with the United Nations in India. The index tracks the progress of all the states and UTs on 155 indicators. The index is a key tool for focused policy dialogue, formulation and implementation through development actions in line with the SDG framework. It helps in identifying crucial gaps related to tracking the SDGs and the need for India to develop its

statistical systems. From covering 13 Goals with 62 indicators in its first edition in 2018, the third edition of the index covers 16 Goals on 115 quantitative indicators.



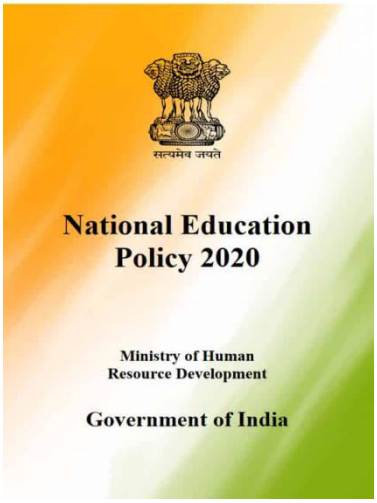
"It remains a rare data-driven initiative to rank our States and Union Territories by computing a composite index on the SDGs. We are confident that it will remain a matter of aspiration and emulation and help propel monitoring efforts at the international level," NITI Aayog Vice-Chairman Rajiv Kumar said.

The country's overall SDG score improved by 6 points — from 60 in 2019 to 66 in 2020-21 — on accounts of improvement in performance in providing facilities including clean water and sanitation, affordable and clean energy among others. Kerala retained its top spot with a score of 75, Himachal Pradesh and Tamil Nadu both took the second spot with a score of 74 followed by Andhra Pradesh, Goa, Karnataka and Uttarakhand who took the third spot with a score of 72. Bihar, Jharkhand and Assam were the worst performing states in this year's India index. Among the UTs Chandigarh maintained its top spot with a score of 79, followed by Delhi with a score of 68. While in 2019, 10 states/UTs belonged to the category of front-runners (score in the range 65-99, including both), 12 more states/UTs found themselves in this category in 2020-21. Uttarakhand, Gujarat, Maharashtra, Mizoram, Punjab, Haryana, Tripura, Delhi, Lakshadweep, Andaman and Nicobar Islands, Jammu and Kashmir and Ladakh graduated to the category of front-runners (scores between 65 and 99, including both).

New Education Policy (NEP) 2020

"Undoubtedly, during the past three decades, we have witnessed monumental changes in the field of education, totally transforming our way of living, sharing of knowledge, learning outcomes and its technology dissemination. Innovation to blur distinction between arts and science subjects is a long overhaul and well appreciated. Opening Indian education, higher education to foreign learning is a credible step to bring best practices, exchange knowledge and resources through a multi-channel exercise."

After three decades, New Education Policy 2020 finally arrives embedded in transformational vision and directional change to meet the educational needs of the 21st century. PM Modi highlighted how the NEP focuses on "How to think" as opposed to "what to think" being followed by previous education models in India. Progressive in nature, NEP can touch real milestones in future to reap the rich demographic dividend that can power the socio-economic engines of the country. By 2030, we have our goals like ensuring that all girls and boys complete their free, equitable and quality primary and secondary education; eliminate gender disparities in education and ensure equal access to all levels of education and so on.



Covid-19 pandemic has rightly called for 'education overhaul' to meet contemporary challenges and find answers to our concerns and streamline learning outcomes towards a qualitative paradigm of learning. The policy can only be realized through convergence and collaboration implemented by the Centre, State, Civil Society Organizations' and other stakeholders against the backdrop of SDG 2030 realization. Echoing a new vision of sab ka saath most significantly, NEP 2020 has the potential to link social, educational and environmental indicators with forward and backward linkages Sustainable Development Goal 4 (Quality Education) and contribute to nation-building in long term and a storehouse of vision for people, planet and a vehicle to deliver the promises of 'Atma-Nirbhar Bharat'. Reflecting a New India, the policy is set to be a landmark in India's history of education, says Venkaiah Naidu, Vice President of India. In an interview to The Print, the erstwhile Education Minister Ramesh Pokhriyal said, 'NEP will be implemented uniformly across all schools and ensure 6% of India's GDP is spent on education'.

Amplifying and augmenting foundational literacy is a win-win situation for NEP has the potential to create more equal access and bring into foray more children into learning mode. Kinder-garden school and play schools finally come within the ambit of formal education. Significant move especially for anganwadi schools to be encompassed into the formal educational system, which otherwise were left behind. The higher secondary school system is revamped to incorporate multi-disciplinary subjects from the realm of arts and science with flexibility in choosing subjects of personal interest resulting in diverse and emotional learning as well as a critical problem-solving approach. Undoubtedly, during the past three decades, we have witnessed monumental changes in the field of education, totally transforming our way of living, sharing of knowledge, learning outcomes and its technology dissemination. Innovation to blur distinction between arts and science subjects is a long overhaul and well appreciated. Opening Indian education, higher education to foreign learning is a credible step to bring best practices, exchange knowledge and resources through a multi-channel exercise.

This shall bring the top global universities including Yale, Harvard, MIT, Cambridge etc. to make a foray into Indian education system promoting access to foundational, transferable and present-day skills for youth inside and outside formal education systems. As savior of India's Demographic Dividend? However, as a 2019 report, 'Reviving Higher Education in India', by the Brookings Institution, a US-based think tank, highlighted, despite heading towards a "massification" of higher education, India lagged in the quality and distribution of higher education. To make India a better place and world-class knowledge power, where do the elements of excellence and qualitative academics reside? In many ways, India's demographics are the envy of the world and the working-age population is now increasing because of the rapidly changing population graph. As populations in countries such as China, US, and Japan are getting older, India's population is getting younger. Japan was among the first major economies to experience rapid growth because of changing population structure with its demographic-dividend phase lasting from 1964 to 2004. An analysis of the first 10 years since this phase shows how such a shift in the population structure can propel growth because Japan grew in double digits with a growth rate above 8%. NEP is a golden opportunity for India to churn the labor force by leveraging the benefits of the working age population with the right entrepreneurial skills. When Concurrent list holds Education! States have raised concerns over the three-language formula and apprehensions raised over Hindi as a medium of communicating language. Critics have raised apprehension on mother tongue/regional language at primary levels and fear that adoption of English in advanced class shall appear a bane, especially for children from rural background.

Different state boards have different modes of teaching and syllabus and have seen NEP as an infringement to their educational policies. However, language whether English, Hindi or any vernacular shall not create a barrier rather foster diversity in learning and flexibility remained undisturbed by language of communication. Students from adivasi, migrants and other backward communities fall back without the inclusion of their mother tongue or their local language. Can

inclusive e-learning change the face of rural India? There has been a decline in Gross Enrolment Ratio, especially among children from certain socioeconomically disadvantaged groups based on gender identities, socio-cultural identities, geographical identities, disabilities etc. Whether NEP has the potential to build or bridge the divide is altogether a perspective of debate. According to a new UNICEF report, just 24 per cent of Indian households have internet connections to access e-education, and there is a large rural-urban and gender divide that is likely to widen the learning gap across high, middle and low-income families. Non-availability of smart phones and Internet connectivity, no training and skills, bandwidth shall derail the success of education prospects. In later stages, the nonuniformity of education divided by rich-poor, caste, occupation, etc. made it inaccessible for everyone. Special education zones are already announced but will it examine the significant proportion of such disadvantaged groups, especially in the hinterland areas is a matter of future implementation.

NEP must address these concerns through digital infrastructure and make it available to the rural school population and Governments can provide smart phones and telecom giants like Airtel, Jio, Idea can look forward to providing free internet access to EWS post verification. The government must aim to provide teachers, educators, school authorities and caregivers access to ICT platforms and train them in the dissemination of learning materials. With plans to set up a new autonomous body called National Educational Technology Forum (NETF) to oversee the capacity building, develop e-content and provide a platform for educational institutes and stakeholders to share best practices, the forum should hold the vital link to bridge the digital divide and ensure a wider reach of online education in inaccessible areas of India. The privilege of Education resides in commitment to diverse & qualitative learning and that encompass social-economical ecological perspectives fostering empowerment, efficient resource management and protecting our natural environment. It is, however, important to note that this policy alone cannot push India's growth story.

There are many other factors to be incorporated if the policy stands to link with different missions and goals like education, nutrition, health, skills, environment, etc with development enwrapped with linkages with goals and targets of SDGs 2030. Talk about stress and mental health, counseling about depression and exam tension should be incorporated in the education curriculum and making them speak and hear. Learning space shall invite NGOs & CSR wings of organizations to give thrust to inclusive and holistic education in India to come together to provide innovative pedagogy, user-friendly educational devices, and create an enabling environment. Calling NEP as India-centric education policy since Independence, Dr Ramesh Pokhriyal Nishank, Minister of Education has highlighted that the policy has room for cultural values and inventions, for knowledge and science, for education and the Policy would lay the foundations for a new and prosperous India.

Hopefully, the policy opens a window of opportunities in both theory as well as practical implementation. Way Forward COVID-19 has taken a hard colossal hit with unprecedented consequences on our educational learning. With Winston Churchill is credited with the saying, "Never let a good crisis go to waste" here, we find this time to opportune the prospects to make inroads to qualitative learning and incorporate the vision of 21st century education needs, but this requires 'whole-of-society' approach with a stroke of self-reliance, inclusivity and equity. We need to find new ways to integrate distance learning, scientific cooperation, and information support in our ways of working towards Saksham and not Sakshar Bharat. Striving for excellence by making solution-oriented contributions to society at large should be the essence of NEP. Critical learning objectives and analysis is to be promoted in place of rote learning to influence mindsets and enhance problem solving skills and decision making. In the spirit of enriching education, policy is quite noble in thought in making nucleus of India's growth story and unlocking the prospects of incubating an innovation-based education towards nourishing the GenX of our 21st century.

Special Report on Marine Litter

Marine litter, in the last few years, has become one of the current major environmental problems all around the world with each square-mile containing thousands of microplastic in the oceans.

Marine litter consists of the items that have been or being used by humans, and discarded into the waterways like: seas, rivers or beaches and directly enters into the water systems. There is a wide spectrum of sources from where marine litter originates and enters into the waterways. Due to COVID-19 pandemic, there has been an increase in demand for single-use plastic for management of the virus, followed by a large percentage of plastic waste scattered in the waterways that have now led to a huge increase in plastic pollution globally. The increase in the amount of marine litter the oceans have supplemented the need for a collaborative global scale action to manage marine litter.

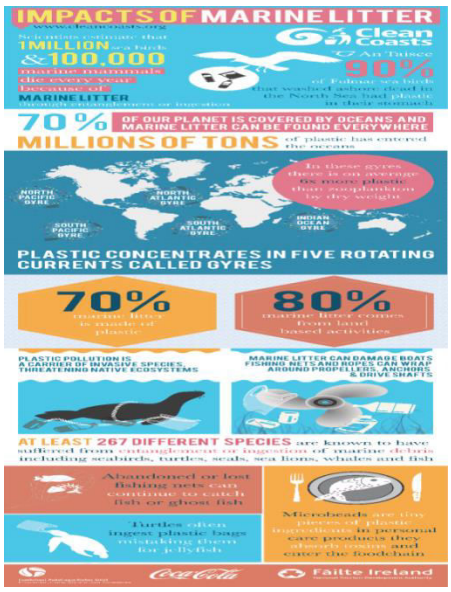
Plastics have a very slow rate of degradation and half-life. It makes the most of marine litter items, and is found in all of the world's seas and oceans even in the remote areas. The problem of microplastic is a major concern as it damages the aquatic biodiversity by blocking their digestive tracts and altering their feeding behavior resulting in reduced growth and reproduction of the species. The effects of marine litter are not only limited to coastal and sea areas, it also persists to humans and in-land ecosystems. The microplastic also ends up reaching in our food chain by seafood consumption and is very harmful due to effects of bio-magnification. The exposure to other toxic chemicals off marine litter over a long period of time can result in reproductive, hormonal, and health issues among humans. Moreover, studies have shown that 90% of bottled water is contaminated with microplastics whereas 7% of tap water contains microplastic.

CONSIDERED SOURCES

YEARLY WORLD CONSUMPTION AND TYPE OF LOSS

SOURCES	WORLD CONSUMPTION (KTONS / YEAR OF PLASTIC)	INTENTIONAL LOSS	REFERENCES
PLASTIC PELLETS	257,000	NO	Plastics Europe (2007)
SYNTHETIC TEXTILES	42,534	NO	FAO/ICAC (2013)
TYRES	6,431	NO	ETRma (2010)
ROAD MARKINGS	588	NO	Grand View Research, Inc. (2016)
MARINE COATINGS	452	NO	Coatings world (2012)
PERSONAL CARE PRODUCTS	42	YES	Leslie, H.A. (2015)

The management of marine litter in our oceans, coastal areas and water-ways is now a necessity with the approach of dynamic, interactive and multidisciplinary strong responses to avoid and mitigate the impacts of marine litter on our environment, economy and social sectors. The key actions to control microplastic are knowledge, prevention, mitigation, removal and behavioural change and also involving measures ranging from behavioural change, policies, and scientific research with collaboration among various sectors.



