

# India Water Foundation



## CHRONICLE: 4 May 2020 – Dec 2020

**Legal framework for efficient water management**



**Dr. Arvind Kumar**  
President, India Water Foundation & Governor, World Water Council

**PROFILE**

Dr. Arvind Kumar is the Governor of the World Water Council and founder president of India Water Foundation (IWF), a New Delhi, India based civil society, which familiarizes people regarding the vital role of water, energy and the environment in human lives. Dr. Kumar has been instrumental in Inter-Sectoral Convergence in the water sector and regional water diplomacy. He is a member of the technical advisory committee for India's third national communication and biennial update reports to UNFCCC, and a member of the National Wetlands Committee. He is also a member of the Meghalaya State Water Resources Council and has advised the government of Meghalaya to institutionalize the River Basin Management (RBM) mechanism, addressing climate and ecosystem related issues through its Integrated Basin Development and Livelihood Programme (IBDLN). He has published over 350-plus research articles in reputed journals and is the editor of the South Asian Global Reporter. He is the lead author of a publication titled "Sustainable Water Management in SAARC Region" (2015, Dhaka, Bangladesh) entitled "Sustainable Water Management in SAARC Region".



**The Future We Want  
The United Nations We Need**  
Update on the Work of the Office on the Commemoration of the UN's 75<sup>th</sup> Anniversary  
September 2020

**Integrated Approach for Ecosystem Restoration in Jammu And Kashmir**

During a visit with the Lieutenant Governor of Jammu and Kashmir, Shri. Chandrababu Naidu on 10 February 2020, at the request of the LG and Government officials, the Ambassador and his mission, together with the UNICEF team, visited the lake and the surrounding area. The lake is a rich repository of biodiversity and its biodiversity is alarming rate due to habitat overgrazing, deforestation, pollution of river bed, and poor management of natural resources, among others.



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## Restrengthening the BLUE GREEN Economy

By Dr. Arvind Kumar, President, India Water Foundation

*“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 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.



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.



Worldwide consumption and production a driving force of the global economy rest 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

*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.*

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 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. Does it sound like a Utopian dream or can be transformed in a reality?



## Feature

# UN75: The Future We Want, the UN We Need

By Shweta Tyagi, Chief Functionary, India Water Foundation

*“Across this anniversary year, we have engaged in a global conversation. And the results are striking. People are thinking big – they are also expressing an intense yearning for international cooperation and global solidarity. Now is the time to respond to these aspirations and realize these aims. In this 75th anniversary year, we face our own 1945 moment. We must meet that moment. We must show unity like never before to overcome today’s emergency, get the world moving and working and prospering again, and uphold the vision of the Charter.”*

*UN Secretary-General António Guterres*

Amidst the COVID-19 pandemic, the UN’s worldwide consultation reveals a strong call for action on inequalities and climate change, as well as more solidarity. In January 2020, the United Nations launched the global consultation to mark its 75th anniversary. Through surveys and dialogues, it asked people about their hopes and fears for the future – representing the UN’s most ambitious effort to date to understand expectations of international cooperation and of the UN in particular. It is also the largest survey to date on priorities for recovering from the COVID-19 pandemic.

As of 21 September 2020, over a million people from all countries and all walks of life had taken part. Their answers provide unique insights into what the public wants at this challenging time for the world. They are released today to coincide with the UN General Assembly’s official commemoration of the 75th anniversary, held under the banner: the future we want, the UN we need. Key findings include:

### Priorities for action

- Across regions, ages and social groups, respondents were broadly united in their priorities for the future.

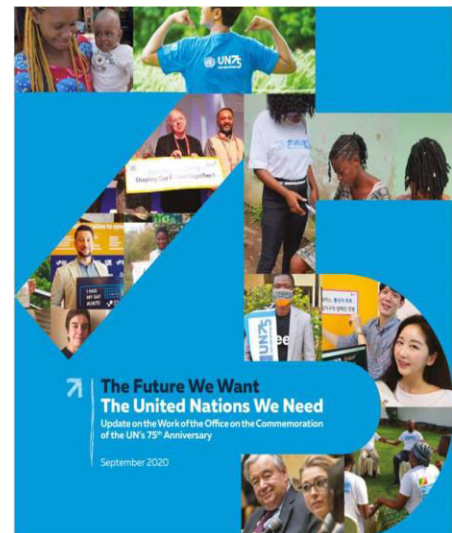


Figure 1 UN in India <https://in.one.un.org/un-press-release/un75-the-future-we-want-the-un-we-need/>

- Amid the current COVID-19 crisis, the immediate priority for most respondents is improved access to basic services – healthcare, safe water, sanitation and education, followed by greater international solidarity and increased support to those hardest hit. This includes tackling inequalities and rebuilding a more inclusive economy.
- Looking to the future, the overwhelming concerns are the climate crisis and the destruction of our natural environment. Other priorities include ensuring greater respect for human rights, settling conflicts, tackling poverty and reducing corruption.

## Perceptions of the UN

- Over 87% of respondents believe global cooperation is vital to deal with today’s challenges, and that the pandemic has made international cooperation more urgent.
- Seventy-five years after its founding, six in 10 respondents believe the UN has made the world a better place. Looking to the future, 74% see the UN as “essential” in tackling the challenges.
- However, respondents want the UN to change and innovate: to be more inclusive of the diversity of actors in the 21st century, and to become more transparent, accountable and effective.

Full report: The Future We Want, The United Nations We Need

Press kit: <https://www.un.org/un75/presskit>, Join the conversation: [www.un75.online](http://www.un75.online)

## Background

- In January 2020, the UN Secretary-General launched the UN75 initiative, not as a celebration, but as the world’s largest conversation about current global challenges, and the gap between the future we want and where we are headed if current trends continue.
- The Secretary-General saw UN75 as an opportunity for the UN to listen to the people it serves and identify their priorities and suggestions for enhanced global cooperation. UN75 was initiated to better understand people’s hopes and fears for the future, inviting people everywhere to imagine the future they want and contribute ideas on how to make it a reality, building a better and more sustainable world, for all.
- Through formal and informal surveys, and dialogues held across the world, the exercise was intended to take stock of global concerns and gain views from across the world on what sort of global cooperation is required. It was also intended to re-imagine what role the United Nations might play in helping to address our global challenges.
- After the pandemic made in-person gatherings challenging in many parts of the world, the initiative increased its efforts to reach people online, expanding the one-minute survey and social media

outreach to shift the dialogues to online settings, where possible. At the same time, it put more emphasis – and resources – on reaching those without internet access: working with UN offices and other partners on the ground, and through telephone and SMS communications.

