

Knowledge Management for Climate Change Adaptation in the South Asian Region

A brief for policy makers from SAARC countries

Introduction

The extreme vulnerability of the South Asian region to impacts of climate change are being recognised as a consequence of interlinked effects of high population densities, large concentration of poverty, sensitive and fragile natural eco-systems, and large-scale vulnerability to natural phenomenon of cyclones, earthquakes, landslides, flooding, and drought coupled with climate variability. In a region where countries, governments, and populations are struggling to find a balance between sustaining growth and reducing pressures on the key resources needed to reach and maintain acceptable quality of life for their millions, climate change has the potential to compound existing development problems and to increase pressures on key resources needed to sustain growth.

Climate change will have severe consequences on the agricultural sector and the rural poor in South Asia. Long-term changes in temperatures and precipitations have direct implications on agricultural yields. Moreover, resilience is typically low in rural areas as the existing asset base is weak, and services provided by infrastructure and institutions are often insufficient. Flood-affected areas in South Asia might increase as a result of climate change. In India, the area affected by floods more than doubled between 1953 and 2003. In Bangladesh, already 60% of the country is flood-prone. Pakistan floods in August 2010 affected 20 million people and will have a massive and long-term impact on the food security of the country.

Sea level rise will have a significant impact on the low-lying coastal systems and islands. Much of the Maldives may be submerged by the end of the century, if the worst-case scenario in

terms of rising sea level becomes a reality. Up to 18% of Bangladesh will be inundated, affecting 11% of the population. Sea level changes have also effects on salinity levels, enhanced storm surge effects, changing sedimentation patterns, and changes in current oceans. The danger is so grave that some of the largest South Asian cities by the sea side (Mumbai, Karachi, Chennai, Kolkata, and Chittagong) are assessed to be affected by rising sea levels soon.

It is feared that the region may also face an increased problem on the social fronts like increased influx of climate refugees, with people forced to flee their homes because of extreme weather events. For example, the 2007 floods displaced more than 20 million people in Bangladesh, India, and Nepal. By 2050, as a result of rising sea levels, 4% of land in Bangladesh is projected to be lost, resulting in 6 million homeless people. By the end of the century, 125 million people across India, Bangladesh, and Pakistan could be rendered homeless by rising sea levels. Most of these people are likely to move towards the large South Asian cities, which will be amongst the world's most populated cities in the coming decades (New Delhi has already a population of 20 million people and Karachi has 16 million. Dhaka is the fastest growing city in the world). Such large movements of population could considerably strain relations between countries in that region.

Resource scarcity, especially water, forests, and soils –a fallout of the changing climate –, not only increase vulnerability at national levels but also increases the concern of possible regional conflicts. Climate change poses a serious risk to poverty reduction in South Asia, and is being recognised as a core issue for national-level poverty reduction strategies. However, given the regional/global nature of the issue, action

at the country level alone will not do. Collective action at the regional level coordinated with global efforts and combined with country-specific interventions will help bring about the required changes.

Regional Actions for Addressing Climate Challenges

Regional coordination and cooperation are imperative for an increased understanding of the nature of climate challenges and for the formulation of joint approaches to address them effectively.

In addition to national policies and implementation of best practices by the South Asian countries at the regional level, SAARC members issued a joint declaration on climate change during the 16th SARRC Summit in April 2010 in Bhutan. This declaration called 'The Thimphu Statement for a Green and Happy South Asia' details 17 joint actions the SAARC members (Afghanistan, Nepal, India, Bhutan, Maldives, Sri Lanka, Pakistan, and Bangladesh) are committed to undertake to mitigate the impact of climate change across South Asia. Though the declaration (plan) was a wish list of all activities, it has been welcomed by all as a 'first step in the right direction'. It is acknowledged that the desired implementation of all joint actions can move South Asia on the climate-resilient path sooner.