With more than 11 million metric ton plastic going to the ocean every year, one of the main challenges in management of microplastic are the lack of monitoring programs to assist the state and trend and plastic pollution reaching the oceans. While experts advise to look for past data trends, Observational studies, quantification and quality studies different samples to link and study data in long term monitoring to understand the changing patterns, and develop simple and concise methodology to mitigate microplastics. The low budget for projects and lack of data accessibility are considered as the key challenges in monitoring plastic debris, while too little consistent data on harm of plastic results in no implementation of regulation.

With marine litter being a part of a product global problem in waste management which is now causing a major public-health-environmental concern, now around the globe, the regional programs are being implemented and working to strengthen laws to prevent industries and communities from discharging waste into the ocean while also working on capacity building among citizens and stakeholders to enforce policies and programmes like- Encouraging and increasing recycling and recovery programs; forcing local regional and global partnerships; promoting circular economy and green products; increasing ocean pollution clean-up drives and marine litter prevention programs.

As global-multi stakeholder partnership are very important for cooperation coordination and sharing ideas while enhancing knowledge base by engaging multi-level partnership by introducing global partnership programs and strategies; utilization of 3-Rs initiatives to minimize and manage the plastic and waste production; research in collaboration on scientific data collection and assessment to frame guidelines for actions on a global level with Voluntary participation for data collection, international level working groups a national level multi bodies, are some of the ways to curb the ever-increasing marine litter issue. While the management of marine litter is complicated, complex and a huge task, with the right solutions and sustainable plan we can achieve positive improvement in marine litter related impacts.

Making Peace with Nature UNEP

The current pace that the world is developing has a detrimental effect on its natural systems. Over the last 50 years, the global economy has grown nearly fivefold, due largely to a tripling in extraction of natural resources and energy that has fueled growth in production and consumption. The world population has increased by a factor of two, to 7.8 billion people, and though on average prosperity has also doubled, about 1.3 billion people remain poor and some 700 million are hungry. Due to the overuse of our natural resources, there have been extreme events happening like climate change, biodiversity loss, pollution and resource degradation. Social, economic and financial systems fail to account for the essential benefits society gets from nature and to provide incentives to manage it wisely and maintain its value.

Sustainable development goals. Biodiversity conservation. Climate change. Land degradation. Climate change. Biodiversity loss. Pollution

Current and projected changes in climate, biodiversity loss and pollution make achieving the SDGs even more challenging. For example, even small increases in temperature, along with associated changes such as in weather, precipitation, heavier rainfall events, extreme heat, drought and fire, increase risks to health, food security, water supply and human security, and these risks increase along with warming.

In 2018 alone, damages from climate-related natural disasters cost about US$155 billion. The deteriorating state of the planet undermines efforts to achieve healthy lives and well-being for all. Around one quarter of the global burden of disease stems from environment-related risks, including those from animal-borne diseases (such as COVID-19), climate change, and exposure to pollution and toxic chemicals. Pollution causes some 9 million premature deaths annually and millions more die every year from other environment-related health risks.

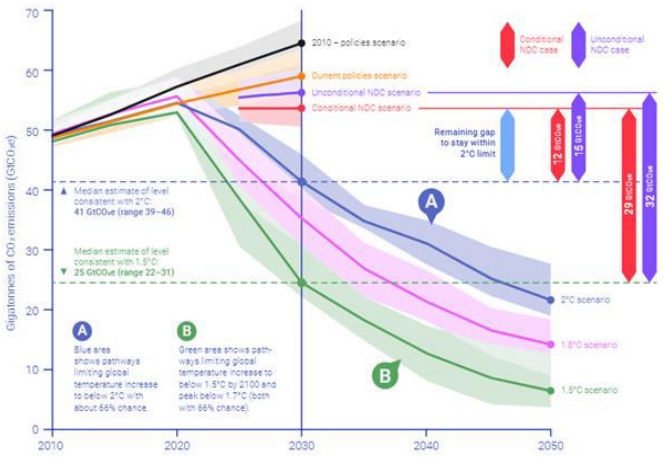
The risks to human well-being and the achievement of the Sustainable Development Goals will continue to escalate unless environmental degradation is halted. Global warming of more than 2°C combined with continued loss of biodiversity and increasing pollution will likely have dire consequences for humanity. The costs of inaction on limiting environmental change far outweigh the costs of action. Global aggregate impacts from climate change are estimated to be very high by the end of the century unless cost-effective mitigation strategies are undertaken.

Transforming human's relationship with nature is paramount to a sustainable future. Only a system-wide transformation will achieve well-being for all within the Earth's capacity to support life, provide resources and absorb waste. This transformation will involve a fundamental change in the technological, economic and social organization of society, including world views, norms, values and governance.

Global greenhouse gas emissions under different scenarios and the emission gap in 2030 for unconditional and conditional nationally determined contributions (NDCs) scenarios

Major shifts in investment and regulation are key to just and informed transformations that overcome inertia and opposition from vested interests. Regulatory processes should embody transparent decision-making and good governance involving all relevant stakeholders. Opposition to change can be defused by redirecting subsidies toward alternative livelihoods and new business models.

The COVID-19 crisis provides an impetus to accelerate transformative change. The pandemic and the ensuing economic upheaval have shown the dangers of ecosystem degradation, as well as the need for international cooperation and greater social and economic resilience. The crisis has had major economic costs and is triggering significant investments. Ensuring that these investments support transformative change is key to attaining sustainability.



Given the interconnected nature of climate change, loss of biodiversity, land degradation, and air and water pollution, it is essential that these problems are tackled together. Response options that address multiple issues can mitigate multidimensional vulnerability, minimize trade-offs and maximize synergies. Limiting global warming to well below 2°C above pre-industrial levels and pursuing efforts to further limit the temperature increase to 1.5°C requires rapid implementation and a significant strengthening of pledges under the Paris Agreement. Globally, net carbon dioxide emissions need to decline by 45 per cent by 2030 compared with 2010 levels and reach net zero by 2050 to put the world on a pathway to 1.5°C with a probability of about 50 per cent, whereas more ambitious targets would be necessary for higher certainty.

Governments should incorporate full natural capital ac-counting into their decision-making and use policies and regulatory frameworks to provide incentives for businesses to do the same. Governments should shift away from environmentally harmful subsidies, invest in low-carbon and nature-friendly solutions and technologies, and systematically internalize environmental and social costs. A One Health approach integrates action across sectors and disciplines to protect the health of people, animals and the environment. Such an approach is key to minimize future human health risks from climate change, ecosystem degradation and deteriorating food, air and water quality. It is also essential in preventing and limiting the impact of future health emergencies, including pandemic outbreaks of animal-borne diseases such as COVID-19.

We all have a part to play in bringing together transformative change with an immediate and long-term impact. This can be enhanced through capacity-building and education. Governments initiate and lead in intergovernmental cooperation, policies and legislation that transform society and the economy. Such transformations enable the private sector, financial institutions, labour organizations, scientific and educational bodies and media as well as households and civil society groups to initiate and lead transformations in their domains. Individuals can facilitate transformation by, for instance, exercising their voting and civic rights, changing their diets and travel habits, avoiding waste of food and resources, and reducing their consumption of water and energy. They can also promote behavioural change by raising awareness in their communities. Human cooperation, innovation and knowledge-sharing will create new social and economic possibilities and opportunities in the transformation to a sustainable future.

Emission Gap Report 2020: The 1.5°C Goal Requires Green Recovery and Rapid Action

"The year 2020 is on course to be one of the warmest on record, while wildfires, storms and droughts continue to wreak havoc. However, UNEP's Emissions Gap report shows that a green pandemic recovery can take a huge slice out of greenhouse gas emissions and help slow climate change. I urge governments to back a green recovery in the next stage of COVID-19 fiscal interventions and raise significantly their climate ambitions in 2021." Inger Andersen, UNEP's Executive Director.

NEP's annual Emissions Gap Report 2020 finds that, despite a dip in 2020 carbon dioxide emissions caused by the COVID-19 pandemic, the world is still heading for a temperature rise in excess of 3°C this century. However, if governments invest in climate action as part of pandemic recovery and solidify emerging net-zero commitments with strengthened pledges at the next climate meeting – taking place in Glasgow in November 2021 – they can bring emissions to levels broadly consistent with the 2°C goal. By combining a green pandemic recovery with swift moves to include new net-zero commitments in updated Nationally Determined Contributions (NDCs) under the Paris Agreement, and following up with rapid, stronger action, governments could still attain the more-ambitious 1.5°C goal.

Green Pandemic Recovery Essential to Close Climate Action Gap

A green pandemic recovery could cut up to 25 percent off predicted 2030 greenhouse gas emissions and bring the world closer to meeting the 2°C goal of the Paris Agreement on Climate Change, a new UN Environment Programme (UNEP) report finds. Each year, the Emissions Gap Report assesses the gap between anticipated emissions and levels consistent with the Paris Agreement goals of limiting global warming this century to well below 2°C and pursuing 1.5°C. The report finds that in 2019 total greenhouse gas emissions, including land-use change, reached a new high of 59.1 gigatons of CO2 equivalent (GtCO2e). Global greenhouse gas emissions have grown 1.4 percent per year since 2010 on average, with a more rapid increase of 2.6 per cent in 2019 due to a large increase in forest fires.

As a result of reduced travel, lower industrial activity and lower electricity generation this year due to the pandemic, carbon dioxide emissions are predicted to fall up to 7 per cent in 2020. However, this dip only translates to a 0.01°C reduction of global warming by 2050. Meanwhile, NDCs remain inadequate.

Green recovery critical: A green pandemic recovery, however, can cut up to 25 per cent off the emissions we would expect to see in 2030 based on policies in place before COVID-19. A green recovery would put emissions in 2030 at 44 GtCO2e, instead of the predicted 59 GtCO2e – far outstripping emission reductions foreseen in unconditional NDCs, which leave the world on track for a 3.2°C temperature rise. Such a green recovery would put emissions within the range that gives a 66 percent chance of holding temperatures to below 2°C, but would still be insufficient to achieve the 1.5°C goal. Measures to prioritize in green fiscal recovery include direct support for zero-emissions technologies and infrastructure, reducing fossil fuel subsidies, no new coal plants, and promoting nature-based solutions – including large-scale landscape restoration and reforestation. So far, the report finds, action on a green fiscal recovery has been limited. Around one-quarter of G20 members have dedicated shares of their spending, up to 3 percent of GDP, to low-carbon measures. There nonetheless remains a significant opportunity for countries to implement green policies and programmes. Governments must take this opportunity in the next stage of COVID-19 fiscal interventions, the report finds.

The report also finds that the growing number of countries committing to net-zero emissions goals by midcentury is a "significant and encouraging development". At the time of report completion, 126 countries covering 51 per cent of global greenhouse gas emissions had adopted, announced or were considering net zero goals. To remain feasible and credible, however, these commitments must be urgently translated into strong near-term policies and action and reflected in NDCs. The levels of ambition in the Paris Agreement still must be roughly tripled for the 2°C pathway and increased at least fivefold for the 1.5°C pathway.

Reforming consumption behaviour critical

Each year the report also looks at the potential of specific sectors. In 2020, it considers consumer behaviour and the shipping and aviation sectors. The shipping and aviation sectors, which account for 5 percent of global emissions, also require attention. Improvements in technology and operations can increase fuel efficiency, but projected increases in demand mean this will not result in decarbonization and absolute reductions of CO2. Both sectors need to combine energy efficiency with a rapid transition away from fossil fuel, the report finds. The report finds that stronger climate action must include changes in consumption behaviour by the private sector and individuals. Around two-thirds of global emissions are linked to private households, when using consumption-based accounting. The wealthy bear the greatest responsibility: the emissions of the richest one per cent of the global population account for more than twice the combined share of the poorest 50 per cent. This group will need to reduce its footprint by a factor of 30 to stay in line with the Paris Agreement targets. Possible actions to support and enable lower carbon consumption include replacing domestic short haul flights with rail, incentives and infrastructure to enable cycling and car-sharing, improving the energy efficiency of housing and policies to reduce food waste.