- By adding questions on building back better from the pandemic, it was able to conduct the largest and most diverse global survey to date on post-COVID priorities.
- To date, over 1 million people have taken the one-minute survey in all UN Member and Observer States and more than 1,000 dialogues have been held in 82 countries across the world. In addition, 50,000 in 50 countries took part in independent polling by Edelman and the Pew Research Center, and artificial intelligence analysis of social and traditional media was conducted in 70 countries, along with academic and policy research mappings in all regions.
- Together, they represent the UN’s most ambitious attempt to undertake a global reality check and hear from “we the peoples” on their priorities and suggested solutions to global challenges, providing unique insights into the future we want and the UN we need.

Source: <https://in.one.un.org/un-press-release/un75-the-future-we-want-the-un-we-need/> <https://www.un.org/un75/presskit>



## Vibrant North East: Arch towards realizing Atma Nirbhar Bharat

Dr. Arvind Kumar, President, India Water Foundation

*{Environmental sustainability is a broad term and is a key pillar of sustainable development and NER has the potential to bring transformation and drive change towards critical tenets of self-reliance, indigeneity, inclusion, and governance without compromising the ability of the environmental services and its natural landscapes. Collectively, people must be aware of and concerned about environmental problems and to also work individually and collectively towards solving the current problems and preventing the occurrence of new ones. Convergence, Cohesion and Cooperation is benevolently the need of the hour if North East is proposed as vehicle to realize Atma Nirbhar Bharat and SDGs 2030.}*

**W**ith Prime Minister Modi embarking “India to strive for self-reliance, use vast resources to produce for global market as well” during 74th Independence Day, nestled in the Himalayas states, North East Region (NER) echoes a gateway to realize India’s Atma-Nirbhar Bharat vision binding economic, socio-cultural, and environmental relationships with our mainstream India.

Celled as ‘Seven Sisters and One Little Brother’, NER is a treasure house of biodiversity, natural resources, tourist destination and blessed with natural resources and very much enriched with biodiversity. Landscape constituents of the region such as hills (60%), plateaus (12 %) and plains (28 %) along with river systems contribute substantially to enriching its scenic component. Hailing the cleanliness and hygiene culture followed by the people of the Northeast Indian states, the region has a potential to set a precedent for mainstream states of India.

### Coming together in the age of SDGs

With recent innovative programs such as KVIC initiating Khadi and tourism in a tribal village of Chullyu in Arunachal Pradesh and Chief Minister Pema Khandu launching the Arunachal Pradesh Entrepreneurship Development Programme, such initiatives can catalyze an entrepreneurial ecosystem laying a hallmark towards vibrant, self-reliant, and inclusive society.

With Union Budget 2020-21 according the highest priority to the overall development of North Eastern Region and Budget for North East Council doubled from Rs 700 Crore to Rs 1474 Crore in the last five years, such substantial funding holds the key towards sustaining the infrastructure, institutions, and capacity building measures in the region.

India has fully adopted the SDG framework and aligned its development priorities with the Global Goals and North East region is showing prospective outcomes to realize SDGs. All North East states have been regarded as ‘performers’ in NITI Aayog SDG 2030 index. The 17 goals are inter-connected and in order to

leave no one behind, it is important that the states take efforts to achieve them all by 2030. This is a welcome step and from time-to-time, the region has set tremendous milestones and precedent for other states to learn and customize.

With Union Budget 2020-21 according the highest priority to the overall development of North Eastern Region and Budget for North East Council doubled from Rs 700 Crore to Rs 1474 Crore in the last five years, such substantial funding holds the key towards sustaining the infrastructure, institutions, and capacity building measures in the region. This is in tune with Prime Minister's vision of holistic development for North East India and shall enhance development of deprived areas, balance socio-economic development, mainstream deprived sections of society and emerging priority sectors in the North Eastern States

Sustainable development is closely linked to public welfare and development of society and environment. On the contrary, long term neglect of the community's needs like education, inclusion, market access, human skills have pushed them towards certain challenging situations like migration, poverty, violence, insurgency, exclusion. Despite rich in natural resources, an integrated natural resource management is yet to be implemented.

### **Stumbling blocks that derail the sustainability of NER**

The Northeast Asian region is undergoing an unprecedented speed and scale of environmental degradation. The Brahmaputra is one of the world's largest rivers, with a drainage basin of 580,000 sq km, 33% of which is in India. According to a 2015 report published by the Assam government, steady erosion by the

*The threat is especially great wherever people's livelihoods are particularly dependent on natural resources. In such vulnerable scenario, climate adaptation measures are of central importance for the protection of lives and livelihoods and ensuring sustainable development.*

Brahmaputra led to the destruction of over 3,800 km<sup>2</sup> of farmland since 1954. Assam has been historically flood-prone and recent floods have caused widespread despair in North East especially in Assam with situation grim in neighboring states like Meghalaya, Arunachal Pradesh, and Sikkim. Environmentalists have cautioned about engineering solutions towards deepening Brahmaputra river basin leading to environmental degradation and proposed for careful environmental assessments. The threat is especially great wherever people's livelihoods are particularly dependent on natural resources. In such vulnerable scenario, climate adaptation measures are of central importance for the protection of lives and

livelihoods and ensuring sustainable development. The recently constituted North East Water Management Authority under Prime Minister's stewardship is a welcome step to deal with flood and erosion.

Home to one of the six most seismically active regions of the world, construction of big dams on highly seismicity area like North East is a vulnerable task but even then, mega hydroelectricity projects are installed in these eco-fragile regions. For example, it is projected that the 2,880 MW Dibang Multipurpose Project in Arunachal one of the largest planned in India has potential to displace large communities. Further, the forest cover in the northeast with the exception of Assam and Tripura marked a decline showing a decrease of

forest cover by 765 sq. km. compared to 2017 data according to Indian State of Forests report 2019, all the States in the region show decrease in forest cover’ with the decline attributed to shifting cultivation.

### How can NER enhance vibrant India narratives?

NER in recent years have remained connected to mainstream India, it is time to upscale their performance towards a vibrant region. While PM’s mantra of calling North East India the vehicle of peace, progress and prosperity, its holistic development finds echo among the communities for better development.

During my understanding of NER since a decade, I have essentially emphasized the role of natural ecosystems, biodiversity and ecosystem services in underpinning sustainable development and ensure that the twin goal of natural resource management and livelihoods shall be incorporated in development interventions and programme. Strategic perspectives highlighting the broad contours of Water Resources, Agriculture, Energy along with Climate Change Adaptation, Knowledge Management and capacity building through people-centric perspective can lead to iconic milestones.