The regional consultation on Climate Change hosted by the Climate Action Network of South Asia in August 2011 saw the participation of policy makers, SAARC Secretariat, civil societies, and individuals in Kathmandu who discussed and debated on critical concerns facing the region in the face of a climate threat, shared experiences on actions being taken at the national and sub-regional levels by various state and non-state actors, and developed recommendations for policy action. This document focusses on civil society perspectives on the specific agenda of 'knowledge management for a green and happy South Asia' in order to contribute to the successful implementation and integration of the pro-poor climate agenda adopted by the SAARC countries in April 2010.

The Thimphu declaration has focussed the attention of the South Asian policy makers on the following with respect to Knowledge Management for Climate Change Adaptation in South Asia:

(1) (iv) Undertake advocacy and awareness programmes on climate change, amongst others, to promote the use of green technology and best practices to promote low-carbon sustainable and inclusive development of the region.

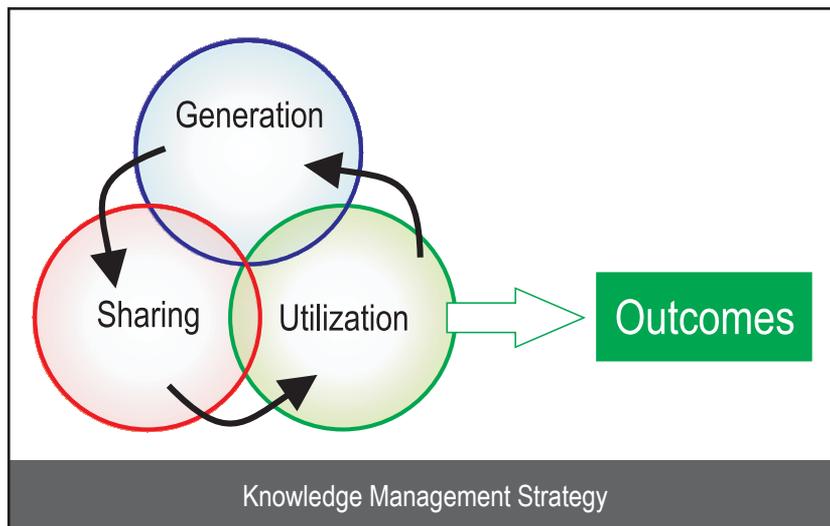
(2) (vi) Incorporate science-based materials in educational curricula to promote better understanding of the science and adverse effects of climate change.

(3) (ix) Establish institutional linkages among national institutions in the region to, amongst others, facilitate sharing of knowledge, information, and capacity building programmes in climate change related areas.

It must be noted that the above three statements from the Thimphu declaration related to knowledge management are the identified priorities to be taken up under the regional cooperation umbrella and are not limiting the actions that governments may take at the national level for dealing with issues related to climate change impacts and adaptation measures therein. However, these must be seen as the first step towards regional cooperation in this arena amongst the South Asian Nations that while facing similar predicaments, do not necessarily take similar response measures due to differing governance systems and may not necessarily agree to have common solutions and approaches due to varied regional conflicts. Thus, this seemingly narrow approach to knowledge management has to be seen as initial steps in building a consensus in regional cooperation towards climate change adaptation response. The regional cooperation itself must be seen as a process and not as an end in itself.

Establishing a Knowledge Society for South Asia

Having analysed the minimalistic approach that the Thimphu declaration has taken, with respect to knowledge management, it is also recognised that knowledge systems –traditional and new – will guide the region towards wise decisions with respect to development in the face of climate change. Amongst the similar conditions across the region are the state of poverty and vulnerability of the region's peoples, significant dependence on climate-sensitive sectors for livelihoods, and existence of some of the world's most precious bio-diversity hot-spots.



collating, and analysing new adaptation models, vulnerability assessments at local, national, and regional levels, scientific studies on weather and climate systems for forecasts and scenario development, developing and testing methodologies, and developing tools for integrating climate-sensible planning, climate change communication, adaptation action models, sectoral GHG inventories, policy recommendations, and

Increasing the pace of economic development is a priority across all the countries of South Asia and inclusive growth is a huge challenge across all the countries. The region being home to one of the oldest continuing civilisations in the world also has a huge store of traditional knowledge and lessons from the past natural adversity situations.