Human Development Gap Report 2020- The Next Frontier: Human Development and the Anthropocene

The 2020 Human Development Report (HDR) doubles down on the belief that people's agency and empowerment can bring about the action we need if we are to live in balance with the planet in a fairer world. It shows that we are at an unprecedented moment in history, in which human activity has become a dominant force shaping the planet. These impacts interact with existing inequalities, threatening significant development reversals. Nothing short of a great transformation – in how we live, work, and cooperate – is needed to change the path we are on. The Report explores how to jumpstart that transformation.

The climate crisis, Biodiversity collapse, Ocean acidification

The list is long and growing longer. So much so that many scientists believe that for the first time, instead of the planet shaping humans, humans are knowingly shaping the planet. This is the Anthropocene – the Age of Humans - a new geologic epoch.

Though humanity has achieved incredible progress, we have taken the Earth for granted, destabilizing the very systems upon which we rely for survival. Covid-19, which almost certainly sprang to humans from animals, offers a glimpse of our future, in which the strain on our planet mirrors the strain facing societies. It took Covid-19 very little time to expose and exploit overlapping inequalities, as well as weaknesses in social, economic, and political systems, and threaten reversals in human development.

While the devastating effects of Covid-19 have taken the world's attention, other layered crises, from climate change to rising inequalities, continue to take their toll. The challenges of planetary and societal imbalance are intertwined: they interact in a vicious circle, each making the other worse. How should we react to this new age? Do we choose to strike out on bold new paths striving to continue human development while easing planetary pressures? Or do we choose to try—and ultimately fail—to go back to business as usual and be swept into a dangerous unknown?

This Human Development Report is firmly behind the first choice, and its arguments go beyond summarizing well-known lists of what can be done to achieve it.

Land Degradation Report UNCCD

As water is the most disruptive element in the ongoing climate crisis, how land is managed plays a major role in taming this disruption. This publication shows that avoiding, reducing and reversing land degradation can have positive long-term gains in water security. - Adriana Erthal Abdenur - Climate diplomacy.org

Water scarcity is a worldwide problem with higher levels of scarcity experienced in areas which have low natural water availability, high levels of irrigated agriculture or high population density relative to water availability. Around 36% of the world's population is currently living in water-scarce regions, and a 2018 global study on water for drinking, cooking and sanitation from the United Nations concluded that water shortages could affect 5 billion people by 2050. Land degradation, Drought, Water scarcity, Water management; water use efficiency, Water security, monitoring, financing, Sustainable Development Goals, rising temperatures and increasing variability in precipitation patterns have caused water scarcity around the world. This leads to major negative implications, both globally and nationally and across multiple economic sectors. Worldwide, the agricultural sector, which accounts for two-thirds of global water usage, is most affected by droughts which cause socio-economic impacts. Water scarcity and recurring droughts also lead to negative environmental impacts, such as reduced biodiversity and ecosystem services and higher greenhouse gas emissions from wetlands and other water systems. Land degradation and water scarcity are closely linked. Land Degradation Neutrality (LDN) is an integral part of SDG 15 and is incorporated in target 15.3, which aims to "combat desertification, restore degraded land and soil, including land affected by desertification, drought and floods, and strive to achieve a land degradation-neutral world" by 2030. LDN provides a supporting framework to manage both land and water resources sustainably at the landscape level, address the challenge of water insecurity and drought and provide opportunities for policy and operational synergies within the land-water nexus.

Countries have come to realize the importance of land and water management and the benefits of sustainable development. To ensure that countries reach their LDN objectives, improve synergies between LDN, water security and drought mitigation and achieve the SDGs through LDN approaches, the following recommendations are provided for countries-

- Continue to mainstream the land-water linkage into relevant national policies and strategies
- Establish and build national capacities in the monitoring of water resources, including wetlands
- Implement land and water conservation approaches and take water management decisions at the appropriate level.
- Improve water-use efficiency by using all available methods for all uses
- Ensure the interaction between the national focal points for the three Rio Conventions
- Further incorporate LDN policies and integrated land and water strategies during the next review of the UNFCCC Nationally Determined Contributions.
- Explore climate funding as an essential source of funding, complemented with national funding sources

The study assesses the water-related LDN approaches countries aim to use to achieve LDN, which for the purposes of this study have been grouped under five categories and 15 sub-categories:

- Integrated land and water management through:
    - A landscape approach at watershed level;
    - Soil and water conservation practices;
    - Mitigation of coastal erosion and coastal management
- Improved management of water resources through:
    - Enhanced water harvesting;
    - Expansion of irrigated areas;
    - monitoring of water resources
- Increased water-use efficiency through:
    - Use of water-saving irrigation techniques;
    - Other water-saving measures for agricultural and drinking water;
    - Wastewater reuse;

- An enabling environment including:
    - Legislation and national policies;
    - Institutional set-up;
    - Financing strategies;
- Measures related to wetlands and aquatic ecosystems:
    - Wetland conservation or restoration;
    - Protection against run-off or pollution;
    - Sustainable use of wetlands and wetland productivity

Healthy land has a natural capacity to store and filter water, but this capacity is lost when land is degraded. Similarly, land-use changes, such as the conversion of wetlands and forests to other land uses, disrupt the water cycle and hydrological functions. Conversely, water scarcity and droughts can accelerate the processes of land degradation, for instance due to poor irrigation management and drainage and altered hydrology, leading to poorer quality soils. To combat drought and achieve long term water security, it is therefore necessary to manage and preserve both land and water resources.

5th India Water Impact Summit (IWIS)

"Rivers particularly in India are a symbol of faith, hope, culture and sanity as well as a source of livelihood for millions. Data and numbers are not sufficient, what is needed is a passion amongst people for rivers. Passion and people combined can make the administration work towards the river rejuvenation. Namami Gange, with its multi-sectoral approach, has been successful in making a positive impact," said Amitabh Kant, Chief Executive Officer (CEO), NITI Aayog, when he addressed the panel at The 5th India Water Impact Summit (IWIS).

The 5th India Water Impact Summit (IWIS) was organized by the National Mission for Clean Ganga and Center for Ganga River Basin Management and Studies (cGanga) and National Mission for Clean Ganga (NMCG) and was held from 10-15 December 2020 in virtual due to the current pandemic situation that the country is facing. This year's Summit is based on the concept of "Arth Ganga". In Sanskrit and other Indian languages "Arth" denotes meaning or value. Though in general Ganga refers to the River Ganga and her basin, in Indian culture Ganga is symbolic of all rivers and hence all rivers are given the same respect as river Ganga.

The river Ganga has thousands of interconnected water bodies including small drains which become rivulets and eventually join up with the main river. The total Ganga River is therefore the entire network of small and large rivers that constitute the Ganga. Hence, the river conservation objective cannot be achieved by considering only the main-stem but will have to go down to the origin of all contributing lower order rivers. Therefore, in order to implement Arth Ganga successfully it is essential to take a bottom-up approach and integrate with the top-down policy framework. This Summit presented the pathway for this integration to be achieved.

The summit gave an overview of the complexities and challenges of managing local rivers and water bodies with a larger vision of development that is synchronized with river conservation. The developmental approach in most significant sectors that are interwoven with river conservation measures, namely human settlements (urban and rural), energy and tourism, agriculture, navigation and flood management, is proposed to be reviewed in the context of the select Ganga Basin states, namely Delhi, Uttarakhand, Uttar Pradesh and Bihar that are struggling with the challenges of development vis-à-vis conservation of rivers.

The summit also gave a valuable insight into the specialty of each state along the river basin and also provided information on the restoration and conservation activities by the government, international agencies and other parties. The summit also provided a stage upon which companies can showcase their technologies and who are keen to bring their solutions to address various issues and concerns pertinent in the river basin.

'Namami Gange Programme' is an integrated conservation mission launched in 2014 with a budget of Rs 20,000 crores. The objectives of the programme are effective abatement of pollution, conservation and rejuvenation of Ganga River. Speaking on the occasion, Rajiv Ranjan Mishra, Director General, National Mission for Clean Ganga (NCMG) said that the mission's vision is not only working towards making present river-cities sensitive towards rivers by integrating 'urban river planning' and 'urban water management' in cities master plans but also ensure that these problems are not repeated as India continues to urbanize rapidly.

cGanga signed an MOU with British Water to create a bridge for UK industry to pair up with its Indian counterparts to build 21st-century infrastructure in the water and environment sector. The UK is also becoming a major partner to help India and finance green projects in the country.

Re-strengthening the Blue Green Economy

"The goal is to find the most appropriate blend of green and blue investments to maximize benefits and system efficiency while minimizing costs and trades offs. We do not yet fully recognize and incorporate the importance of ecosystem services in planning and investment. How investment in a Green and Blue Economy pays off. A less energy-intensive, more labour intensive, less destructive, more sustainable, less exclusive, more integrative approach will lead to more jobs, strengthen intra-and intergenerational equity, and empower people to economic participation and greater self-determination."

Natural Ecosystems provides us with a myriad of services ranging from food security, climate regulation, better lives, and livelihoods. Yet despite this the last three to four decades have seen increasing degradation of the environment. This in turn, is threatening the livelihoods of millions of people around the world who depend on these critical ecosystems for their primary source of food job security both directly and indirectly. With a growing population, set to rise from seven billion today to over nine billion by 2050, these pressures and impacts are likely to intensify unless the world becomes more intelligent about managing these essential resources. We must strengthen the key sectors that are interlinked with the environment that is the blue world to make a transition towards a Green Economy.

Worldwide consumption and production, the driving force of the global economy rests on the use of the natural environment and resources in a way that continues to have destructive impacts on the planet. Economic and social progress over the last century has been accompanied by environmental degradation that is endangering the very systems on which our future development indeed, our very survival depends. The emergence of COVID-19 has underscored the relationship between people and nature and revealed the fundamental tenets of the trade-off we consistently face, humans have unlimited needs, but the planet has limited capacity to satisfy them. We must try to understand and appreciate the limits to which humans can push nature before the impact is negative. The pandemic offers countries an opportunity to build recovery plans that will reverse current trends and change our consumption and production patterns towards a more sustainable future. We must build back better and transition our production and consumption patterns towards more sustainable practices.

Each year, an estimated one third of all food produced – equivalent to 1.3 billion tonnes worth around $1 trillion – ends up rotting in the bins of consumers and retailers or spoiling due to poor transportation and harvesting practices. Should the global population reach 9.6 billion by 2050, the equivalent of almost three planets could be required to provide the natural resources needed to sustain current lifestyles. Sustainable consumption and production are about doing more and better with less. It is also about decoupling economic growth from environmental degradation,

increasing resource efficiency, and promoting sustainable lifestyles. Considering green- blue economy in the context of sustainable development it fosters linkages between Goal 6, Goal 7, 8, 11, 13 and 17 emphasizing that it should contribute to adequate quantity and quality drinking water, sustained economic growth, enhancing social inclusion, improving human welfare, building resilient communities and creating opportunities for employment and decent work for all, eradicating poverty, while maintaining the healthy functioning of the Earth's ecosystems by creating sustainable partnerships.

Japan and the Republic of Korea have committed to achieve net zero emissions by 2050 as part of the global effort to slow global warming and meet the goals of the Paris Agreement on climate change. NEOM city in Saudi Arabia will be the first city in the world to implement a carbon-free system. For countries, greening their economies means diversification, stronger resilience to economic or environmental shocks and sustainable prosperity. By improving crop and livestock production practices for higher food security and farmer income while reducing emissions, Protecting, and re-establishing forests for their economic and ecosystem services, including as carbon stocks, Expanding electricity generation from renewable sources of energy. We need to reduce our water footprint and blue our economies by adopting Nature Based Solutions to enhance water availability by soil moisture retention, groundwater recharge, improve water quality by natural and constructed wetlands and riparian buffer strips and reduce risks associated with water-related disasters and climate change by floodplain restoration, green roofs. Agriculture is the biggest user of water worldwide, and irrigation now claims close to 70 percent of all freshwater for human use. The efficient management of our shared natural resources, and the way we dispose of toxic waste and pollutants, are important targets to achieve this goal. Encouraging industries, businesses, and consumers to recycle and reduce waste is equally important, as is supporting developing countries to move towards more sustainable patterns of consumption by 2030. Fair sharing of the globe's limited freshwater resources will be key in reducing the threat posed by water scarcity on biodiversity and human welfare. International collaboration in implementing these measures will be crucial. The current crisis is an opportunity for a profound, systemic shift to a more blue and green economy that works for both people and the planet. NBS include green infrastructure that can substitute, augment or work in parallel with blue infrastructure in a cost-effective manner. The goal is to find the most appropriate blend of green and blue investments to maximize benefits and system efficiency while minimizing costs and tradeoffs. We do not yet fully recognize and incorporate the importance of ecosystem services in planning and investment. How investment in a Green and Blue Economy pays off. A less energy-intensive, more labour intensive, less destructive, more sustainable, less exclusive, more integrative approach will lead to more jobs, strengthen intra-and intergenerational equity, and empower people to economic participation and greater self-determination. Does it sound like a Utopian dream or can it be transformed into a reality?