Of late, the Manipur Water Supply project has been designed to provide Fast Household Tap Connections

households in 16 districts of Manipur is a worthwhile initiative to provide safe drinking water to its communities to nearly 3 lakh households. Meghalaya and Sikkim have already implemented water schemes and streamline provisioning of water witnessed through Meghalaya Water Act 2019 and ‘Water from Source to Tap’. These steps rightly indicate a reflection towards Government of India’s water availability and a prosperous North East in terms of water security. India



Water Foundation, New Delhi based civil society as knowledge partner with Government of Meghalaya and Sikkim have executed sustainable water-related interventions; capacity building and branding and look forward to customizing similar endeavors in other states as well. As pioneering step towards eco-friendly initiatives, strategies for water conservation must be leveraged to make water available first towards sustainable use as well as adapt to the climate change phenomenon. In short, comprehensive water management must call for holistic, integrated, and efficient management for sustainable management of the State’s water resources.

Healthy environment is central to socio-economic activity and growth and Sikkim has already won the world’s first organic state award and recently, food park inaugurated in Mizoram has a potential to realize towards food security, augment jobs & livelihood and enhance farmers’ incomes. Alternatives such as herbs, spices and organic sustainable practices can be an added boon and setting up small and medium scale industries based on huge quantities of bamboo, cane, jute, paddy husk and medicinal plants can churn the tourism and financial wheels of the community. North-East farmers have a potential to take up oil palm cultivation boosting farming opportunities and earn better economic returns and placing India as an assured market for palm oils. Tapping the potential of the tourism industry in NER and development of the region as

a bamboo industry hub, IT hubs are round the corner in states of Assam and Meghalaya with ability of technology deployment swiftly undertaken.

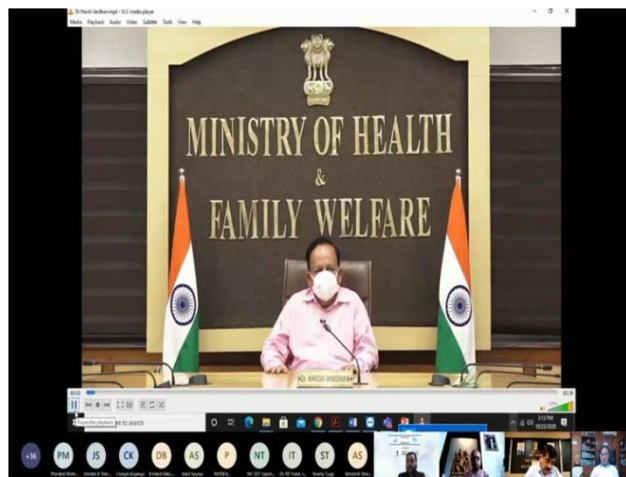
Thwarting the rapid degradation of North-East, wetlands act as natural bulwarks against floods, is also important. There are 7,731 wetlands in the NE states and the bio-diversity rich northeast accounts for almost 5 per cent of the wetlands in the country, the Deepor Beel in Assam, Rudra Sagar in Tripura and Loktak Lake in Manipur being the major wetlands. The recent 'Guidelines for implementing Wetland (Conservation and Management) Rules 2017, MoEF&CC, Government of India if implemented shall ensure environmental sustainability, ecological balance, protection of flora and fauna, conservation of natural resources and maintaining quality of wetlands.

Harnessing the potential hydropower of the Northeastern Region, an avenue of growth can be opened and provide an opportunity of self-reliance to the people of this region and make sound contribution to the national economy. The development of the Northeastern Region's hydro potential should be satisfactory after understanding potential eco-fragile risks, need for multi-purpose reservoirs. Without the participation of local people, any development activity cannot be successful, so, continuous awareness programs with local people must be strengthened to enhance their perception on Hydro projects of North-East India.

Northeast India is a home to some of the tribal communities taking great pride in their forests, nature worship, sacred groves and indigenous way of living. Cultural diversity has paved a way towards integrity and co-existing with forests promoting transformative partnerships that help to adapt to the effects of climate change and build resilient societies. Augmenting to enhance forest cover, an increase in forests shall mean efforts to curb shifting cultivation and switch to both farm and non-farm livelihoods for people to sustain. To examine forest degradation, a need exists to uphold the concept of sustainable management of forest resources and promote environmentally sound forest conservation measures by involving indigenous and local communities.

## 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 23<sup>rd</sup> 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.



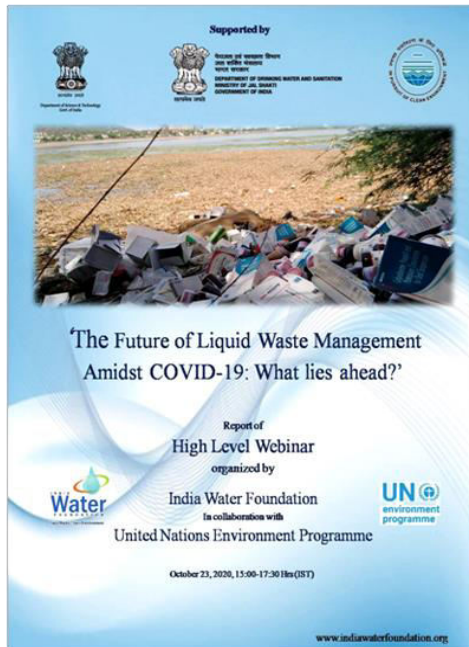
‘Effective management of biomedical waste fits well in priority areas of protecting environment & health’ highlighted Dr. Harsh Vardhan, Union Minister of Health and Family Welfare, Minister of Science and Technology, Minister of Earth Science while delivering the Chair address of the session.

*‘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*

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.

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



**'The Future of Liquid Waste Management amidst COVID-19: What lies ahead?'**  
A high level webinar jointly organized by India Water Foundation and United Nations Environment Programme

**Supported by**  

 DEPARTMENT OF DRINKING WATER AND SANITATION  
 GOVERNMENT OF INDIA

The sudden onset of the COVID-19 pandemic in early 2020 has imposed massive health and economic burdens on communities around the world, and affected every sector of society, including the waste water sector. Among all the category of Bio medical waste, liquid wastes pose 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. The main objective is to have a holistic understanding on various facets of waste management in context of COVID-19 along with socio-environmental impacts. More information available please click here <http://www.indiawaterfoundation.org/forthcoming-events/>

**Expected Outcomes**

- Addressing liquid waste management and prioritize actions at the 'Source' of the problem in holistic way and but also bring change in attitudinal change among stakeholders
- Proper training through knowledge dissemination and capacity building support to stakeholders, especially frontline workers in handling waste will enable critical management of liquid wastes management safety.
- Preparation and responding to suggestions towards operational adjustments and cost effective technology interventions with simultaneous protection of the health professionals handling waste at the interface.
- Understand and streamline policies, legislation, technologies and finances linked to COVID-19 pandemics that shall help developed and developing countries to have a stable legal and institutional basis to better respond to future waste emergencies and clarify measures to be taken.