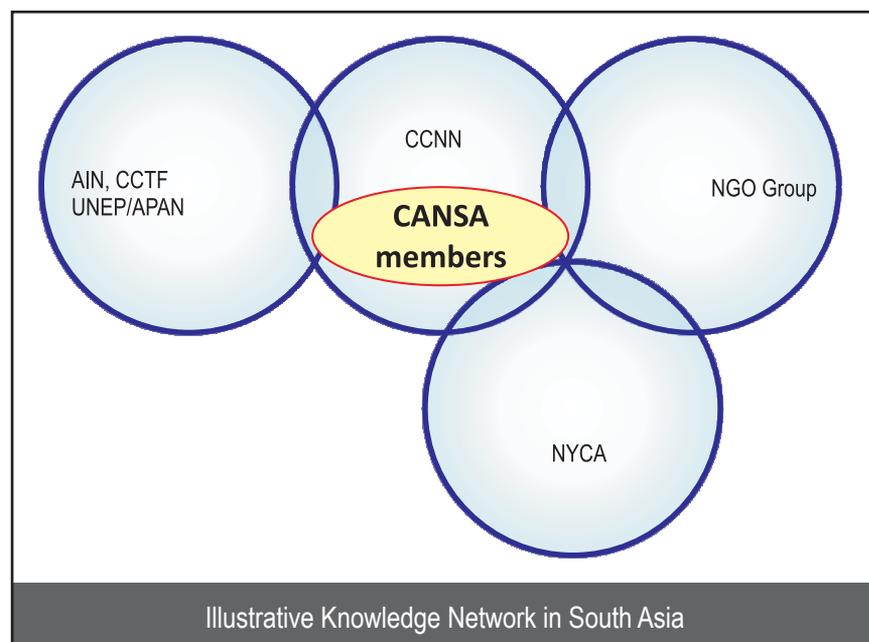
With the above legacy and a common future, knowledge systems, needed to cope with changing climate regimes, will require a futuristic vision that one of the world's most youthful societies can provide, tempered with the traditional wisdom of its oldest civilisation. A knowledge society will be the only strong bridge between nations of a region so similar in need and context yet so riddled with conflict.

measures for mitigating climate change through industrial and other actions. These studies, action research, and innovations are being done both in South Asia and by institutions interested in South Asian development across the world. Much of this knowledge is on the World Wide Web available for public consumption, but not necessarily accessible. Platforms such as the UNEP's APAN best practices database, UNDP's solution exchange on climate change, the Climate and Development Knowledge Network and others are performing very useful functions of facilitating the collation of knowledge and making it accessible to researchers, practitioners, and policy makers. Some of these are demand-driven and others are supply-driven interventions.

At the regional level, networks such as the basin-SA, CANSA, and formal institutions such as

Existing Mechanisms for Knowledge Management on Climate Change Issues Relevant to South Asia

Many institutions from the government, academic, civil society, and private sectors are working on wide ranging issues related to climate change adaptation and mitigation in South Asia. The activities in the arena of 'knowledge' in this field range from documenting traditional practices,



the SAU provide a pan-regional perspective for knowledge development and sharing. Networks and multi-stakeholder platforms are able to bring varied perspectives and divergent views into neutral space for constructive discussions. These are especially relevant to South Asia, it being a region riddled with conflicts.

There are also sub-regional initiatives that promote dialogue and share knowledge at local levels amongst stakeholders for developing, testing, and disseminating climate change actions at the ground level; the examples from Nepal, Central India, Bangladesh, and Sri Lanka provide interesting lessons in knowledge management. These initiatives work with local- and state-level bureaucracies and also influence local planning and policy implementation – such knowledge networks and knowledge platforms could go a long way in taking science to the people as well as collating and analysing voices from the grass-root levels. The experiences from Nepal indicate how tools developed by grassroots agencies have been used for promoting local action towards afforestation, introduction

of scientific know-how on climate change in school curricula, and also campaign for awareness across communities. Tools have also contributed towards influencing local planning processes and policy development for specific aspects such as influencing NAPAs in Nepal.