Locust Infestation Report

The unfolding of COVID-19 pandemic and now a locust invasion has set a threatening agricultural crisis in India. With another swarm of locust attack in the month of July as predicted by FAO, India is in the tight grip of a looming invasion. As predicted by the United Nations, India is witnessing armies of locusts swarming across the country – the worst such attack in 26 years. As if India needed more challenges, with coronavirus infections steadily increasing, a heat wave hitting the capital, a recent killer cyclone and 100 million people out of work, the country now has to fight off a new problem: a locust invasion. The insects are destroying crops even as the country has been brought to a standstill amid the coronavirus pandemic. Swarms of locusts, many billions strong, were moving from East Africa to West Asia and South Asia, “decimating livelihoods and devouring food”, said David Malpass, President of the World Bank Group, adding the locust swarms threatened a “monumental crisis” and “a humanitarian emergency.” COVID-19 has also impacted the locust response by delaying the delivery of pesticides and limiting the ability of people to organize awareness sessions for affected communities. There are concerns that the economic impacts of COVID-19 will be compounded by the economic impacts of the locust swarms.

Unusual large locust swarms bred on the Arabian Peninsula in early 2019 following heavy rains and cyclones in the region, according to AFP (Agence France-Presse). Those ideal breeding conditions were the product of the climate crisis, as warmer than usual temperatures in the western Indian Ocean fueled the storms. According to climate scientist Roxy Mathew Koll of Indian Institute of Tropical Meteorology, "These warm waters were caused by the phenomenon called the Indian Ocean Dipole — with warmer than usual waters to its west, and cooler waters to its east. Rising temperatures due to global warming amplified the dipole and made the western Indian Ocean particularly warm.

Stephen Rogers of Cambridge University, U.K. (and University of Sydney, Australia) is an acknowledged world expert in the study of how and why such swarms come about. In one of his papers, way back in 2003, he showed that when solitary locusts happen to come near each other (looking for food) and happen to touch each other, this tactile stimulation, even just in a little area of the back limbs, causes their behaviour to change. This mechanical stimulation affects a couple of nerves in the animal’s body, their behaviour changes, leading to their coming together. And if more locusts come nearby, the crowding starts, and what was once a simple looking insect becomes larger in size and shape, and its colour and morphology changes.

India is equipped with a proper structure that is responsible to deal with the locust crisis. Our country has a regular system in place comprising Locust Officers. These authorized people with the knowledge of environment and agriculture organize six annual border meetings with Pakistan between June and November to analyze the situation and take necessary action. The dialogue is either organized at Munabao in Rajasthan or Kokhropar on the Pakistani side. A wireless conversation also keeps happening between the officials of the two countries during these months from Jodhpur in India and Karachi in Pakistan. As per the Locust Warning Organisation (LWO), India has not seen any locust upsurges since December 2011 and the cases have decreased drastically after the advent of new technologies in the agricultural sector including advancement in pest control market. The country has been hit by locust plague several times between 1812 to 1997.Locusts are not uncommon in the northwest Indian state of Rajasthan, but this year they have also entered the states of Madhya Pradesh and Uttar Pradesh for the first time since 1993 and the state of Maharashtra for the first time since 1974.

The worst-affected districts in Rajasthan are Barmer, Jaisalmer and Nagaur. Because most of the crops were recently harvested, the hungry swarms have buzzed into urban areas, eager to devour bushes and trees, carpeting whatever surface they land on. The current upsurge is alarming in the Eastern Africa region. FAO has projected that over 25 million people will face acute food insecurity in the region in the second half of 2020. In Yemen, where locusts have been reproducing in hard-to-access inland areas, 17 million people may be impacted. A swarm of locust spread over a square kilometer can chew through food enough for 35,000 people in a day. In Pakistan, 38 percent of the area (60 percent in Baluchistan, 25 percent in Sindh and 15 percent in Punjab) are breeding grounds for the desert locust, whereas the entire country is under the threat of invasion if the desert location is not contained in the breeding region," according to an FAO report.

They can fly as far as 150km a day, making them difficult to control. Locust swarms can cover extremely large areas, which can sometimes be extremely remote and difficult to access. FAO monitors locust swarms on a 24-hour basis and provides forecasts and early warning alerts on the timing, scale and location of movement. Traditional chemicals are used to control their numbers. Now nature-based bio-pesticides are also available as a less harmful alternative for controlling outbreaks. In Rajasthan, the state agriculture department had deployed over 100 vehicles for locust swarm monitoring, and over 800 tractor-mounted sprayers and almost 3,000 water tankers were pressed into service to tackle the invasion. Measures are being taken to build up stocks of tractor-mounted sprayers, fire tenders and even purchasing drones to spray pesticides from the sky.

The World Bank has set up a $500 million program to fight the locust infestation in East Africa and parts of West Asia, which is said to cause economic damage costing $8.5bn this year. A trilateral plan among Iran, Pakistan and India is being formulated to address locust swarm infestations that devour crops and threaten the livelihood and sustenance in the region, already struggling with coronavirus pandemic. Last month, Union Agriculture Minister Narendra Singh Tomar chaired a meeting to take stock of the situation. Control involves spraying insecticide on locusts' night resting places like trees. Till date, the LWO has carried out spraying over 21,675 hectares in Rajasthan. India has also put an order of 60 specialized insecticide sprayers with the UK, the country already has 50 such machines. Also, drones will be used to spray the resting places.

The locust attack if not contained shall have far reaching effects on agricultural productivity, devastating crops which in turn will affect food security and the monetary returns of the farmers. Losses incurred are bound to create agricultural distress leading to large scale loss with disproportionate impact to the livelihoods of farmers and economy as well. With the coming of monsoon season and onset of Kharif harvest crops, the repercussions of locust resurgence are already forecasted beyond imagination. Time to move beyond Wait and Watch policy!!

Knowledge Update

US Rejoining the Paris Agreement

On June 1, 2017, the then President of the United States Donald Trump announced that the US would cease to participate in the 2015 Paris Agreement on climate change mitigation. The reason he mentioned that the agreement would undermine the US economy and will put the US at a disadvantage. The White House stated that the US will abide by the four year exit process and on 4 November 2019, the White House gave a formal notice to leave the agreement which would take 12 months to take effect. Until the withdrawal took effect, the United States was obligated to maintain its commitments under the Agreement, such as the requirement to continue reporting its emissions to the United Nations. The Withdrawal took effect on November 4, 2020, one day after the US 2020 Presidential elections.

Trump's decision to leave the agreement was strongly criticized by scientists and environmentalists in the US and abroad. The withdrawal would also affect other countries by reducing its financial aid to fight climate change, especially underdeveloped countries that are in need of that aid for their climate change projects. Therefore, withdrawal from the agreement and decrease in funds would lessen the chances of achieving the Paris Agreement Goals.

During his presidential campaign, Joe Biden said that if he was voted president, he would rejoin the Paris Agreement immediately. According to the agreement, a month's notice is required to re-join the Agreement. When Biden was elected as the President, he pledged to return back to the Paris Agreement and make the fight against climate change a top priority for his Administration and the US formally rejoined the agreement 107 days after it quit on February 19, 2021.

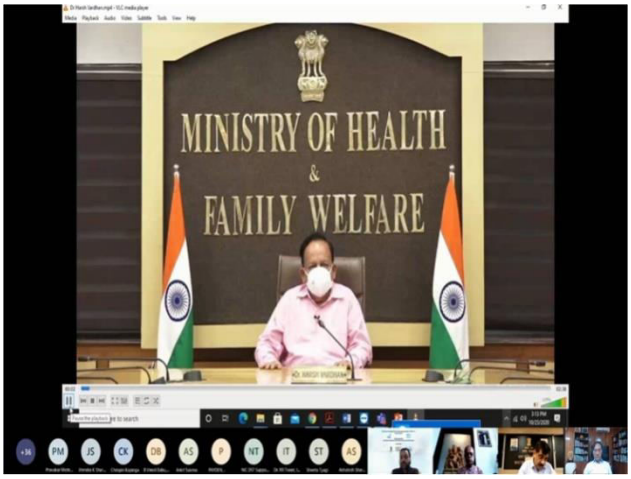
Major Activities of IWF

Major activities undertaken by India Water Foundation during 2020-2021primarily focused online events due to restrictions caused by Covid-19, on most important themes of water and climate change as well as SDGs, which interalia, included: fostering synergies between IWF and concerned organizations like UNEP, UNEA, NTPC, IUCN, etc. This fostering of synergy was designed to exchange and sharing of views on water-related and environment-related issues, imbibe new ideas and practices that could be useful for us at India Water Foundation in managing water resources, climate change, meeting water shortages, enabling us to tackle water scarcity, prove helpful in getting integrated SDGs into development policies at provincial and national levels.

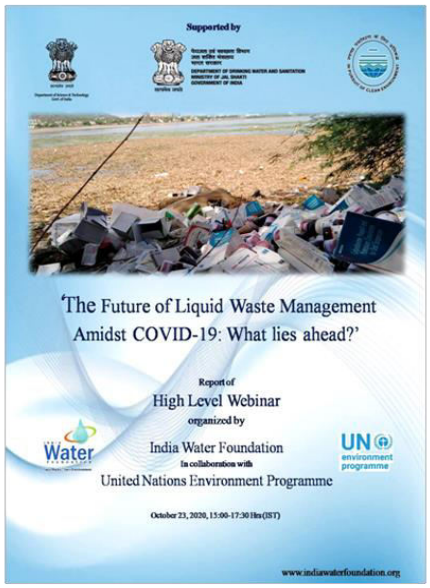
Synergy with UNEP India

Effective management of biomedical waste fits well in priority areas of protecting environment & health

India Water Foundation in collaboration with United Nations Environment Programme organized a high-level webinar on "The Future of Liquid Waste Management amidst COVID-19: What lies ahead" on 23rd October 2020 at 3 PM (IST) onwards. The objective of the webinar contributed to the holistic understanding on various facets of liquid waste management in the context of COVID-19. Effective waste management to scale up innovative solutions through sustainable approaches with a mandate to reduce, recycle and rethink solutions & prioritize action at source rather than on downstream pathways was deliberated and discussed. Around 100 participants gathered on board ranging from policy makers, practitioners and technical experts, professionals, UN and international agencies, development partners involved in waste management, bio-medical waste, sewage, finance and circular economy, civil society organizations, academia etc.



'Effective management of biomedical waste fits well in priority areas of protecting environment & health' highlighted Dr. Harsh Vardhan, Union Minister of Health and Family Welfare, Minister of Science and Technology, Minister of Earth Science while delivering the Chair address of the session. The host Dr Arvind Kumar, President, India Water Foundation spoke about need for customized solutions needed for waste management in clean & green way through integrated systems approach. Mr. Atul Bagai, Head, UNEP India highlighting the close link between pandemic, wastewater and sanitation expressed his concern to break the chain of transmission due to increasing waste accumulation.



Prof. Ashutosh Sharma, Secretary, Ministry of Science and Technology, GoI spoke about the nexus between food, health, water, and environment delivering the key policy address while Mr. U.P. Singh, Secretary in the Department of Water Resources, River Development & Ganga Rejuvenation, Ministry of Jal Shakti raised a concern towards Sewage treatment-data highlighting the amount of waste generation& treatment amidst COVID-19. The entire webinar was anchored by Ms. Shweta Tyagi, Chief Functionary, India Water Foundation.

The webinar was organized to also understand the technical implications posed due to the sudden onset of the COVID-19 pandemic in early 2020 resulting in massive health and economic burdens. Amongst all the category of bio-medical waste, liquid wastes posed a serious threat to human health and the environment because of their ability to enter watersheds, pollute ground water, and drinking water when improperly handled and disposed. In this regard, technical session was held to address the broader aspects of engineering solutions to waste management. Ms. Payden, WHO Representative set the foundation tone of the session and experts like Dr. Muralee Thummarukudy, Operations Manager, Crisis Management Branch, UN Environment Programme and Dr. Mushtaq Ahmed Memon, Regional Coordinator for Resource Efficiency in Asia Pacific Office, UNEP expressed their technical opinions and strategies to combat this menace.

'Effective management of biomedical waste fits well in priority areas of protecting environment & health' highlighted Dr. Harsh Vardhan, Union Minister of Health and Family Welfare Minister of Science and Technology, Minister of Earth Science, Govt. of India

Further, B Vinod Babu, Director, CPCB; Dr. Rajnarayan R Tiwari, Director of ICMR-NIREH and Mr. Swapan Mehra, Vice President (Waste to Wealth), Invest India highlighted the endeavours taken by the respective organization towards waste management in the country. Experts highlighted the rules/ guidelines from CPCB/ concerned authorities for the management of liquid waste from healthcare facilities (HCFs) / Isolation Wards in addition to non-COVID waste to leveraging the potential to convert waste to wealth.