To register please click on <https://www.indiawaterfoundation.org/forthcoming-events/>



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](https://www.youtube.com/watch?v=nm_5lYXrZF4)

Link of the complete report: <https://www.indiawaterfoundation.org/proceedingsreport/>

## Discussion-in-Depth

# NEP 2020: Harbinger of Saksham plus Bharat!

By Dr. Arvind Kumar, President, India Water Foundation

*“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 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. 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, Education Minister Ramesh Pokhriyal said, ‘NEP will be implemented uniformly across all schools and ensure 6% of India’s GDP is spent on education’*

In an interview to The Print, 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 playschools 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, 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

*NEP is a golden opportunity for India to churn the labor force by leveraging the benefits of working age population with right entrepreneurial skills.*

quality and distribution of higher education. To make India a better place and world-class knowledge power, where does 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 rapidly changing population graph. As populations in countries such as China, US, and Japan is 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 growth rate above 8%. NEP is a golden opportunity for India to churn the labor force by leveraging the benefits of working age population with right entrepreneurial skills.

### **When Concurrent list holds Education!**

States have raised concerns over three language formula and apprehensions raised over Hindi as 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 mode of teaching and syllabus and have seen NEP as 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 mother tongue or their local language.

### **Can inclusive e-learning change the face of rural India?**

There has been decline in Gross Enrolment Ratio, especially among children from certain socio-economically 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

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Internet connectivity, no training and skills, bandwidth shall derail the success of education prospects. In later stages, the non-uniformity 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 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 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 21<sup>st</sup> century.

**Post Source:** Article published in (SME World Vol. XIII, No. 09, September 2020 issue)

[https://www.smeworld.asia/Focus.aspx?Focus=Focus-269%2Fharbinger&fbclid=IwAR1R18ldYKE0xrUhQShABYCPGRsF316f4h8PHcXj8yPQ0\\_xA7eyw\\_c4FD8s#.X\\_cMDdIzbiW](https://www.smeworld.asia/Focus.aspx?Focus=Focus-269%2Fharbinger&fbclid=IwAR1R18ldYKE0xrUhQShABYCPGRsF316f4h8PHcXj8yPQ0_xA7eyw_c4FD8s#.X_cMDdIzbiW)

## 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)

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

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.

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.

## Overview

# Resurgence of a Pest: Report on Locust Infestation

By Shweta Tyagi, Chief Functionary, India Water Foundation

*“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 repercussion of locust resurgence is already forecasted beyond imagination.”*

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 forthcoming 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,

*David Malpass, President of the World Bank Group, adding the locust swarms threatened a “monumental crisis” and “a humanitarian emergency.”*

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 organise six annual border meetings with Pakistan between June and November



to analyse 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 kilometre 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 locust 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 biopesticides 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



Now nature-based biopesticides 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.



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 repercussion of locust resurgence is already forecasted beyond imagination. Time to move beyond Wait and Watch policy!!



## The Impacts of Sand and Dust Storms on Oceans

*{This report on “The Impacts of Sand and Dust Storms on Oceans” was released virtually by UNEP on Friday the 6th of November. The report is written by Dr. Nicholas Middleton, Professor at Oxford University and worldwide renowned expert on Sand and Dust Storms and supported by GESAMP, the GPA, the GPNM, and the UN Decade of Oceans 2021-2030}*

**S**and & dust storms (SDS) are common in deserts and semi-deserts when strong winds blow over dry soils with little or no vegetation. Dust generated by SDS is often raised high into the atmosphere and transported over long distances, frequently over the oceans. These atmospheric events are important for ecosystem functioning, with a wide range of effects on the Earth system. Given the hazards they pose to society, and the threats implied to the achievement of several Sustainable Development Goals (SDGs), they have also become an issue of increasing concern to governments and the international community.

SDS varies in frequency and intensity over multiple timescales. They are highly seasonal and can vary significantly from year to year. They also respond to drought periods and other drivers such as El Niño–Southern Oscillation and the North Atlantic Oscillation. Deserts in the northern hemisphere (northern Africa; the Middle East; southwest, central and north-east Asia) are the largest and most persistently active SDS sources, with smaller, less active sources located in North and South America, southern Africa, Australia and Iceland. The relative importance of naturally emitting wind erosion sources, as compared with those significantly influenced by human action—largely via poor agricultural management and excessive water use—is unclear, but the Sahara is the world’s largest source of desert dust. It produces around 55 percent of all global dust emissions, with marked effects on the North Atlantic Ocean, the Caribbean Sea, the Mediterranean Sea, and the Red Sea.

**Each year, SDS carries an estimated average of half a billion tonnes of minerals and nutrients, organic and inorganic matter to the oceans. This desert dust has a range of effects on marine biodiversity. Dust provides a major source of externally supplied nutrients and trace metals.**

Each year, SDS carries an estimated average of half a billion tonnes of minerals and nutrients, organic and inorganic matter to the oceans. This desert dust has a range of effects on marine biodiversity. Dust provides a major source of externally supplied nutrients and trace metals. These elements are essential for all life forms and their atmospheric supply can exert control over ocean primary production via single-celled organisms collectively known as phytoplankton. This key metabolic process drives biogeochemical cycles in the oceans, including the carbon, nitrogen, sulphur, phosphorus and silicon cycles.

The fertilizing effect of desert dust is also thought to have an impact on algal blooms, which are an important food source for marine life, although some—dubbed harmful algal blooms (HABs)—may have detrimental effects on human health and economic activity. Dust deposition may also play a role in the unusually large

blooms of floating Sargassum seaweed mats that have been noted since 2011 in the Caribbean Sea and the Atlantic Ocean along the coastlines of western Africa and Brazil. The cause of these blooms is a matter for debate, but nutrients in desert dust may enhance the growth of Sargassum.

Links have been found between desert dust and coral reef systems. The health of such reefs responds to numerous, frequently interlinked issues, but disease has been important in recent worldwide coral reef declines, and several diseases that affect coral are associated with microorganisms carried in desert dust. Dust deposition may be one of a range of influences that stress coral reefs, reducing their resilience to other factors that can cause their health to deteriorate.

