Global Water Partnership South Asia

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POLICY BRIEF: IMPROVING ADAPTATION CAPACITY OF COMMUNITIES TO FACE THE CLIMATE-INDUCED CHALLENGES IN WATER MANAGEMENT: *THE WAY FORWARD*

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WHY COMMUNITIES ARE IMPORTANT IN CLIMATE CHANGE ADAPTATION IN SOUTH ASIA?

The high level of vulnerability of South Asia to climate change is resulting from several factors, many of which are population-related. Five of the twenty megacities of the world are located in South Asia. South Asia is home to three of the most densely populated river basins in the world—the Indus, Ganges, and Brahmaputra—which support an estimated 700 million people. The cooperation amongst the South-Asian regional countries for preparation and dissemination of meaningful flood and drought forecasting in the Ganges, Brahmaputra, Meghna river basin areas to save the life and living of millions of downtrodden people still remains a far cry.The Water Security Index for South Asia 1.6 (ADB's Asia WaterDevelopment Outlook 2013) confirms the region as a hotspotwhere, populations and economies are being adverselyimpacted by poor water security. Location-specific drinking water scarcity has already been experienced by climate vulnerable people and communities in many parts of South Asia. Natural resources of the sub-region are highly disproportionate to the population; about a quarter of global population residing in South Asia depends on less than five percent of land and water resources of the world, causing a lot of stress on the resources. About 70% of the South Asians living in rural areas are heavily dependent of water for a living. Climate change will result in decreasing the gross per capita water availability in all the South Asian countries and water-stress in a large part of the region before 2050. Domestic food security is linked to what the small farmers produce, and the current projections indicate that the cereal production in South Asia will decrease up to 30% by the end of this century, due to climate change. This results in conflicting and challenging problems for policy makers. The people who migrate away from rural poverty may find themselves walking into an urban poverty trap. Many of the urban poor constitute daily wage earners, who may find increased unpredictability of weather interfering with their livelihoods.

WOMEN AND CHILDREN ARE AMONG THE MOST VULNERABLE!

The social economic and political constraints can make some sectors of the society more vulnerable than others. Cultural norms sometimes decide the woman's dress, which reduce her mobility during extreme events. Women are further constrained in opportunities to be trained in activities such as swimming. Their limited access to resources including income and land can increase their exposure as well as decrease their adaptive capacity both during and following disasters.The vulnerability also increases due to inadequate knowledge and skills on coping capacities. In many parts of the region, the responsibility for fetching water, household cleanliness etc, usually falls on women

and girls. The decreasing quality and quantity of drinking water increases their burden. Women are normally the custodians of children, and during disasters, both women and children become the most vulnerable.

COMMUNITIES ARE AN OPPORTUNITY TOO

Communities are an important factor in the climate change adaptation strategies of South Asia, not just because they are highly vulnerable to the impacts, but they have the capacity and potential to positively contribute to the adaptation process.

• Communities are better aware of localized impacts of climate change, such as groundwater occurrence and recharge, drying up of springs etc.

• Some of the climate change impacts are not readily understood or foreseen by scientific observations. Aspects such as increased production costs due to declining groundwater table and its deteriorating quality are already experienced by the communities, and should be addressed by the adaptation strategies

• Adaptation options have to be locally suitable, affordable and acceptable to the community. Community participation in the planning stage enhances the sustainability of the adaptation activities.

Quite often, the community-focused actions can result in "no regret" solutions. People live in less productive and vulnerable areas due to various reasons including poverty, and their resettlement would contribute to poverty alleviation. A resilient community would require the empowermentof the most vulnerable people and the removal of gender-based social and cultural barriers. Efficient and climate-smart agricultural practices and empowerment of the vulnerable sectors would improve their adaptation capacity, uplift their social and economic status and sometimes contribute to climate change mitigation.

The importance of communities in meeting the challenges of climate change and food security is increasingly getting recognized and many countries have made initiatives to incorporate them in adaptation strategies. As the economies of South Asia are stressed to meet the rising costs of adaptation, the involvement of the communities is seen as a method to "release of social capital".

