ADAPTING TO A WARMING WORLD

People affected by the Kosi floods in August 2008
Chandan, Greenpower India

Even under the most optimistic scenarios of coordinated global action to cut climate pollution, we face an era of rapid and accelerating climate change. Dams and other river infrastructure projects have been, and in most cases still are, designed based on the now obsolete assumption that future river flow patterns will be like those of the past. In reality, river flows will change significantly as temperatures increase, glaciers and snow packs melt, and rain and snow fall patterns are drastically altered.

Large Dams As Maladaptation

Major investments are essential in both built and social infrastructure to enable societies to adapt to the coming increase in extreme floods and droughts. Oxfam International estimatesthat climate adaptation will cost developing countries at least US$50 billion each year, and far more if global emissions are not cut rapidly. The need for Northern countries to provide a substantial part of these funds is a major issue for debate within UN climate negotiations. Large dam interest groups are pushing for climate adaptation funds to pay for huge new reservoirs and water diversion schemes.

International Rivers believes that large dams are too often climate *maladaptation* (see map of river impacts). This is because the changes to the hydrological cycle will seriously impact the performance and safety of dams and other river infrastructure such as flood-control embankments. Scores of Southern countries are already over-dependent on streamflow-dependent hydropower. Climate adaptation will require them to diversify to other power sources or face rapidly increasing exposure to the risk of widespread power cuts and their associated economic impacts during droughts. In addition, their huge expense, which would divert funds from better options, and their slowness to be implemented.

Map of Climate Change Hotspots

Long-Term Adaptation Solutions

International Rivers promotes climate adaptation based on the protection of natural infrastructure such as watershed forests and floodplains, increased efficiency in resource use, better power and water sector planning, and decentralized technologies such as rainwater harvesting, geothermal, wind, solar, sustainable biomass and small and unconventional hydropower technologies (e.g. kinetic “free-flow” turbines, wave and tidal power).

International Rivers 2007 report, *Before the Deluge: Coping with Floods in a Changing Climate*argues that conventional “hard path” flood control based on embankments (levees) and dams has failed and that climate adaptation requires the “soft path” of flood risk management, which aims to understand, adapt to and work with the forces of nature.

Our 2006 report, *Spreading the Water Wealth: Making Water Infrastructure Work for the Poor*, shows that improving poor people's resilience to adapt to climate change requires a massive expansion of small-scale, decentralized approaches to water management. It reveals the big-dam lobby’s attempts to define “water storage” as meaning “large reservoir storage,” which ignores the massive importance of water stored in wetlands and groundwater and small ponds and tanks. It also discusses the risks of hydro-overdependence.

Source : http://www.internationalrivers.org/resources/adapting-to-a-warming-world