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UN World Water Report 2020: Water and Climate Change Report Review

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The spread of the novel coronavirus disease as a global pandemic has been a detractor in the past few months, it is important that we do not lose our focus on climate change and its long-term impacts on our environment. The World Water Report 2020 makes a very important connection between water and climate change impact on society and economy at large. It demonstrates the symbiotic relationship between water and climate, recognizing the fact that we must move beyond technically focussing on the hydrological cycle. Bridging the gap in knowledge production between hard and soft sciences, policy and practice, people's cultural attitudes and social practices and more important recognizing slew of measures that needs to be in place to tackle the problem of climate change. Water is essential to human life and livelihood but it is severely strained and unequally distributed because of human action and the caprices of weather pattern triggered by climate change events such as el Niño, forest fires, drought and deluge that are becoming common across the globe affecting poor and rich nations alike.

The report highlights the actions that can be taken collectively by engaging with a variety of stakeholders, institutions, government and citizens using new technologies, knowledge of water use and institutional measures that would guide policy and practice. The report focuses on linkage of water to multiple Sustainable Development Goals (SDGs). These include those related to zero hunger (SDG 2), availability and access to water (SDG 6), climate action (SDG 13), and promoting the sustainable use of ecosystem services (SDG 15). Sustainable

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use and distribution of water is closely interlinked with these SDGs. How to achieve this is a trick question that governments, policymakers, scientists, need to explore based on past experiences and future roadmaps developed in the report. The report encapsulates a variety of measures that have been implemented in different parts of the globe and their effectiveness in sustainable use of water that could help in reducing the challenges of climate change.

Within its 230 pages, the report crosses over fourteen chapters focusing on the challenges, opportunities and potential responses to climate change – in terms of adaptation, mitigation and improved resilience – that can be addressed through improving how water resources are managed and used, while providing water supply and sanitation services for all in a sustainable manner. In doing so, the report tackles two of the most critical crises the world will continue facing over the next several decades: 'Water (in)security' and 'climate change'. The first challenge discussed in the report is an obvious and most fundamental one- availability of water.

As the report suggests, "Global water use has increased by a factor of six over the past 100 years and continues to grow steadily at a rate of about 1% per year as a result of increasing population, economic development and shifting consumption patterns. Combined with a more erratic and uncertain supply, climate change will aggravate the situation of currently water-stressed regions and generate water stress in regions where water resources are still abundant today" (p. 14).

Therefore, it is imperative that we bring significant changes to our lives and ways of using water resources. One way of doing this in farmlands is to adopt innovation that have links to grassroots movements. For example, in India the popularization of Zero Budget Natural Framing (ZBNF) among smallholders is a major shift in agrarian policy in the past six decades from water intensive Green Revolution technologies that has ensured

sustainable water use in parched semi-arid landscapes of central India and brought higher income to smallholders who can save on overheads: fertilizers, irrigated water and pesticides. Similar experiences are shared based on organic vermin culture in China and Africa, strategies that are close to local people's culture and knowledge systems. The way forward is Climate-Smart Agriculture (CSA). It is a recognized suite of well-informed approaches to land and water management, soil conservation and agronomic practice that sequester carbon and reduce Green House Gas (GHG) emissions. CSA practices help to retain soil structure, organic matter and moisture under drier conditions, and include agronomic techniques (including irrigation and drainage) to adjust or extend cropping calendars to adapt to seasonal and inter-annual climate shifts.

Water is not directly mentioned in the Paris Agreement, but its centrality in sustainability issues cannot be underestimated. Therefore, the report focus on the interfaces water has with other SDGs that are linked with health, hygiene and sanitation. Water also features prominently in disaster risk reduction (DRR) literature. The range of available climate change adaptation and DRR strategies includes hard (structural) and soft (policy instruments) approaches. It includes addressing social issues such as mainstreaming gender concerns within water policy framework not just as a lip service but to effectively engage with the challenges faced by women particularly in sub-Saharan Africa and other parched areas of the globe.

The report calls for a nexus approach developed by a consortium of academics from the United Kingdom to deal with climate change challenges. The nexus approach is a new philosophy that deals with the interaction of various factors leading to climate change mitigation. For example, the use of photovoltaic cells to transfer water for irrigation through precision farming that increases the efficiency of water use and at the same time reduces the burden on conventional energy consumption.

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One of the ways in which the report focuses on grassroots involvement is through the promotion of citizen science that will come to aid expert knowledge on water resource management such as flood proofing. As the report suggests, "Citizen science and crowdsourcing have the potential to contribute to early warning systems and to provide data for validating flood forecasting models" (p. 20).

According to the report, the way forward is to have equitable, participatory, multi-stakeholder approach to water governance in the context of climate change. In South Asia for example, countries like Bangladesh where arsenic pollution is a major problem for the poor to access safe drinking water, community based organizations like *Nijer Kori* have evolved *Sahoj* forms of agriculture that are based on community initiative co-operative farms that focus on food sovereignty rather than food surplus for the market. In this way, community-based initiatives can secure water of villages and their aquifers. Correspondingly, a project launched by UK universities funded by Global Challenge Research Fund (GCRF) called the South Asia Nitrogen Hub focuses on reducing the nitrogen load on South Asia's agriculture. This would mean moving away from water intensive farming and reinventing new techniques and methods of sustainable farming across South Asia fostering learning from each other's experience.

The need for greater cooperation between the water and climate communities exists beyond the realm of scientific research. On the one hand, it is imperative that the climate change community, and climate negotiators give greater attention to the role of water and recognize its central importance in addressing the climate change crisis. On the other hand, it is essential that the water community focuses its efforts to promote the importance of water in terms of both adaptation and mitigation, developing concrete water-related project proposals for inclusion in nationally determined contributions (NDCs), and strengthen the

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means and capacities to plan, implement and monitor water-related activities in NDCs.

The report has gone a long way in shifting its focus from governments to civil society and community involvement in water resource management supported by institutions and policy frameworks that are collaborative, bottom-up, gender sensitive, stakeholder-based and participatory. Yet there is a lack of conviviality when we look at questions of knowledge production for the management of water resources. There is also deficiency of care for the environment. Experts still call the shots at policy board rooms and during the planning and implementation phases of technologies and programmes. Local stakeholders join to build consensus. Empowerment is enshrined as a principle that gets is merit from the top administration. The communities who live on parched landscapes are still at the margins of decision making. I am buoyant that the next report will reflect on these concerns and take local knowledge of the community more seriously by acknowledging the plurality of ideas in knowledge production while finding solutions for climate change.

The COVID-19 pandemic has further raised alarm bells to the impending crises that global warming can pose to our environment and water resources. The lock down during the pandemic has been disadvantageous for the global economy and financial markets but it has been liberation for the global environment with less polluted water bodies and clean drinking water that humanity has long wished for. This report does propose a series of practical responses, in terms of policy, financing sustainable water use and practical community based action on the ground, to support both regional and transnational objectives and individual aspirations to achieve a sustainable and prosperous world for all.