Dust has significant impacts on weather and climate in several ways. One impact probably occurs indirectly via dimethyl sulphide (DMS) released from

*The 'biological carbon pump' results in carbon being sequestered into the oceans from the atmosphere, with consequent feedback effects on climate. This occurs through carbon dioxide and nutrients being transformed into organic carbon, which sinks to the deep ocean, decomposes, and becomes buried in sediment.*

phytoplankton fertilized by iron-rich desert dust, which creates local climate feedbacks via additional cloud condensation nuclei. Dust also exerts indirect impacts on the climate system due to the part it plays in the global carbon cycle—a role stemming from further interactions between desert dust and the microorganisms responsible for primary production. The 'biological carbon pump' results in carbon being sequestered into the oceans from the atmosphere, with consequent feedback effects on climate. This occurs through carbon dioxide and nutrients being transformed into organic carbon, which sinks to the deep ocean, decomposes, and becomes buried in sediment. The Southern Ocean, where primary productivity is limited by iron deficiency, could be particularly important in the operation of the biological carbon pump.

There are still considerable uncertainties around how SDS interact with the oceans and consequences for other parameters of the Earth system. This report highlights critical areas for further monitoring and study and where research can inform appropriate policy development. Understanding SDS and the longrange transport of desert dust to oceans is relevant to the three Rio conventions: The Convention on Biological Diversity (CBD), the United Nations Framework Convention on Climate Change (UNFCCC), and the United Nations Convention to Combat Desertification (UNCCD).

It also has significant implications for several SDGs, particularly SDG 14 on Life Below Water and SDG 15 on Life on Land and demonstrates the interdependencies between the SDGs. This report's publication is timely, coming at the beginning of the United Nations Decade of Ocean Science for Sustainable Development (2021– 2030), as well as the United Nations Decade on Ecosystem Restoration (2021–2030).

Download full report from website: <https://www.unep.org/resources/report/impacts-sand-and-dust-storms-oceans>

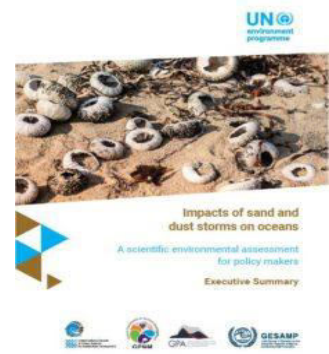


Figure 2 Cover photo: Iuliia Tarabanova at Shutterstock

## Knowledge Update:

### Emissions Gap Report 2020: 1.5°C Goal Requires Green Recovery, 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.*

UNEP’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 per cent 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.

*The report finds that in 2019 total greenhouse gas emissions, including land-use change, reached a new high of 59.1 gigatonnes of CO<sub>2</sub> equivalent (GtCO<sub>2</sub>e). Global greenhouse gas emissions have grown 1.4 per cent 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.*

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 gigatonnes of CO<sub>2</sub> equivalent (GtCO<sub>2</sub>e). Global greenhouse gas emissions have grown 1.4 per cent 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 GtCO<sub>2e</sub>, instead of the predicted 59 GtCO<sub>2e</sub> – 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



Figure 3 Source UNEP

range that gives a 66 per cent chance of holding temperatures to below 2°C, but would still be insufficient to achieve the 1.5°C goal.

*Countries committing to net-zero emissions goals by mid-century is a “significant and encouraging development”.*

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 per cent 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 mid-century 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 per cent 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 decarbonisation and absolute reductions of CO<sub>2</sub>. 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 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.

**Post Source:** <https://www.unep.org/news-and-stories/press-release/green-pandemic-recovery-essential-close-climate-action-gap-un-report>

**Complete Report:** <https://www.unenvironment.org/emissions-gap-report-2020>



## Human Development Report 2020 - The next frontier: Human Development and the Anthropocene

*“Thirty years ago, UNDP created a new way to conceive and measure progress. Instead of using growth in GDP as the sole measure of development, we ranked the world’s countries by their human development: by whether people in each country have the freedom and opportunity to live the lives they value.”*

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.

*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.*

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.

Retrieved from <http://hdr.undp.org/en/2020-report>

Online Report at <http://report.hdr.undp.org>

## UN report highlights links between ‘Unprecedented biodiversity loss’ and spread of disease

*“The continued degradation of the environment is increasing the likelihood of diseases spreading from animals to humans, warns a UN report on biodiversity”*

*“The fifth edition of the UN’s Global Biodiversity Outlook report, published by the Convention of Biological Diversity (CBD), provides an authoritative overview of the state of nature worldwide. The report notes the importance of biodiversity in addressing climate change, and long-term food security, and concludes that action to protect biodiversity is essential to prevent future pandemics.”*

### Wake-up call

The study acts as a wake-up call, and an encouragement to consider the dangers involved in mankind’s current relationship with nature: continued biodiversity loss, and the ongoing degradation of ecosystems, are having profound consequences of human wellbeing and survival.

“As nature degrades,” said Elizabeth Mrema, Executive Director of the Convention on Biological Diversity, “new opportunities emerge for the spread to humans and animals of devastating diseases like this year’s coronavirus. The window of time available is short, but the pandemic has also demonstrated that transformative changes are possible when they must be made.”

*“As nature degrades,” said Elizabeth Mrema, Executive Director of the Convention on Biological Diversity, “new opportunities emerge for the spread to humans and animals of devastating diseases like this year’s coronavirus. The window of time available is short, but the pandemic has also demonstrated that transformative changes are possible when they must be made.”*

### Ten-year targets missed

This year’s study is considered to be particularly significant, because it serves as a “final report card” for the Aichi Biodiversity Targets, a series of 20 objectives set out in 2010, at the beginning of the UN’s Decade on Biodiversity, most of which were supposed to be reached by the end of this year.

However, none of the targets – which concern the safeguarding of ecosystems, and the promotion of sustainability – have been fully met, and only six are deemed to have been “partially achieved”.

“Earth’s living systems as a whole are being compromised”, said Ms. Mrema, “and the more humanity exploits nature in unsustainable ways and undermines its contributions to people, the more we undermine our own well-being, security and prosperity.”

Although the lack of success in meeting the targets is a cause for concern, the authors of the Outlook are at pains to stress that virtually all countries are now taking some steps to protect biodiversity, without which the state of the world’s biodiversity would be considerably worse.

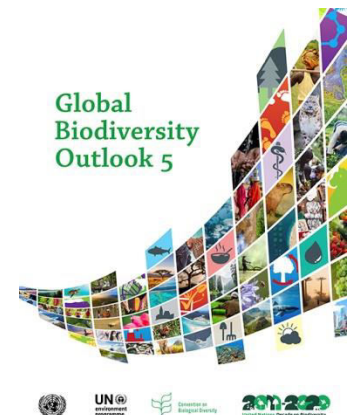


Figure 4  
<https://www.unenvironment.org/resources/report/global-biodiversity-outlook-5-gbo-5>

The bright spots include falling rates of deforestation, the eradication of invasive alien species from more islands, and raised awareness of biodiversity and its importance overall.

