Communique from:

Consultation on Climate Adaptation & Services for Water, Food, & Health Security

20-21st April 2017

www.wotr.org

In the context of a changing climate there is tremendous potential for leveraging the vast knowledge generated in the field of research towards supporting vulnerable communities and groups as they adapt to the stresses and challenges emerging from climate change. However, in order to achieve this it is necessary to overcome the barriers that stand in the way of translating knowledge into action. Key barriers to effective climate change adaptation are the lack of systematic knowledge, low levels of research-policy interactions and lack of successful business models which limit our ability to design policy, programmes, and services that enable households, farmers, communities, cities and regions to adapt to the challenges of climate change. Reducing these barriers requires closer interaction among researchers and those stakeholders (public, private and individuals) who determine how adaptation will finally occur.

In a step towards addressing these challenges, the Watershed Organisation Trust (WOTR) through its newly established Centre for Resilience Studies (W-CReS) in collaboration with Wageningen University and Research (WUR) and with support from the European Commission, Canada's International Development Research Centre (IDRC), the UK Department for International Development and the Hindustan Unilever Foundation, hosted a Consultation on the 20th-21st of April 2017 at the Four Points by Sheraton, Pune, with the goal of assessing existing synergies and disconnects between climate adaptation and services and enabling the formation of linkages between researchers and stakeholders. The event, over a period of two days, focused on climate change adaptation and climate services in the context of water, food and health security. The event presented a forum where researchers from India and Europe interacted with stakeholders from government agencies, NGOs, civil society, the private sector and innovative small and medium enterprises in order to facilitate an exchange of knowledge and to develop new partnerships. This Communique summarises the key recommendations that emerged from the three thematic areas around which the consultation was organised.

Water Security across Scales

Schemes and programmes related to water resources in India continue to emphasize surface water resource development, which is biased towards large scale surface irrigation projects. One s to relook at this approach, especially given the uncertainties associated with climate change and variability and the widespread and growing reliance on groundwater resources. This has resulted in worrying declines in groundwater levels that require concerted and urgent steps to be taken.

- PMKSY's (Pradhan Mantri Krishi Sinchayee Yojana) goal of '*har khet ko paani*' "water for every farm". At present, groundwater accounts for over 60% of irrigated area in the country. It is imperative that attention should be given to the sustainable and equitable management and regulation of groundwater particularly given that groundwater resources are declining rapidly.

- While climate change is a pressing concern, this should not blind us to the reality that many impacts attributed to climate change are actually consequences of lacunae in development practice and governance.
- Groundwater management is being viewed as a sectoral issue and the nexus between groundwater extraction, food production and energy consumption is not being adequately addressed. There is a need for developing a strategy that integrates issues and concerns across these sectors if we are to arrive at win-win situations.
- Legislation and policy that recognizes the relationship between surface and groundwater should be developed and effective rules, strategies, institutional mechanisms and financial and other resources that help the implementation should quickly follow.
- It is necessary to explore innovative solutions that draw from socio-technical innovations, such as the model of farmer run co-operative solar grids, as well as stratagems like standards and certification such as Alliance for Water Stewardship (AWS), Better Cotton Initiative (BCI), Water Governance Standards that encourage behavioural change by providing appropriate incentive systems and an objective basis for making financial allocations, investment decisions, grants and awards by provisioning agencies in the public, private, and civil society sectors.
- There is a need to find ways to reconcile differences between administrative and hydrological boundaries. In the context of groundwater, efforts should be made to develop aquifer based strategies that are socially viable. Furthermore, mechanisms should be designed to enable river basin management through interstate co-operation.
- Water footprints calculated at multiple scales (village, block, district, state) is needed to enable us to take stock of situation on the ground. This will support decision making in the context of drought mitigation and building resilience and adaptive capacities.
- Civil society groups should come forward to establish with the government of India, ministry of agriculture a database that brings together relevant field and experience based data and information in the field of food, water, and health security in the context of climate change.

Food Security and Agriculture

In order to ensure food security, it is necessary to provide farmers and stakeholders across scales with informational and technical support that will enable them to respond to the challenges of climate change. Innovations in the field of information technology can play an important role here.

- Providing weather information and advisories to farmers is key to sustaining agricultural productivity and reducing losses.
- Processes and arrangements that facilitate real time feedback from end users and periodic evaluation by third parties will greatly contribute to improving the efficacy of climate and weather services, particularly advisory services.
- While significant advancements have been and continue to be made in the field of weather advisories and related services, climate predictions over longer time scales relevant to the local level remain under developed. There is a need for more research at the spatial scale.
- There is urgent need of coordination among technical national organization such as India Meteorological Department (IMD), Indian Space Research Organisation (ISRO), Indian Council of Agricultural Research (ICAR) and others and collaboration with private sector, civil society, and farmer groups so that usable, effective and affective advisories can be generated at appropriate scale in order to meet end user and policy needs. Partnerships and other collaborative initiatives that enable the co-evolution of knowledge need to evolve.

- While multiple data sets that can assist decision making exist, access to these is limited. There is urgent need to review policies regarding data and information that inhibit collaboration and the free flow of data and information.
- When we talk about resilience in agriculture we need to go beyond simply the resilience of crops but also the resilience of agrarian systems.
- There is a need to revive traditional agricultural extension services and integrate them with innovations in information technology to enable widespread dissemination and uptake of climate resilient agricultural practices.
- The scientific community strongly recommends the development of “arboreum" – a variety of indigenous cotton that matures along with the tapering rainfall, inherently suited to dry conditions and is economically viable.
- The choices and combinations for farmers for fertilizers and pesticides must be simplified to make it more comprehensible for the farmers.
- The actions proposed to address agriculture and food security concerns are also consistent with those concerning the Sustainable Development Goals (SDGs).

Health Security and Heat Stress

Large areas in India (rural and urban) are affected by high temperatures with the true health burden (short and long-term) still often neglected or underestimated. Heat stress disrupts human activities, leading to not only increased mortality and morbidity, but also to loss of productivity and economic activity; here the poor are particularly vulnerable. Action is needed to prevent death, disease and disruptions of livelihoods in urban and rural areas appropriately. Experience in taking action in dealing with heat stress in India is growing (especially in urban areas) which has demonstrated that these actions are effective. Finally, actions on addressing heat stress are consistent with those concerning the SDGs. With this background the following areas have been identified for further exploration in the realms of research and practice.

- While heat stress in urban areas is beginning to receive more attention the impacts on rural areas are still under-researched.
- Health data needs to be better documented and be made more easily accessible to researchers
- Efforts are required to communicate messages to vulnerable groups and decision makers so as to create awareness and support protective action. Here a social marketing approach might be a way forward to reach people better.
- Workers exposed to extreme heat need to be protected better by means of financial safety cards and safety regulations
- In the context of climate services, heat thresholds must be defined for each district to assist decision making and effective responses.
- A more systematic approach to mitigate heat stress at district level is needed. This should necessarily include actions towards:
    - Identifying who will be affected and how through vulnerability assessments
    - Mapping heat stress and its development
    - Development of prevention and response plans that integrate heat stress maps and vulnerability assessments. These should be developed through a multi-stakeholder approach. This must involve multiple disciplines and sectors (water, agriculture, health, land use change, medical, social science, climate and epidemiology, urban planners etc.)