RECOGNITION OF THE COMMUNITIES IN NATIONAL POLICIES

Policy and institutional support for incorporating the communities into the climate change adaptation process is important for several reasons. For example, temperature increases and erratic rainfall pattern requires farmers to change their planting and harvesting periods. While farmers are aware of such changes at the micro level, macro-level water releases, access to credit, machinery and infrastructure should be in place for them to implement such changes. Furthermore, reduction in production due to direct impacts such as floods and droughts, as well as indirect impacts like crop diseases and pest attacks can drive communities away from agriculture, thus upsetting the national food security targets. Poliies and institutions should allow vulnerable and disadvantaged and marginalized groups to enter the mainstream. Some examples of the current policy initiatives in South Asia are as follows:

- Bangladesh Climate Change Strategy and Action Plan (BCCSAP) assign a high priority to support rural communities to strengthen their resilience and adapt to climate change.

- Bhutan's water policy recommends that, due to the central role of women as managers and users of domestic water, they shall be involved in planning, development and management of water resources programs. The vital role of media and NGOs in promoting climate change adaptation at the grassroots, and the need for building on traditional knowledge on coping mechanisms in the agricultural sector, are recognized.

- Climate Change Policy of Nepal 2011 cites enhancing the climate adaptation and resilience capacity of local communities for optimum utilization of natural resources and their efficient management as one of the policy objectives. To attain this objective, policies focus on community-based adaptation (CbA) and resilience and natural resourcemanagement. The government has initiated implementation of community-based local adaptation plan for actions (LAPAs). As of November 2012, a total of 70 LAPAs wereprepared, and preparation of additional 25 LAPAs has been planned. The CbA has also been used to address flood and GLOF (Glacier Lake Outburst Flood) challenges.Nepal has used CbA and ecosystem-based adaptation (EbA) approaches to adapt to climate change in different geographical areas and ecosystems.

- India's National Water Policy-2012 launched on 8th April, 2013 clearly mention that community should be sensitized and encouraged to adopt first to utilization of water as per the local availability of water. Community based water management should be institutionalized and strengthened. Also the National Water Policy-2012

included some recommendations of IWP side event which was organized on the topic "Approach of Draft National Water Policy-2012 in context of Climate Change" during India Water Week-2012. The recommendations have been included under Section-4 of the final policy - Adaptation to Climate Change which mentions that "climate change is likely to increase the variability of water resources affecting human health and livelihoods. Therefore special impetus should be given towards mitigation at micro-level by enhancing the capabilities of community to adopt climate resilient technological options".

- There are 8 missions under India's National Action Plan on Climate Change (NAPCC). National Water Mission under NAPCC also recognizes the advantages of having the community as a stakeholder in groundwater recharge and use. National Mission on Sustainable Habitat addresses the need to adapt to future climate change by improving the resilience of infrastructure, community based disaster management and majors for improving the warning systems for extreme weather events. The National Mission for Sustaining the Himalayan Eco-system focuses on community based management of Himalayan eco-systems.

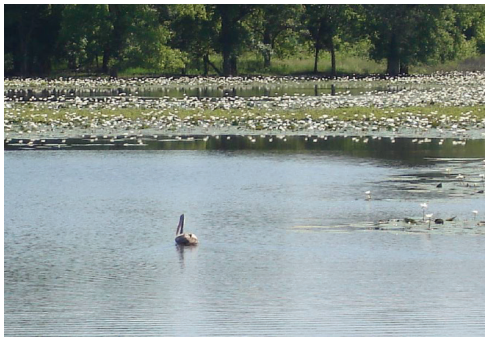
- Govt. of India has requested the State Govts. to prepare State Action Plan on Climate Change. These action plans primarily focus on adaptation to climate change on various sectors of the respective States.

- The Climate Change Policy of Pakistan has an objective to foster the development of appropriate economic incentives to encourage public and private sector investment in climate change adaptation and mitigation measures. The Policy recognizes both the vulnerability of women to climate change impacts, and their contribution in the management of natural resources. As such, the policy recommends to incorporate the women's role into the decision making process on climate change mitigation and adaptation initiatives, and to utilize local and indigenous knowledge, particularly held by women, in developing climate change adaptation measures.

- Climate Change Policy of Sri Lanka recognizes the need for disseminating such research findings among all stakeholders including those at grass root levels, and harnessing and patronize local technologies and traditional knowledge related to climate change adaptation.