However, this encouraging progress can't mask the fact that the natural world is suffering badly, and that the situation is getting worse. Financing is a case in point: funding for actions linked to biodiversity has been estimated at between \$78 - \$91 billion per year, way below the hundreds of billions needed.

And this figure is dwarfed by the amount of money spent on activities that are harmful to biodiversity, including some \$500 billion for fossil fuels, and other subsidies that cause environmental degradation.

### **Transitions to a healthier planet**

Contained within the report are several recommendations, or “transitions”, which map out a scenario for a world in which “business as usual” is halted, and environmental devastation is reversed.

Under the proposals, ecosystems would be restored and conserved; food systems would be redesigned to enhance productivity, whilst minimizing their negative effects; and the oceans would be managed sustainably.

The design of cities also comes under the spotlight, with calls for a reduced environmental footprint in urban areas, and “green infrastructure”, making space for nature within built landscapes.

The report amplifies the UN's support for nature-based solutions, hailed as one of the most effective ways of combating climate change. Alongside a rapid phase-out of fossil fuel use, they can provide positive benefits for biodiversity and other sustainability goals.

And, in relation to health concerns, and the spread of diseases from animals to humans, the report calls for a “One Health” transition, in which agriculture, the urban environment and wildlife are managed in a way that promotes healthy ecosystems and healthy people.

Reacting to the report, UN chief António Guterres said that the transitions represent an unprecedented opportunity to “build back better”, as the world emerges from the immediate impacts of the COVID-19 pandemic:

“Part of this new agenda must be to tackle the twin global challenges of climate change and biodiversity loss in a more coordinated manner, understanding both that climate change threatens to undermine all other efforts to conserve biodiversity; and that nature itself offers some of the most effective solutions to avoid the worst impacts of a warming planet.”

<https://news.un.org/en/story/2020/09/1072292>

*Nature-based solutions, hailed as one of the most effective ways of combating climate change. Alongside a rapid phase-out of fossil fuel use, they can provide positive benefits for biodiversity and other sustainability goals.*

## Miscellaneous

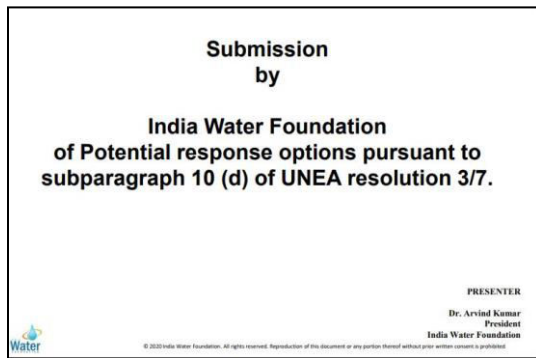
### 13 November 2020:

As an endorsement of our efforts towards conservation of Environment, Nature and Biodiversity, India Water Foundation is delighted to be a member of IUCN. We commit ourselves 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\\_ODjyxpghinSQj6sZeE4wiJKT0mHcQA](https://www.focusglobalreporter.org/india-water-foundation-of-potential-response-options-pursuant-to-subparagraph-10-d-of-unea-resolution-3-7/?fbclid=IwAR2ZbXsC33jJ6tFJ1USC-Lzj05f4_ODjyxpghinSQj6sZeE4wiJKT0mHcQA)



### 23 October 2020:

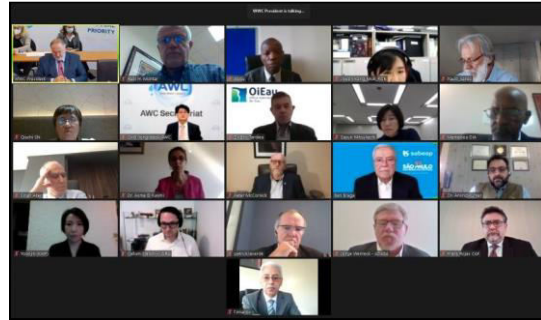
IWF in collaboration with UNEP brought forth for the first time distinct and diverse perspectives on Biomedical Liquid Waste which at present is affecting us, especially the medical fraternity at large. We are overwhelmed by your support and responses received from corners of the world. Understanding the constraint of platform space, participants keen to join were left behind, hence we put forth the recording of the High Level Webinar for your kind perusal. Thank you Excellency, Dignitaries, Speakers and Virtual Audience for attending the high level webinar on 'The Future of Liquid Waste Management amidst COVID-19: What lies ahead?' on 23 October amidst your busy schedule. [https://youtu.be/nm\\_5IYXrZF4](https://youtu.be/nm_5IYXrZF4)





## 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.



## 30 October 2020:

Dr Arvind Kumar in a talk with Dr. Simi Mehta nuanced on Ecosystem Restoration through Ecosystem Based Approach. The talk was 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. 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) For the complete presentation Please go to Live Video: <https://www.facebook.com/impriindia/videos/1332588240582553>, YouTube: <https://youtu.be/lpIOyw19xds>

An event poster for a talk titled 'The State of the Environment' under the '#PlanetTalks' series. The poster features a background image of a rocky riverbed with green trees in the distance. Text on the poster includes: '#WebPolicyTalk' in a yellow box; 'Center for Environment, Climate Change and Sustainable Development (CECCSD), Impact and Policy Research Institute (IMPRI), New Delhi India Water Portal and Department of Energy and Environment, TERI School of Advanced Studies'; 'Invite you to The State of the Environment #PlanetTalks with Dr Simi Mehta'; 'Topic: Ecosystem Restoration through Ecosystem Based Adaptation Approach'; 'Speaker: Dr Arvind Kumar, President and Founder, India Water Foundation, New Delhi'; 'October 30, 2020, Friday 16:00 IST (GMT+5:30)'; and social media links for LinkedIn, Facebook, Twitter, YouTube, and Instagram. Logos for India Water Portal, IMPRI, and TERI School of Advanced Studies are also present.