At the local levels, community radios and social networking portals have become important tools for exchange of information on various issues of development. Such exchange fosters cross-sectoral discussions and learning has considerably reduced the cost of awareness building and information dissemination. It has brought in the youth as active participants in the development processes. This power of the youth and technology needs to be leveraged for climate change knowledge development and dissemination. The local-level institutions and networks are significant in both documenting people's traditional know-how and grassroots' innovations, and information dissemination of scientific knowledge in simplified forms for application at the ground level.

Recommendations from the Regional Consultation on Climate Change Adaptation

Strengthen intermediary institutions and networks to promote climate-related studies and information dissemination

Intermediary institutions at the sub-regional and regional levels have demonstrated their potential to disseminate information as well as communicate knowledge to the grassroots. Intermediary institutions such as CSOs, national and regional NGOs work at the grassroots, engage with local communities and youth, have mobilisation capacities, and many also work with local and national governments. The grassroots and intermediary institutions bring primary evidence of impacts of climate change on society and also of results of public programmes designed for risk reduction on ground. In order that experience and knowledge of such agencies is leveraged they need to be included in multi-stakeholder and participatory research processes. This will require fostering engagement across state and non-state actors.

These networks need to be engaged in policy development processes and also their capacities

need to be optimally utilised and strengthened. Tools and methodologies developed and pilot-tested by intermediary institutions and networks need to be validated through on-ground testing and analysis and mainstreamed into policy for application at scale.

The implications for improving action on the Thimphu Declaration are that newer/more knowledge institutions will be needed, not necessarily only universities or centres of excellence but also more networked resource centres. Such resource centres and networks would have to be strengthened by associating them in public programmes on climate change research and action at national and regional levels. Cross-sectoral and multi-stakeholder research, required for supporting South Asia's concerns and position in international negotiations and in helping South Asian nations to develop their country plans, can be conducted through the networks of civil society and academic intermediary institutions. This will need investments in bottom-up, evidence-based research.

Databases of knowledge resources for climate change adaptation for the region will need to be developed. Also intermediary agencies working in the area of climate change adaptation in the region and the variety of tools

have to be part of such a regional database to be used by national and local governments and other agencies.

Developing and strengthening institutional mechanisms for promoting multi-stakeholder dialogue, knowledge exchange, and knowledge communication

Formal and semi-formal knowledge generation through dialogue and discussion is already being shared across practitioners and policy makers through mechanisms such as the solution exchange platform, which also collates and archives the shared knowledge. Such platforms provide a wealth of information for researchers, practitioners, and policy makers and their contributions to knowledge development as well as methodologies for management of knowledge needs. These institutional mechanisms and their knowledge portals can be effectively utilised for generating dialogue on issues of import across different stakeholders. Such multi-stakeholder discussions will be needed to generate new knowledge required for climate change adaptation action in the region. These platforms and discussion formats provide constructive neutral space for dialogue and solution finding and need to find a place to support strategy development and planning for climate change response measures at the regional level.

Knowledge communication methodologies will need to change and a two-way communication –listening and reporting –and multi-logues will need to replace conventional awareness. This will need new tools for knowledge management, and dissemination will be needed. Community radio networks should be strengthened and brought into

The need for synergies in science–policy and community action

Climate change has brought to the fore situations not experienced before even by a society as ancient as the South Asian one. Therefore, new knowledge, on a scientific base, has been recognised as necessary to find solutions to the new problems. This is required across the spectrum of policy makers and communities at large. ‘Decision makers need sound information on vulnerabilities to climate

the fold for information dissemination and awareness creation.