Key Recommendations:

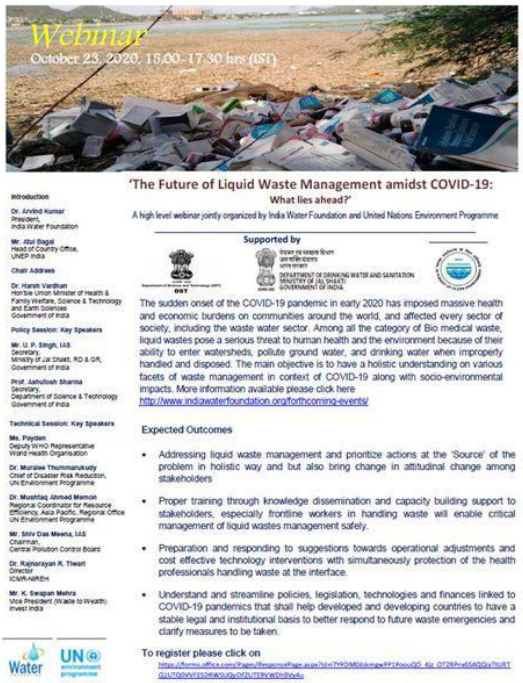
1. Understand data as the 'New Water' and streamline 'data' linked to COVID-19 waste management by developing better response strategies to tackle waste emergencies.

2. Urban Water augmentation must be optimized for water Use, Re-Use, Recycle and Recovery via Circular Economy model

3. Nexuses hold a central key intervention to inter-linking water, energy, health and environment in our fight against the pandemic

4. Liquid waste consisting of black and grey water must be treated at Source with appropriate technologies and interventions with equal focus on the 'causable factors'

5. From public health view, the chain of sanitation must begin from access to toilets to waste treatment & management and finally the safe disposal



6. With pandemic putting a load on the river systems, testing and monitoring is significant towards early detection of contamination trends.

We are thankful to the Excellency, dignitaries, speakers and virtual audience for attending the high level webinar and making this event enriching and memorable. IWF in collaboration with UNEP brought forth for the first time distinct and diverse perspectives on bio-medical waste and are overwhelmed by your support and responses received from corners of the world.

Link to the webinar recording: https://www.youtube.com/watch?v=nm_5lYXrZF4
Link of the complete report: https://www.indiawaterfoundation.org/proceedingsreport/

Synergy with National Mission for Clean Ganga (NMCG)

Commemoration of 'WORLD WETLAND DAY'

This year on 2 February 2021, the world celebrated 'Wetland Day' With this year themes of 'Wetlands and Water' calling attention to the important of wetlands as also the source of freshwater and leading actions towards restoring wetlands to tackle their encroachment and wetland degradation in the wake of UN decade of Ocean Science and Ecosystem Restoration. The wetland day is celebrated to raise awareness on a global level for the important role of wetlands, as they provide various services, by being natural habitat of various species, improving the water quality, help in controlling shoreline erosion, economic value by providing various products, recreation, flood and drought protection and protect against climate change. India celebrates wetland day 2021 shedding lights on the Namami Gange Mission and India's wetland inventory system by remote sensing techniques to map the wetlands of India.

India water foundation as one of the main catalogue and catalyst of encouraging dialogues among various stakeholders in water sector, Celebrated world wetlands day 2021 by the success of collaborative event with National Mission for Clean Ganga (NMCG), Ministry of Jal Shakti, Department of Water Resource, River Development & Ganga Rejuvenation, Government of India "Water, Wetlands, Life: Inseparable Coexistence: Safeguarding biodiversity, delivering water & food in the face of changing climate". The main objective of the event was to have a holistic understanding on various features of wetland management and transfer them into an indicator of economic development and encourage understanding the linkage between Wetlands and water,

Wetlands and food security, Wetlands and climate change, Wetland biodiversity in achanging climate.

The event's Inaugural Session was opened by Dr Arvind Kumar, President, India water foundation; Sh. Rajiv Ranjan Mishra, DG, NMCG; Mr. Pankaj Kumar, Secretary, Ministry of JalShakti; Sh. Rattan Lal Kataria, Hon'ble Minister of State, Ministry of Jal Shakti, Government of India; Sh. Gajendra Singh Shekhawat, Hon'ble Union Minister of Jal Shakti, Ministry of Jal Shakti, Govt of India. The Panellist of the 2nd session (Panel discussion on Water, Wetlands, Life: Inseparable coexistence) included: Mr. Atul Bagai, Head, UNEP India Office (Moderator); Department of Science and Technology, Govt. Of India; Mr. Dhananjay Mohan, Director, Wildlife Institute of India; Dr Ritesh Kumar, Director, Wetlands International South Asia; Mr. Suresh Babu, World Wide Fund; Mr. Brijesh Sikka, Senior Consultant, NMCG.

The event highlighted the interconnectedness of all the water bodies and their role in maintaining each other and the importance to define critical local and national wetland conservation plans as well as advocate for actions to safeguard wetlands.

Recommendations as outcomes of the event:

- To create multi-stakeholder partnership opportunities and alliances at all levels for capacity building and identifying funding opportunities, best practices and lessons learned based on existing projects and programs and documentation that demonstrablylinks management of wetlands to improving ecosystem services.

- Integrated wetlands wise approach for the scientific management and governance ofincorporating various components like Biodiversity, Ecosystem management, Riparianerosion control, Natural Resource Management, Natural & Human capital, etc.

- Conservation and rejuvenation process should prioritize actions in holistic way and tobring behavioural change among stakeholders.

- Understanding the linkages among water, wetland, biodiversity conservation andsustainable development

To raise community awareness and scientific knowledge on wetlands, IWF was the part of an innovative attempt to develop Guidelines forprotection and conservation of Urban Wetlands by NMCG with the help of the prestigiousSchool of Planning and Architecture in the form of a toolkit called, 'Urban wetlands/water bodymanagement guideline - a toolkit for local stakeholders' which was released at the event, along with 'Frameworkfor Ecological Monitoring of Ramsar Sites and Other Wetlands in India'. TheWetland Quiz was also held and received enthusiastic participation throughout India and winners were announcedby Ms. Bhawna Badola, CEO, Tree Craze Foundation during the function. Posters for spreadingawareness on wetlands by WWF-India were unveiled by the Minister and MoS, Jal Shakti.

Special Talk

Ecosystem Restoration through Ecosystem based Adaptation Approach

"We currently spend less than $100 billion a year on nature" highlighted the head of UNDP Mr. Achim Steiner

"It is a reminder that Nature as our ally must not be forgotten in providing for society's needs such as ecosystem services and protection from disasters as well. Now that the 'Ecosystem Restoration' has heightened our race to fight against the impacts of climate change and biodiversity loss, it has become imperative to integrate political will, financial capabilities, capacity building, technology transfer into our climate adaptation and mitigation strategies especially in regions like South Asia where cooperation is less and much difficult to attain a common consensus".

It was equally voiced by Dr. Arvind Kumar in his talks with Ms. Simi Mehta and Dr. Arjun Kumar as part of the series of Special Talk: The State of the Environment - Planet Talks jointly hosted by Center for Environment, Climate Change and Sustainable Development (CECCSD) at IMPRI, India Water Portal and Department of Energy and Environment, TERI School of Advanced Studies (TERI SAS), Delhi. He nuanced on Ecosystem Restoration through Ecosystem Based Approach. It was an engaging and interactive session where Dr. Kumar engaged with the live audience and answered their questions as well. All in all, an insightful discussion. (30 Oct 2020)

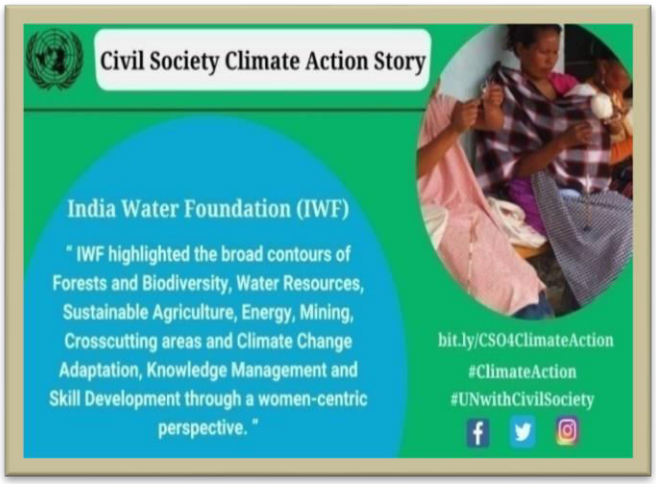
Restoration via EbA needs stewardship and partnerships. CSOs have limited space and scope but we must move ahead with the resources already available to us.

He further stressed that healthy ecosystems support economic growth, societal wellbeing and climate stabilization and today, Meghalaya has an unprecedented opportunity to transit toward a carbon-neutral and nature-positive economy with doubled income, indigenous hunter community transformed into entrepreneurs. China has already pledged towards carbon-neutral country by 2060 and this week Japan's PM has pledged to cut greenhouse gases to zero on a net basis by 2050. Eco-system approach can gain salience for countries like India and must focus on 'in-situ'

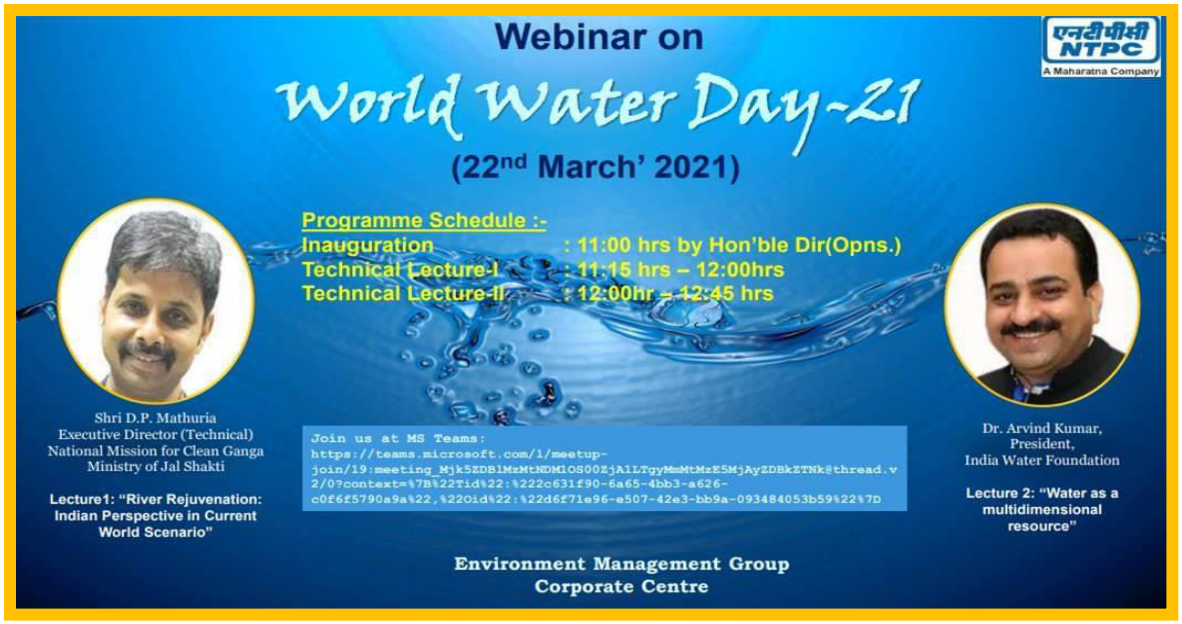
nature-based solutions to climate change, paving a way towards an Atma-Nirbhar Bharat that is self-reliant and self-resilient. Restoration via EbA needs stewardship and partnerships. CSOs have limited space and scope but we must move ahead with the resources already available to us. Moreover, the faster we establish partnerships with likeminded CSO, governments and agencies, the faster we will invest in nature resource management measures with meaningful ecosystem restoration outcomes and if advanced in India, it shall reflect a regional success toward achieving sustainable prosperity but also secure the targets under UN restoration as well. The essence of nature-based solutions lies in fostering human wellbeing, Livelihoods clubbed with environment conservation.