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 un-

der 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=IwAR16xourzhfFbkkYrGOdV2B6leQuZ7sf5veJpt1oLmHxTyVYfsJ8PnNNwIU>

23 September 2020:

Dear Jalmitra we are delighted to be a member of the Global Partnership on Marine Litter (UNEP) and take this opportunity to thank the Secretariat GPML. 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](http://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 चाटर् फाउंडेशन के अध्यक्ष डॉ. अरविंद कुमार रहे। उन्होंने कहा कि शिक्षा नीति में आती-भक्त 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 माधुर 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 द्वांचे में आमूल परिवर्तन की बात कहीं नहीं है। अलीगढ़ मुस्लिम विश्वविद्यालय की

असिस्टेंट प्रो. डॉ. तरुणिका सर्वेश ने राष्ट्रीय शिक्षा नीति से वितीयन, सामाजिक न्याय तथा बहिष्कार के मुद्दों को उठाया। युवा समाज वैज्ञानिक डॉ. अखिलेश पाल ने अम्ल भाषा के वर्चस्व पर प्रकाश किया। प्राचार्य डॉ. ममता शर्मा ने सभी का आभार जताया। संचालन वेबिनार के संयोजक डॉ. पुष्पेंद्र कुमार मिश्र ने किया। इस अवसर पर ज्ञानप्रकाश तिवारी, डॉ. अमित, भूषण द्विवेदी, अवधेश कुमार सिंह, पीयूष त्रिपाठी, डॉ. विनय कुमार सिंह, संदीप सिंह, भवनीत बत्तार, विनीता, हरिदत्त शर्मा आदि मौजूद रहे।

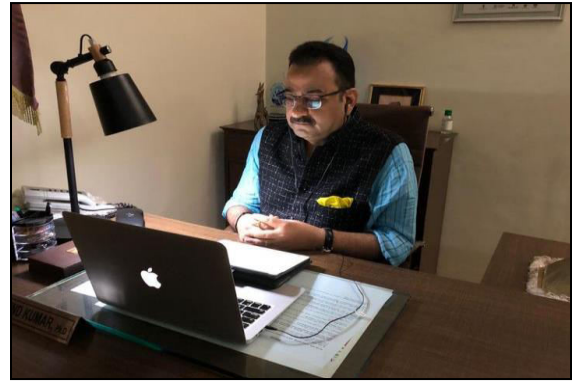
“NEP rightly focuses on qualitative learning and productive outcomes, going a mile towards Saksham Bharat” highlights Dr. Arvind Kumar, President, India Water Foundation as Chief Guest during a webinar discussion on ‘New Education Policy’ 2020 by DNPG College, Gulaothi, Bulandshahr, UP on 13th September 2020 from 11:30 – 14:30 Hrs. 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:**

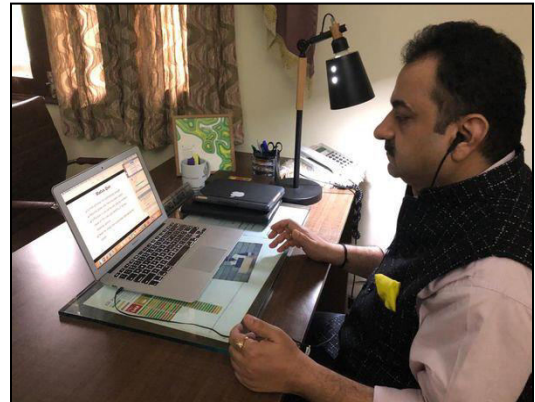
“There is need to tackle plastic wastes at Upward Source near the ‘Coasts’ rather than pathways Rivers or high destination Seas” Dr. Arvind Kumar President India Water Foundation highlighted during his intervention at the virtual Asian Pacific Regional Consultation Meeting under UNEA Adhoc open Ended 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 making 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 15<sup>th</sup> August 2020.



**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'

24 July 2020

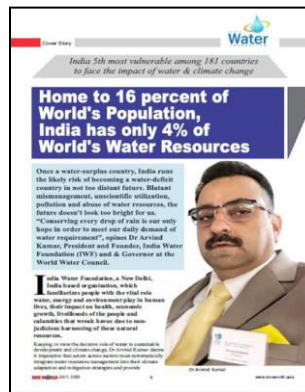
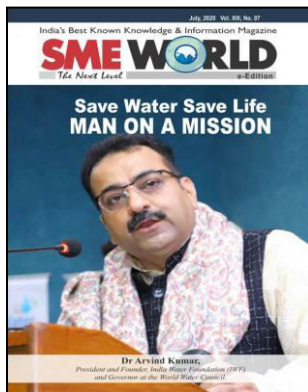
‘The River Ganga, lifeline to 450 million people and the people of India are attached religiously, spiritually and emotionally and Dr Acciavatti’s book shall convincingly unveil a breakthrough for policy makers, academic researchers and Government towards better understanding the precision mapping and dynamics of the Ganges river’. 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:

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>



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 साझा 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। व्यूरो

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.

**SIKKIM EXPRESS**  
OF THIS LAND, FOR ITS PEOPLE

## Sikkim, the gateway to North-East prosperity

**Dr. ARVIND KUMAR**

terrestrial ecosystem highlights that "Growing human pressure is degrading land globally and climate change is adding to these pressures and Humanity needs to manage land more efficiently to avoid a climate breakdown". There have been recent calls for innovative policies that support a transformation of food systems in India and the Himalayas, which would help the country to achieve its land degradation neutrality target and improve living conditions of people affected by desertification. Long before the Swachh Bharat Abhiyan was launched in 2014, Sikkim became India's first open defecation free state in 2008 as the state government and local population collaborated to construct toilets and together maintain a strict discipline against open defecation. Highlighted by Brundage, Thakur, Executive Secretary, UN Convention to Combat Desertification (UNCCD) during COP14 UNCCD 2019 Honorary Sikkim and Bhutan show with their 100% organic goals that such a transition is possible and we can learn many lessons from their exemplary actions on policy-making".

Sikkim won the world's first organic state award by defeating 51 nominated policies from 25 countries termed the award as the "OGC\_AK" in the field of the sustainable food system and best policy-making in 2018, highlighted in our Hon'ble Prime Minister Shri Narendra Modi's "Mann Ki Baat". Truly, Sikkim has set a precedent for the country to incorporate 100% organic agriculture to combat land degradation by capitalizing on the early success of organic rich farming and a transition to sustainable food and agriculture systems is critical for a sustainable future for India.

The state is increasingly witnessing anthropogenic pressures such as growing population, rising consumption, urbanization and energy needs amalgamated with climate change impacts threatening the stability of these ecosystems, vital to water and food security. Human interference especially influx of tourists may have led to a imbalance, resulting in ecological disturbance. Further, certain areas are affected both by floods and droughts and around 33.03% of soil degradation is affected by water erosion. A recent report by the NITI Aayog states that nearly 30% of the springs in the Indian Himalayan region are drying while 50% are discharging less water than a few years ago. This is because average annual rainfall in Sikkim is 3000 mm, but this huge rainfall is concentrated only in monsoon months. In contrast during non-monsoon months, most of the rain-fed surface sources and spring sources get dried up leading to water scarcity, which is a major problem in as the people living in these areas with highly variable rainfall, experience droughts and floods and often have insecure livelihoods.