Implications for the Thimphu Declaration are opening out and supporting cross-border dialogue amongst civil society and academic institutions in the region and supporting this process through engagement by policy makers from the seven South Asian countries.

Capacity building curricula for educational institutions, administrative colleges, and parliamentarians

Climate science is a nascent field; educational and academic institutions are as much part of generating new knowledge as they are in disseminating the knowledge for research and application by developing sensitivity amongst youth and new leaders in this field. The development of new academic curricula has been prioritised in the Thimphu Declaration. In addition to educational institutions, it is imperative that climate change concerns are integrated in political debates and development planning and action at national levels, and therefore young leaders and administrators need to be included in the fold of this new knowledge.

Simplified educational modules to incorporate science and adverse effects of climate change should be included for educating policy makers. Orientation of young leaders in the region through innovative capacity-building measures such as short-term training courses, exposure visits, interactive cross-country debates and discussions, webinars need to be developed besides the written and print formats of manuals and text books. The policy content of the climate change and its ramification should be included in the education systems.

change grounded in the best science data available. Equally important is sound information on the potential social and economic impacts of climate change, particularly on more vulnerable groups like the extreme poor’.

Knowledge creation has been traditionally seen within the domain of academia. This is true of scientific knowledge as well. Climate science, however, being so new, academic institutions do not yet have all or even most of the answers. Many lessons are emerging from grassroots



action; these have to be studied and their analyses brought into the realm of scientific discourse with suitable recommendations for policy making. Therefore, knowledge management in the South Asian region must include the conscious action for science-policy and community action integration.

This line of thinking has implications for action on the Thimphu Declaration. With grassroots' organisations working closely in the community space and deriving lessons from community action as well as collating information on impacts of climate change on communities, the inclusion of the civil society in the science and policy dialogue will be

Disseminating the knowledge to grassroots

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critical. Therefore, institutional linkages that foster linkages of universities and research centres with grassroots' experiences on the one hand and of policy making with science and community action will be required.

A starting point will be to bring civil society and academic institutions formally on board SAARC meetings for monitoring follow-up actions on the Thimphu Declaration through public consultations and discourse as side events or parallel sessions. These discussions should focus on constructive collaborative action on knowledge sharing and management for regional cooperation in the area of climate change adaptation.

References and Bibliography

- Global Water Partnership; Climate change, food, and water security – South Asia Workshop, Available at: <http://www.gwp.org/gwp-in-action/Events/Climate-Change-food-and-water-security--experts-workshop-in-South-Asia/>
- Manjeet Dhakal, Clean Energy Nepal; Country Experience on Knowledge Management. Presentation at the Regional Consultation – Reviewing SAARC Climate Agenda by/for South Asian Stakeholders, 1–2 August 2011, Kathmandu, Nepal.
- Ramesh Kumar Jalan, Climate Change Community, Solution Exchange; Knowledge Sharing on Climate Change for SAARC Member Countries. Presentation at the Regional Consultation for monitoring the Regional Climate Agenda and reviewing the Thimphu Climate Declaration; 1–2 August 2011, Kathmandu, Nepal.
- Zeenat Niazi, Development Alternatives; Knowledge processes influencing practice and policy. Presentation at the Regional Consultation- Reviewing SAARC Climate Agenda, 1–2, August 2011, Kathmandu, Nepal.
- Available at: <http://www.unep.org/climatechange/adaptation/ScienceandAssessments/tabid/29573/Default.aspx>
- Available at: <http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/SOUTHASIAEXT/0,,contentMDK:21570790~menuPK:2246552~pagePK:2865106~piPK:2865128~theSitePK:223547,00.html>
- ISET-International and ISET-Nepal Climate Adaptation in Asia: Knowledge Gaps and Research Issues in South Asia; 2008.
- Development Alternatives; Review of National Sustainable Development Policies, Priorities and Programmes Leading to Climate Change Adaptation and Mitigation; Winrock International, India, 2010.



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