Special Moments

January 2021: Proud moment for India Water Foundation to be showcased as one of the four best civil societies in the world for their climate action story that inspires others, benefits the planet and its positive impact provide hope for the future. Congratulations to the people of Meghalaya and all partners associated with this project which we undertook on probono basis.
https://www.un.org/en/civil-society/india-water-foundation

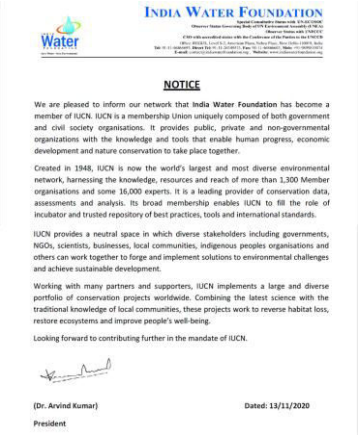


March 2021: "Water as a multi-dimensional resource" was the topic of the talk that Dr Arvind Kumar President India Water Foundation delivered in the programme organized by NTPC Ltd. to commemorate the World Water Day 2021.



January 2021: Sh. Rajiv Ranjan Mishra, DG-NMCG and Sh. Rozy Agarwal, ED(F)-NMCG met Sh. Arvind Kumar, President, India Water Foundation. They discussed various issues related to river rejuvenation. Shri Mishra presented a copy of the book "Rowing down the Ganges" to him. NamamiGange

13 November 2020:



INDIA WATER FOUNDATION

NOTICE

We are pleased to inform our network that **India Water Foundation** has become a member of IUCN. IUCN is a membership Union uniquely composed of both government and civil society organisations. It provides public, private and non-governmental organizations with the knowledge and tools that enable human progress, economic development and nature conservation to take place together.

Created in 1948, IUCN is now the world's largest and most diverse environmental network, harnessing the knowledge, resources and reach of more than 1,300 Member organisations and some 16,000 experts. It is a leading provider of conservation data, assessments and analysis. Its broad membership enables IUCN to fill the role of incubator and trusted repository of best practices, tools and international standards.

IUCN provides a neutral space in which diverse stakeholders including governments, NGOs, scientists, businesses, local communities, indigenous peoples organisations and others can work together to forge and implement solutions to environmental challenges and achieve sustainable development.

Working with many partners and supporters, IUCN implements a large and diverse portfolio of conservation projects worldwide. Combining the latest science with the traditional knowledge of local communities, these projects work to reverse habitat loss, restore ecosystems and improve people's well-being.

Looking forward to contributing further in the mandate of IUCN.

(Dr. Arvind Kumar) Dated: 13/11/2020

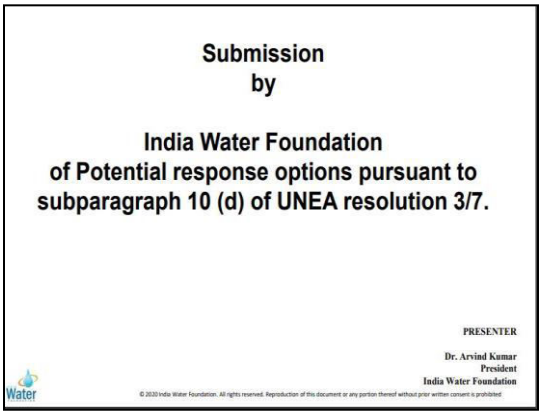
President

As an endorsement of our efforts towards conservation of Environment, Nature and Biodiversity, India Water Foundation became a member of IUCN and is committed to take ahead the mandate of IUCN along IWF's voyage.

11 November 2020:

Dr. Arvind Kumar made intervention on behalf of India Water Foundation on Consideration of submissions on potential response options pursuant to paragraph 10 (d) of United Nations Environment Assembly resolution 3/7 on marine litter and microplastics during the Fourth meeting of the Ad hoc open-ended expert group on marine litter and microplastics established by the United Nations Environment Assembly of the United Nations Environment Programme (UNEP) (Nov 11, 2020).

https://www.focusglobalreporter.org/india-water-foundation-of-potential-response-options-pursuant-to-subparagraph-10-d-of-unea-resolution-3-7/?fbclid=IwAR2ZbXsC33jJ6tfJ1USC-Lzj05f4_ODjypxghinSQj6sZeE4wiJkT0mHcQA



Submission
by

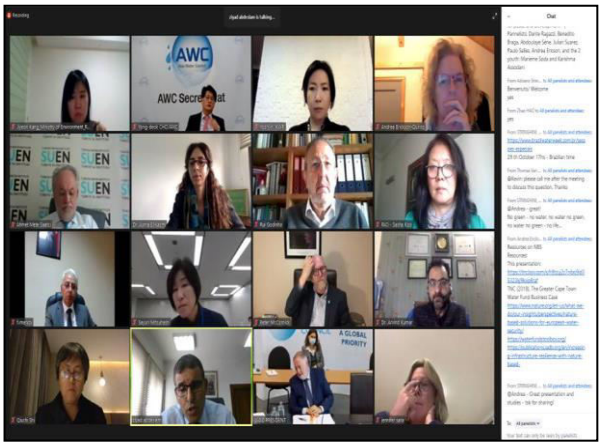
India Water Foundation
of Potential response options pursuant to subparagraph 10 (d) of UNEA resolution 3/7.

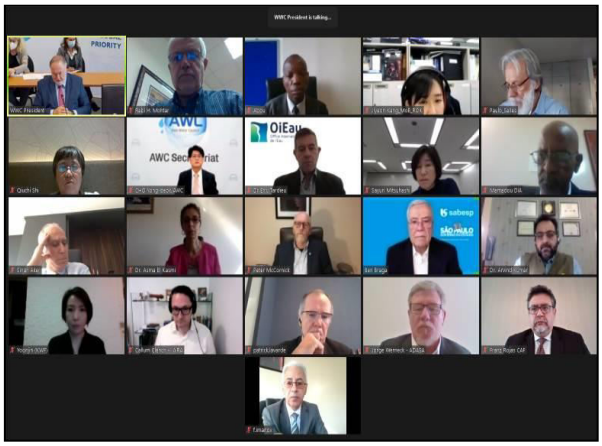
PRESENTER

Dr. Arvind Kumar
President
India Water Foundation

26-27 October 2020:

Amidst COVID19 pandemic situation the 72 World Water Council Board of Governors Meeting was held virtually on 26-27 October 2020. Among other usual discussions and presentations, the preparations of 9 World Water Forum were discussed, which was finally shifted from March 2021 to September 2021 keeping in mind the pandemic and travel restrictions.





23 September 2020:

IWF became a member of the Global Partnership on Marine Litter (UNEP). Being a member of Global Partnership on Marine Litter is a golden opportunity that opens a window of engagement and partnerships in pursuit of efforts towards Marine Restoration at global, regional & local level. We are hopeful it will fasten the pace towards combating the menace of marine litter and microplastics. For more information, please go to gpmarinelitter.org

13 September 2020:

राष्ट्रीय शिक्षा नीति पर वेबिनार आयोजित

गुलावठी | संवाददाता

डीएनपीजी कॉलेज गुलावठी में राष्ट्रीय शिक्षा नीति 2020 समय एवं बहुआयामी शिक्षा की ओर बढ़ते कदम विषय पर ऑनलाइन एक दिवसीय राष्ट्रीय वेबिनार आयोजित किया गया।

कॉलेज की प्रबंध समिति के सचिव महेश चंद कंसल द्वारा संदेश के माध्यम से वेबिनार का शुभारंभ किया गया। कार्यक्रम के मुख्य अतिथि इंडिया वाटर फाउंडेशन के अध्यक्ष डॉ. अरविंद कुमार रहे। उन्होंने कहा कि शिक्षा नीति में आरंभिक स्तर से ही व्यावसायिक शिक्षा प्रदान करने का उद्देश्य श्रम के प्रति गरिमा की भावना का विकास करना है।

भारतीय जनसंचार संस्थान नई दिल्ली के पूर्व विभागाध्यक्ष प्रो.प्रदीप कुमार माथुर ने कहा कि राष्ट्रीय शिक्षा नीति के विभिन्न पहलुओं के बारे में राष्ट्रीय मीडिया को न्यूनतम कवरेज दिया है।

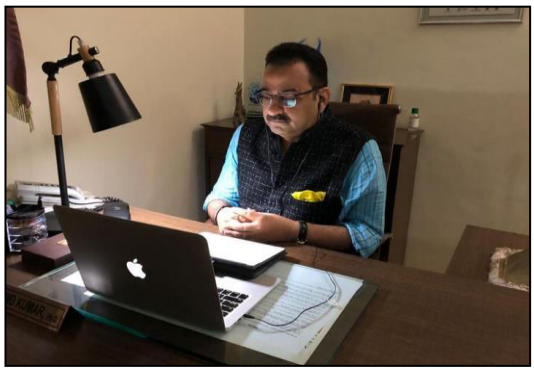
बीज प्रवक्ता चै.चरण सिंह विश्वविद्यालय मेरठ के प्रो.प्रदीप कुमार मिश्र ने कहा कि नई शिक्षा नीति में प्रारंभिक शिक्षा एवं उच्च शिक्षा के ढांचे में आमूल परिवर्तन की बात कहीं गई है। अलीगढ़ मुस्लिम विश्वविद्यालय की असिस्टेंट प्रो.डॉ. तरुशिखा सर्वेश ने राष्ट्रीय शिक्षा नीति से वितीयन, सामाजिक न्याय तथा बहिष्कार के मुद्दों को उठाया। युवा समाज वैज्ञानिक डॉ. अखिलेश पाल ने आग्ल भाषा के वर्चस्व पर प्रकार किया।

प्राचार्य डॉ. ममता शर्मा ने सभी का आभार जताया। संचालन वेबिनार के संयोजक डॉ.पुष्पेंद्र कुमार मिश्रा ने किया। इस अवसर पर ज्ञानप्रकाश तिवारी, डॉ. अमित, भूषण द्विवेदी, अवधेश कुमार सिंह, पीयूष त्रिपाठी, डॉ. विनय कुमार सिंह, संदीप सिंह, भवनीत बत्तरा, विनीता, हरिदत्त शर्मा आदि मौजूद रहे।

Dr. Arvind Kumar, President, India Water Foundation was Chief Guest at a webinar discussion on 'New Education Policy' 2020 by DNPG College, Gulaothi, Bulandshahr, UP on 13th September 2020. The enriching webinar brought on board various academia, experts and students discussing contemporary perspectives of multi-faceted NEP which stresses innovation, efficiency and is student friendly.

26-27 August 2020:

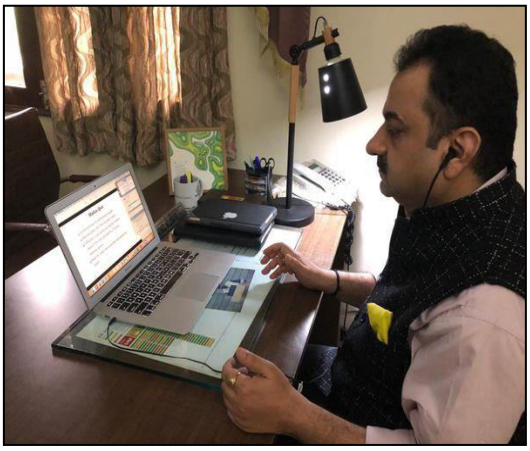
Dr. Arvind Kumar President India Water Foundation highlighted made intervention at the virtual Asian Pacific Regional Consultation Meeting under UNEA Adhoc open Ended Expert Group of Marine Plastic Litter and Micro Plastics organized by the Ministry of the Environment of Japan (MoEJ) in collaboration with the United Nations Environment Programme (UNEP) on 26-27 August 2020.



We had earlier reviewed the stock taking of existing activities, action and potential response options to reduce marine plastic litter and microplastics. The presentation from parties included Japan, Iran, Myanmar, Singapore, South Korea, Vietnam, Philippines and China. Multilateral development organizations JICA and ADB had presentations as well. It was an excellent opportunity to bring together high-level representatives, leading policy-makers and experts and stakeholders to deliberate and solicit insightful inputs and strategies on marine litter and plastics under a common platform.

15 August 2020:

Dr. Arvind Kumar made presentation as an expert reviewer during the interactive technical briefing of potential response options submissions as part of the ad hoc open-ended expert group on marine litter and microplastics (AHEG), UNEA resolution (United Nations Environment Assembly) followed by a rich discussion, Other presenters were parties like USA, Norway, Japan, Switzerland, Iran, European Union and its members inter governmental organizations and major groups. It will be updated on the UN website on 15th August 2020.



24 July 2020

Dr. Arvind Kumar presented a rich and insightful intervention involving facets of sacred river in praise of Dr Acciavatti's book.