INCORPORATION OF LOCAL KNOWLEDGE TO INCREASE COMMUNITY RESILIENCE IN SOUTH ASIA

Some examples of the application of traditional and local knowledge are noted below:



• Tidal River Management in Bangladesh that has been practiced for generations, use sedimentation to raise land above water. These traditional methods allow the high tides to bring sediment into areas enclosed by embankments, and when the water drains away, the sediment is deposited, raising the land above water level.

• In the flood-prone areas of Bangladesh, the innovations made by communities and NGOs working together included floating vegetable gardens built from water hyacinth and bamboo that supplied food during floods. To ensure shelter, drinking water and sanitation during floods, the communities designed raised flood-proof houses, elevated tube wells and latrines. Traditional practices such as retention of rainwater in mini ponds for supplemental irrigation are gaining attention in Bangladesh.

• The Karez system in Baluchistan area, which is described as one of the traditional engineering wonders of Pakistan, enables the use of water in the subsoil by underground tunnels and other conveyance methods. The use of modern technology such as PVC pipes have increased the conveyance efficiency of such traditional systems multifold, resulting in better farmer incomes.

• Nepalese people face the problems of 'too much and too little water' and traditionally constructed gabions and loose stone check dams in the country's steep terrain, which is susceptible to soil erosion resulting in siltation of lakes. This has the potential to be used in modern times as well. In water scarcity areas, local people have started storing water in the 'plastic ponds' in the recent years.

• Local knowledge is useful in deciding the effective means of dissemination. Rickshaw advertisements to create mass awareness have been practiced in some parts of Bangladesh. In India, where the government is planning to increase the farmer's access to weather and crop forecasting mobile phones are being promoted as one of the means of communication of such information. In Pakistan's Punjab Province, a traditional practice of storytelling was revived for raising awareness in climate change and mobilizing community members to undertake adaptation measures.

• Sri Lanka's "Village Tanks" or small reservoirs that were traditionally maintained by farmers have been less prominent in terms of economic benefits than the major irrigation systems, in the past. However, their ability to recharge the shallow groundwater aquifers of the dry zone has attracted the attention of policy makers and this has helped to increase the investment in the rehabilitation of those reservoirs.

THE WAY FORWARD

It is heartening to note that most national policies in the region have acknowledged the role of community in adaptation to climate change. Despite being considered traditional and conservative societies, several have incorporated the gender dimension into the policy framework.

When building upward from this strong foundation, it is important to note that the communities are both beneficiaries of climate change adaptation and potential investors of social capital in the adaptation process. While creating awareness of climate change impacts among the people is useful, learning lessons from local and traditional responses to climate related challenges can result in sustainable, cost effective and socio-culturally acceptable solutions to the emerging problems. The technology and knowledge transfer can be both ways, and active partnership with the communities is needed in the adaptation process. Unrestrained exchange of real time data and information on climate change and its impacts would be extremely important to enhance the resilience and adaptation capacity of the communities.As for constraints, the absence of communication network amongst the South-Asian countries for free flow of all types of climate change related data and paucity of adequate funds minimally required to implement the adaptation measures are the two major constraints amongst many others.

The untapped potential could be much more than what is already mobilized. The opportunities include helping rural communities to identify and monitor climate changes, urban Flood Management, managing simple hydrological stations, developing early warning system, and participatory watershed restoration. In difficult terrain and in isolated locations, government institutions have yet to be strengthened and capacitated to make them effective in monitoring climate-related or impacted parameters such as rainfall, glazier movement and water pollution.. However, the individuals and public institutions such as schools have responded enthusiastically when invited to contribute. Water services including irrigation and drinking water require close cooperation between the service provider and the consumer, to be effective and efficient. Even when there is willingness by both parties to co-operate, there has to be a catalyst to bring them

together, initially. This need has been demonstrated in the GWP experiences in Wainganga river basin in Maharashtra, India and water supply to Biratnagar in eastern Nepal. The UNFCCC has established a database on local coping strategies, which can be useful to South Asia to develop a regional strategy to exploit the untapped potential among communities to contribute to the climate changeadaptation and mitigation.

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