In Sikkim, over 80% of the rural households depend on dhara for drinking water. As a robust climate adaptation strategy for drought-prone districts, schemes like Dhara Vikas (spring-shed development), is helping alleviate the problem of rural water scarcity by reviving and maintaining the drying springs in the State ensuring water security by breaking the cycle of abundance and scarcity of water. Protecting and preserving existing water bodies i.e. lakes, small ponds, water streams for retaining water source arising out from natural springs, glaciers and rainfalls to utilize it for water supply for drinking must be the call for action.

In the year 2017, Sustainable Water Supply Management and Livelihood Improvement in the State of Sikkim was undertaken under Sikkim's Flagship Comprehensive Water Resources Plan (SCWRP) with India Water Foundation, New Delhi based civil society & think tank signing an Memorandum of Understanding on cooperation in the field of water resources, environment, sustainable development between Water Security and PHEED, Government of Sikkim. Since 2016, India Water Foundation is helping in number of sectors including capacity building, training, workshops, technical knowhow and coordination with others. The Foundation stimulated an opportunity towards sustainability of drinking water supply sources, capacity building and information dissemination, affordable technology intervention in designing and operationalization of water supply systems-its sources & delivery systems, planning with an all inclusive approach by involving critical stakeholders and focus on water availability and quality by strengthening water supply and quality monitoring infrastructure. We also provided technological interventions and expertise on engineering support for resource monitoring and modeling, awareness and implementation of best water management practices and technologies like water harvesting, securing the water quality for optimized water use efficiency.

Livelihood improvement in the State of Sikkim can be strengthened by making water available throughout the year for drinking purposes. Creation of infrastructure for providing drinking water to urban areas can lead to improvement in quality of life by addressing water, sanitation, health issues. In order to achieve the goal of storing water for multiple purposes through a community led participatory approach, attempts must address the principles of Sustainable Water Management. As pioneering step towards eco-friendly initiatives, strategies for water conservation must be leveraged to make water available first towards sustainable use as well as adapt to the climate change phenomenon. In short, comprehensive water management must call for holistic, integrated and efficient management for sustainable management of the State's water resources.

In addition, the Northeast comprising Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura is endowed with rich forest resources. Forestry has been the major land use and mainstay and throughout 2020 suggests towards "Food Feed Fibre", we must find solutions to the problems faced by humankind in the natural world, and in doing so, we will ultimately align our interests with the protection of nature. This is important since Sikkim is facing land degradation, non-availability of water and forest loss which are the three different facets of the same central challenge i.e. climate change. The state of Sikkim possess leadership, determination, political will and community participation, "Home to talented and compassionate people, Sikkim has enriched national progress in many sectors. Praying for Sikkim's progress in the years to come, emphasized by Prime Minister Modi.

(The author is President, India Water Foundation)

"A country's prosperity depends on water availability & quality and must begin with a new paradigm of moving towards Cooperation, Convergence and Collaboration efforts and an integrated approach should be a cornerstone of water resource management in India" highlighted Dr. Arvind Kumar 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 2020 from 3-5 pm. The webinar distinctly reflected a nuanced perspective of managing our current water resources to help us Build Back Better in the pandemic era.





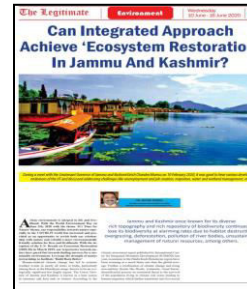
**12 June 2020:**



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



**4 June 2020:**

Online dialogue "**75 Minutes of Conversation: Rethinking Our Climate**", organized by the [United Nations Academic Impact \(UNAI\)](#), that will take place on Thursday 4 June, from 10:00 p.m. to 11:15 p.m. EDT (Friday 5 June, 11:00 a.m. to 12:15 p.m. KST), within the framework of the [75<sup>th</sup> anniversary of the United Nations](#).

**CONFIRMED SPEAKERS**



- Mr. Ban Ki-moon, Eighth United Nations Secretary-General
- Ms. Amida Salsiah Alisjahbana, Under-Secretary-General of the UN and Executive Secretary of ESCAP
- Ms. Yoonhee Hwang, Director of the Association of Korean Universities in Support of UNAI
- Dr. Ducksu Seo, Assistant Professor, Department of Spatial Environment System Engineering, Handong Global University, Republic of Korea
- **Dr. Arvind Kumar, President of the India Water Foundation**
- Ms. Jueun Han, Handong Global University, Republic of Korea

**Water** **Catch the Rain**

उत्तम गुणवत्ता वाले पानी की कमी विन्ता का कारण है।  
 यद्यपि शुद्ध और अच्छी गुणवत्ता वाला वर्षा जल शोध ही यह जाना है।  
 परन्तु यदि इसे एकत्र किया जाये तो जल संकट पर नियंत्रण पाया जा  
 सकता है। वर्तमान जल संकट को देखते हुए यही एक मात्र विकल्प है।

**Dr. Arvind Kumar**  
 President  
 India Water Foundation

India Water Foundation a non-profit Organisation engaged in generating  
 heightened public awareness regarding vital role water plays in the people's lives  
 and impacting human health, economic and environmental sustainability.

**Water** **Catch the Rain**

India is a country of bountiful rainfall but  
 vagaries of climate change has consistently  
 resulted in water cycle disequilibrium. In order  
 to catapult every drop of rain, we must first  
 'Catch a fist of Rain'.

**Be a Smart Citizen &**  
**Think**  
**Act** → **Water**  
**Save** →

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**Water** "Rain water is the cornerstone of sustainable  
 development Path to Gain SDG6"

**Catch Every Drop : Preserve, Protect & Conserve**

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**Water**

**As Water Insecurity is on rise, Catch the Rain is a  
 win-win solution towards Water Security.**

Let's ambitiously scale efforts to preserve per drop every drop

#ACTNOW #CATCHTHERAIN

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**Water** "SAVE & SUPPORT Rain Water Harvesting"

**Every Drop Count !!**

**Rain is a natural asset that ensures co-benefits to people,  
 planet and Prosperity. Catch the rain to go nature  
 positive & be a water secure nation.**

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**Water** **Catch the Rain**

**WATER is elixer of LIFE**

Usher the power of Rain to Catch every  
 drop to recharge our natural aquifers, a key  
 driver to advance cascade of judicious  
 utilization of natural resources, revive  
 traditional water management and  
 strengthen water security.

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**Water**

Harvest the Rain from Heaven  
 Embrace a hopeful Earth by  
 'Saving Every Drop'

#GoGreen #BuildBackBetter

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**Water**

**Catch the Rain**

Spectacular raindrops amidst the monsoon beauty is a gift of nature.  
 Let's not WASTE , rather make it WORTH by conserving every Inch of rain

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