The distinguished panelists included Dr. Anthony Acciavatti, Dr. Thomas E Mical, Mr. Wilton Suresh Pangoria, Mr. Shirshendu Banerjee, Mr. Sameer Kochhar, Mr. Rohan Kochhar. On 'The Values of Imprecision: Visualising River Ganga's Dynamism'. Dr. Anthony Acciavatti, PhD, Daniel Rose Visiting Assistant Professor in Urban Studies, School of Architecture, Yale University highlighted on comprehensive mapping of the Ganga River basin during a Master Class session organized by SKOCH Group held on Friday, 24 Jul 2020.

11 July 2020:

पानी की समस्या पर रखे विचार

नोएडा। ग्लोबल फाउंडेशन और चिनार संस्था के सहयोग से पर्यावरण और स्थिरता के मुद्दों पर एक वेब डायलॉग सीरीज की शुरुआत की गई है। इसमें रविवार को पानी की समस्या के संबंध में पांच पैनलिस्ट सहित 60 से अधिक प्रतिभागियों ने हिस्सा लिया। इंडिया वाटर फाउंडेशन के अध्यक्ष और संस्थापक, विश्व जल परिषद के डॉ. अरविंद कुमार ने मेघालय से अनुभव साक्षा करते हुए कहा कि पानी के मुद्दों से निपटने के लिए समग्र दृष्टिकोण की जरूरत है। योजना बनाने में सामुदायिक भागीदारी और स्वदेशी ज्ञान प्रणाली पर विचार किया जाना चाहिए। सीरीज में दूसरा कार्यक्रम 25 जुलाई को आयोजित किया जाएगा। ब्यूरो

Dr. Arvind Kumar made key points during the rolling web-dialogue series on 'Post COVID world and the future of conservation and management of water resources in India' organised by Global Foundation and CHINAR on 11 July. The webinar distinctly reflected a nuanced perspective of managing our current water resources to help us Build Back Better in the pandemic era.

4 June 2020:

Dr Arvind Kumar was invited to the online dialogue '75 minutes of conversation: Rethinking Our Climate' organized by the United Nations Academic Impact (UNAI) on June 4th 2020 within the framework of 75th anniversary of the United Nations. The other esteemed speakers were Mr. Ban Ki-moon, the eighth Secretary-General of the United Nations, Ms. Armida Salsiah Alisjahbana, Under-Secretary-General and Executive Secretary of the UN Economic and Social Commission for Asia and the Pacific (ESCAP), Ms. Yoonhee Hwang, Director of the Association of Korean Universities in Support of UNAI. President of the India Water Foundation, highlighted the value of water in combating climate change. He said "Water facilitates the interconnectedness and interlinkages with other sectors like agriculture, industry, energy and environment. Water also connects policy areas in the economic sector as well as societies. It is a tool for cooperation and trust." He mentioned "it is imperative we have sustainable solutions for water problems via effective legislation and new policies and practices for water management."

Major Publications

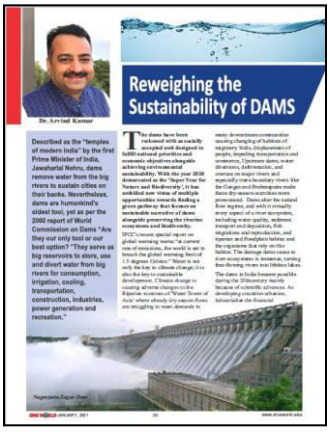
United Nations: 75 and Beyond: India water Foundation's Focus Global Reporter took out a special publication 'United Nations:75 and beyond' commemorating the 75th anniversary year of the United Nations giving an overview of UNs role today and tomorrow. Bringing significant issues to the forefront and getting insights and perspectives on the same from 20 people who are environmental authorities, leaders, experts, influencers, intellectuals and generate a strong voice in their respective domains. In their interviews they have provided integrated interpretation with a thorough and fundamental analysis. This publication is expected to give our readers a power-packed and enriching experience and shall foster communication not only among the disciplines, but also with the development partners, decision makers and most importantly the public which depends on such information to understand the minute contours of thematic issues. As always, even in the turbulent times a modest effort from the team of Focus Global Reporter.

https://www.amazon.in/United-Nations-Dr-Arvind-Kumar/dp/B091YKS9ZM/ref=sr_1_1?dchild=1&keywords=United+Nations+%3A+75+and+Beyond&qid=1626513510&sr=8-1

January 2021: Dr. Kumar's article "Reweighing the Sustainability of DAMS" published in **SME World magazine**, January 2021, Vol XIV No. 1 issue.

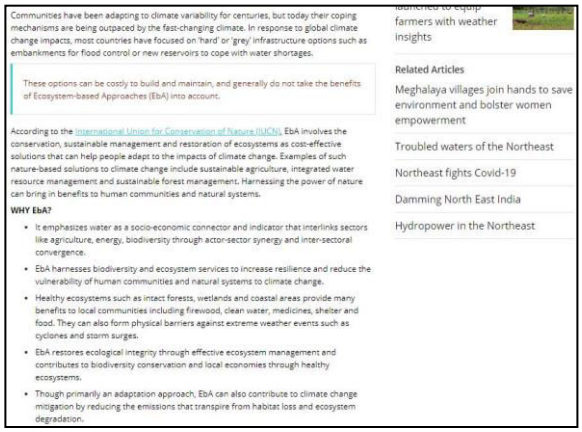
Described as the "temples of modern India" by the first Prime Minister of India, Jawaharlal Nehru, dams remove water from the big rivers to sustain cities on their banks. Nevertheless, dams are humankind's oldest tool, yet as per the 2000 report of World Commission on Dams "Are they our only tool or our best option?" They serve as big reservoirs to store, use and divert water from big rivers for consumption, irrigation, cooling, transportation, construction, industries, power generation and recreation."...Read more

https://www.smeworld.asia/Focus.aspx?Focus=Focus-281%2Freweighing-the--sustainability-of-dams&fbclid=IwAR2xcPDB4I_RL_rrSagcphXq3AiPu6zbYTJYaHyiRjvwpqTOIYdmFFVLQpg#.YMxZVWQzbIX



January 2021: Article on Ecosystem-based approach: The case of Meghalaya–on the portal of India Water Portal. Communities have been adapting to climate variability for centuries, but today their coping mechanisms are being outpaced by the fast-changing climate. In response to global climate change impacts, most countries have focused.....more

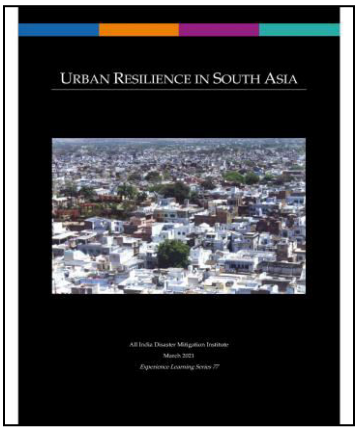
https://www.indiawaterportal.org/article/ecosystem-based-approach-case-meghalaya?fbclid=IwAR2zzWYrbf8Zzt_EwaK-OhLJyyXmTY8EEWIogkvaKDzu1vrgPeNQdhFtJIg

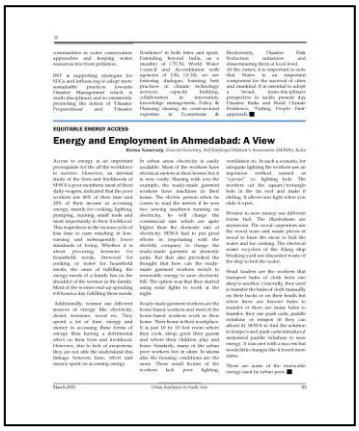


January 2021: Re-strengthening the BLUE GREEN Economy**:** Natural Ecosystems provides us with a myriad of services ranging from food security, climate regulation, better lives, and livelihoods. Yet despite this the last three to four decades have seen increasing degradation of environment. This in turn, is threatening the livelihoods of millions of people around the world who depend on these critical ecosystems for their primary source of food job security both directly and indirectly. ……..more

http://www.focusglobalreporter.org/restrengthening-the-blue-green-economy/

March 2021: My contribution on "Towards Renewed and Resilient Green Cities': A Commitment" published in 'Urban Resilience in South Asia' Experience Learning Series 77 taken out by All India Disaster Mitigation Institute.

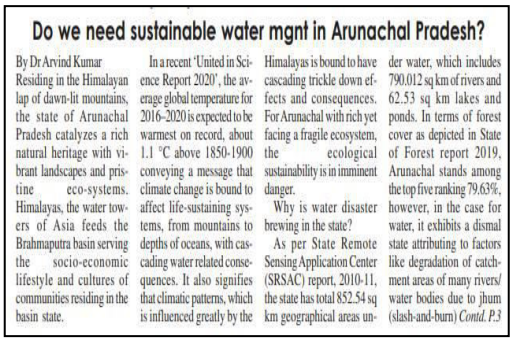




March 2021: Wetlands and Rivers: Undeniable Linkage: In the last three decades alone, nearly one-third of natural wetlands have been lost to urbanization, agriculture expansion and pollution. The loss of wetlands in urban areas has been more rapid. Data from 26 cities and towns show that since 1970s, for everyone square kilometer increase in built up area, 25 ha of wetlands has been lost. Similarly in the last 150 years, the need to create farmland, generate electricity and make water transport easier has changed the dynamics of the river……more

http://www.focusglobalreporter.org/wetlands-and-rivers-undeniable-linkage/

22 October 2020:



Do we need sustainable water mgnt in Arunachal Pradesh?

By Dr Arvind Kumar

Residing in the Himalayan lap of dawn-lit mountains, the state of Arunachal Pradesh catalyzes a rich natural heritage with vibrant landscapes and pristine eco-systems. Himalayas, the water towers of Asia feeds the Brahmaputra basin serving the socio-economic lifestyle and cultures of communities residing in the basin state.

In a recent 'United in Science Report 2020', the average global temperature for 2016-2020 is expected to be warmest on record, about 1.1 °C above 1850-1900 conveying a message that climate change is bound to affect life-sustaining systems, from mountains to depths of oceans, with cascading water related consequences. It also signifies that climatic patterns, which is influenced greatly by the Himalayas is bound to have cascading trickle down effects and consequences. For Arunachal with rich yet facing a fragile ecosystem, the ecological sustainability is in imminent danger.

Why is water disaster brewing in the state?

As per State Remote Sensing Application Center (SRSAC) report, 2010-11, the state has total 852.54 sq km geographical areas under water, which includes 790.012 sq km of rivers and 62.53 sq km lakes and ponds. In terms of forest cover as depicted in State of Forest report 2019, Arunachal stands among the top five ranking 79.63%, however, in the case for water, it exhibits a dismal state attributing to factors like degradation of catchment areas of many rivers/ water bodies due to jhum (slash-and-burn) *Contd. P.3*

Dr. Arvind Kumar latest article **"Do we need sustainable water management in Arunachal Pradesh?"** published in Arunachal Observer News Paper on 22 October 2020

https://arunachalobserver.org/2020/10/22/do-we-need-sustainable-water-management-in-arunachal-pradesh/?fbclid=IwAR16xourzhfFbkkYrGOdV2B6leQuZ7sf5veJpt1oLmHxTyVYfsJ8PnNNwlU

11 September 2020:

Taking a high cognizance of need for 'Green Industrial Policy' in contemporary times of 21st century amidst a clarion call for Green Economy, Dr. Arvind Kumar, President India Water Foundation has intrinsically articulated linkages between industry and climate change in his article 'Towards Green Growth via Green Industrial Policy' published in 'Environmental Sustainability and International Trade: Roadmap for Sustainable Development' by The Institute for Policy, Advocacy and Governance (IPAG). To examine various facets and relevance of the policy, kindly find the article in the kindle edition of the book on Amazon https://www.amazon.in/Environmental-Sustainability-International-Trade-Sustainable-

ebook/dp/B08FH6ZGS2/ref=sr_1_1?dchild=1&keywords=IPAG&qid=1598596355&sr=8-1&fbclid=IwAR2vnnL5tp1uWu_xTyH2dltEOCnMgY0x8guhLi-YKhujhpKZt959QJ5jTe8

10 September 2020:

Dr. Arvind Kumar's (President, India Water Foundation) article "NEP 2020 : Harbinger of Saksham plus Bharat!" published in SME World magazine, Vol. XIII, No. 09, September 2020 issue. Link of Published Article

https://www.smeworld.asia/Focus.aspx?Focus=Focus-269%2Fharbinger&fbclid=IwAR0vom3vaq6ntzUOwj1-HyAKx5WJ8L6CPWvhNCoHYrAEEFqWvQM1vqsmkIw#.X_l1cV4zbIX

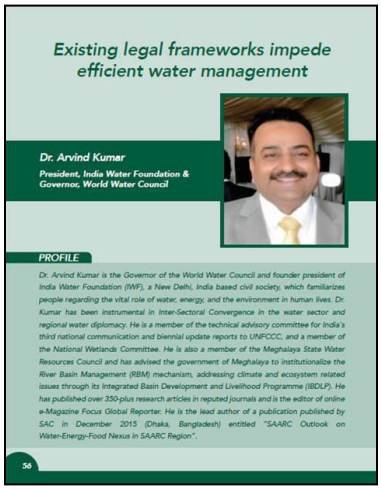

NEP 2020:

Harbinger of Saksham plus Bharat!

Dr. Arvind Kumar

After three decades, New Education Policy 2020 finally arrives embedded in transformational vision and directional change to meet the educational needs of 21st century. PM Modi highlighted how the NEP focuses on How to think as opposed to What to think being followed by previous education models in India. Progressive in nature, NEP can touch real milestone in future to reap the rich demographic dividend that can power the socio-economic engines of the country.

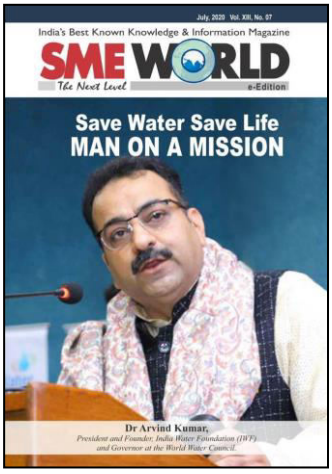
10 August 2020:

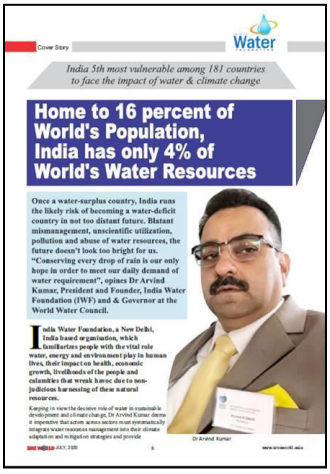


Jal Jeevan an Amway compendium on water was released by Hon'ble Minister of Jal Shakti, Shri Gajendra Singh Shekhawat on 10 August 2020. The compendium presents success stories and perspectives on water presented by government departments, policy makers, experts and like-minded stakeholders. Dr. Arvind Kumar in his interview to highlighted that 'existing legal frameworks impede efficient water management'

11 July 2020:

Keeping in view the rising water stress as a result of twin issues of rapid population burst & relative decrease of water supply with multi-dimensional consequences SME World (SME World, July 2020, Vol. XIII, No. 07) has taken out a cover story on the views and perspectives of Dr. Arvind Kumar, President India Water Foundation regarding Water as a socio economic connector and its linkages with Sustainable Development Goals further exploring the problems of water depletion in India and beyond and how can we galvanize an opportunity towards making a 'Water Secure India'. Find the complete Cover Story interview at the **https://lnkd.in/ehVvqJ2**





18 June 2020:

Dr. Arvind Kumar, President, India Water Foundation's recent article "SIKKIM, THE GATEWAY TO NORTH-EAST PROSPERITY" published in Sikkim Express News paper on 18th June 2020.

12 June 2020:

Dr. Arvind Kumar's latest article "Can the Economic Package and Reverse Migration spruce the MSMEs?" published in SME World magazine on June 2020 Vol: XIII, No-6

10 June 2020:

Dr. Arvind Kumar's latest article "Can Integrated Approach Achieve 'Ecosystem Restoration' In Jammu And Kashmir?" published in The Legitimate Vol: 05 Issue: 22, Baramulla on 10th June 2020

About India Water Foundation

India Water Foundation, established in 2008 as a non-profit civil society & think tank, is engaged in enhancing public awareness about Sustainable Development Goals (SDGs) and major components of the Paris Agreement on Climate Change, in Asia-Pacific region in general and India in particular. It also emphasizes on familiarizing the people regarding the vital role water, energy and environment play in human lives, their impact on health, economic growth, livelihoods of the people and calamities that wreak havoc due to non-judicious harnessing of these natural resources. IWF works towards localizing and implementing SDG's, affirms towards environment conservation and fosters enhancing community resilience through 'Putting People First' approach so they lead a more secure, prosperous, and dignified life. We have a committed team of experts and volunteers who work collectively to provide vital support to communities through network of organizations, by sharing knowledge, expertise, best practices and fostering local, national, regional and international partnerships for development.

In recognition of its yeoman activities in water, energy, environment and related fields, IWF has been accorded Special Consultative Status by Economic and Social Council of the United Nations (UN-ECOSOC) since March 2016, Observer Status Governing Body of United Nations Environment Assembly (UNEA), Observer Status organization with United Nations Framework Convention on Climate Change (UNFCCC), Observer Status organization with United Nations Convention to Combat Desertification (UNCCD), CTCN membership for Southern Asia, Member World Water Council, Member International Union for Conservation of Nature (IUCN), Member South Asia Network on the Sustainable Development Goals (SANS) of theUN ESCAP, Direct Member International Commission for Irrigation and Drainage (ICID), Member UN Global Compact Network India, Member Global Partnership for Marine Litter (GPML).

Vision

IWF nurtures its vision to strengthen community led development initiatives and achieve positive social, economic, and environmental change across Asia Pacific Region by designing and promoting development interventions that create livelihood opportunities, build resilience and provide solutions to some of the most pressing challenges for the region's poorest communities. IWF visualizes changing the mind-set of the stakeholders by sensitizing, incentivizing and galvanizing the people about water-energy-environment related issues through cooperation, coordination and convergence.

Mission

IWF's Mission is localizing and implementing Sustainable Development Goals. It work amongst the people at the grassroots level, especially amongst the marginalized and weaker sections, in cooperation with local, state, national governments, and with other like-minded civil society organizations (CSOs)- Promoting efficient use of resources, increasing access and uptake of sustainable inputs and practices and reducing the impact on environment and climate. Enhancing livelihoods through new technologies and practices by creating partnerships across stakeholders, nationally and internationally.

Partnership, Accreditation and Rapport of IWF

India Water Foundation has been empaneled 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 acknowledge 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.

Some of the Accreditation of India Water Foundation is given below-

- Special Consultative Status with **UN-ECOSOC**
- Observer Status Governing Body of **United Nations Environment Assembly (UNEA)**
- Observer Status organization with **UNFCCC (United Nations Framework Convention on Climate Change)**
- Observer Status with **UNCCD (United Nations Convention to Combat Desertification)**
- **CTCN membership for Southern Asia**
- Member **South Asia Network on the Sustainable Development Goals (SANS) of the UN ESCAP**
- Member with **World Water Council (Governor in Board of Members in WWC)**
- Member with **International Union for Conservation of Nature (IUCN)**

- Member with **Global Partnership on Marine Litter (GPML)**
- Direct Member with **ICID**
- Member with **Global Compact Network India (Executive Member in the Governing Council)**
- Observer to the Governing Body of **United Nations Environment Programme (UNEP)**

Partnerships-

- Memorandum of understanding with **Product and Process Development Centre (PPDC), Ministry of MSME**, Govt of India
- Memorandum of understanding with **Meghalaya Basin Development Authority (MBDA)** Government of Meghalaya,
- Memorandum of understanding with **Government of Sikkim**, in the presence of the then Chief Minister Sh. Pawan Kumar Chamling. In Sikkim cooperating with government in the field of water resources, Environment, Sustainable Development, recently launched **"Sikkim Comprehensive Water Resources Plan"** at Gangtok.
- Memorandum of understanding with **Meghalaya Water Foundation**
- Memorandum of understanding with **Prof. A. K. Keshari,** IIT, Delhi
- Memorandum of understanding with **Institute for Management Studies, Thimpu, Bhutan**

IWF's Thought Leadership

India Water Foundation has amassed a plethora of knowledge wealth through its exposure and participation in leading national and international deliberations in water, energy and environment sectors and on the basis of this accumulated knowledge it has pioneered non-engineering and non-technical solutions which are of equal significance in tackling water and environment related problems by encompassing PPT (People – Process – Technology). The gives the IWF advantage of thought leadership in many areas like policy formulation, facilitating conferences, seminars, symposia, workshops etc., capacity-building and sustenance, eco-sustainability, facilitating technology intervention, nexus approach, assimilation &dissemination of Water, Environment and Sanitation related knowledge, Inter-Sectoral Convergence, emphasis on Soft Approach, collective approach on Water and other related sectors etc. These are briefly described below: --

Catalyst for Policy Formulation

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

Facilitating Conference/Workshop/Seminars

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

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

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

The IWF can be instrumental in providing a platform for the regional and international stakeholders to encourage greater coordination and collaboration among policy makers, authorities, professionals, researchers, civil society representatives, private sector as well as

operators of water, energy and environmental facilities. It can be helpful in bringing together the public and private sector players, and central and local authorities, thus offering most up-to-date solutions.

Capacity Building and Sustenance

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

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

Nexus Approach

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

Assimilation and Dissemination of Water Knowledge

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

Inter-Sectoral Convergence

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

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

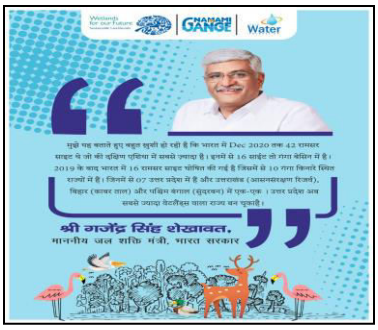
Emphasis on Soft Approach

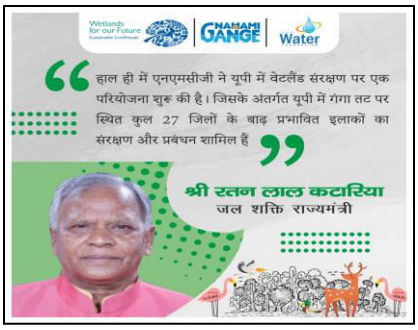
India Water Foundation has taken up the initiative of laying equal emphasis on ‘Soft Approach” along with ‘Hard Approach’ to tackle water related problems. Thus far the major emphasis has been on finding engineering and technological solutions to water related issues and policy making, its implementation and feedback process from the stakeholders has generally not

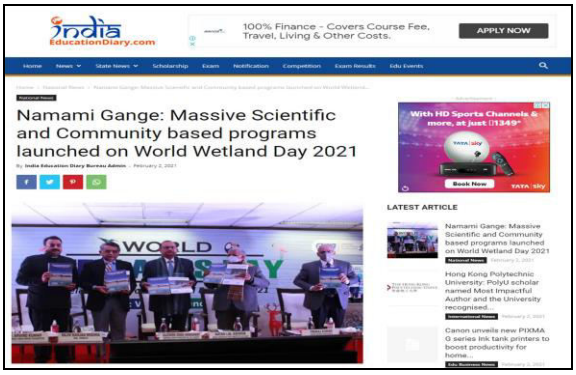
received due emphasis which it deserves. The Soft Approach entails capacity building of the people and as such India Water Foundation is affirmative about the need for capacity-building of the people and institutions in water sector. This task of **capacity-building** of the people can be accomplished by sensitizing, incentivizing and galvanizing the people about water-related issues.

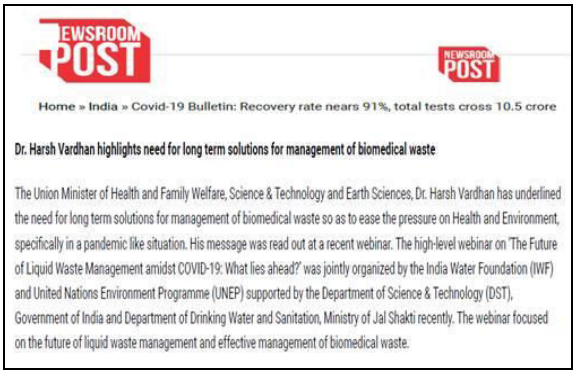
Sectoral to Collective Approach

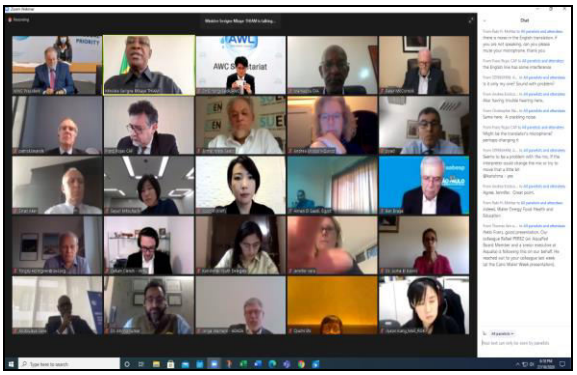
Adverse impact of the ongoing process of climate change, fast depletion of global surface and ground water resources and rapid melting of glaciers coupled with mounting problem of pollution of water resources cumulatively add to the already grim problem of acute shortage of drinking water in almost all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











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