

Global Lessons from the Pakistan Flood Catastrophe

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By:

Patrick McCully



Soldiers help flood survivors board an evacuation truck (*dvnews.org*)

There are three vital global lessons to learn from the ongoing flood catastrophe in Pakistan. First, the rise in the planetary temperature has reached a tipping point. We are now in a scary new era of extreme weather. Extremes are the new normal. And there's no going back, at least not in our lifetime, and very likely not in that of our children.

We should be doing everything we can and more to cut our greenhouse gas pollution. We can slow the rise in heat and limit the maximum temperature level (provided we avoid triggering irreversible feedbacks like a surge of [methane](#) from melting permafrost or the [drying and burning](#) of the Amazon forests). But we can't stop more warming, and we can't stop more weather disasters (which, climate denying evil wingnuts take note, will include more [snowmagedons](#)).

Second, we urgently need to step up efforts to protect ourselves from this new normal. We need to do all we can to stop weather disasters becoming catastrophes. This means, in the jargon of disaster management, increasing the [resilience](#) of our infrastructure, economies and communities. In Pakistan greater resilience would include better emergency warning and evacuation systems, better flood protection for key infrastructure (cities, and schools and other community buildings that can serve as flood shelters), and plans to help communities recover once the waters recede.

Third, the way we have (mis)managed the Indus -- and countless other rivers around the world -- for the past century has provided various short-term benefits, but at a major long-term cost that we are now having to pay.



Roof of huts barely visible above the flood waters (*Shahid Panhwer*)

We have ended small- and medium-scale flooding on many rivers through building dams and embankments. But in doing so we have greatly increased the scale of, and our vulnerability to, very big floods. This is a *really bad idea* in an era when megafloods are becoming ever less "extreme" and ever more "normal." Increasing resilience to floods in Pakistan, the US, and just about everywhere else is going to require reversing our river management mistakes through restoring rivers and floodplains, including by taking out embankments and dams.

In Pakistan, two of the world's biggest dams, and a vast associated system of barrages and diversion canals, have greatly reduced the amount of water and sediments carried by the Indus in most years. The most obvious consequence of this has been the destruction of the farmlands, fisheries and mangrove forests of the Indus Delta, one of the 20th century's great [environmental disasters](#).

But another consequence is that the river normally lacks sufficient flows to carry away the riverine sediments that are not trapped behind dams. And sediments that once would have been deposited onto the floodplain in "normal floods" are trapped within thousands of miles of embankments. These sediments build up on the riverbed, steadily reducing its capacity to handle large flows.

Then, inevitably, a major flood comes, the shrunken river channel, straight-jacketed within its embankments, can no longer hold the flow, and the Indus surges out over the densely populated floodplain.

[National Geographic](#) takes up the story:

The major river engineering is basically a Faustian bargain," says Daanish Mustafa of King's College London, recalling the fable in which a man sells his soul to the devil in exchange for a life of luxury. Mustafa is a geographer who has studied the history of Pakistan's river management.

Until a few decades ago, there were typically mild floods each summer--the time when the monsoon rainfall hits, and the melt from the snowpack in the Himalaya and Karakoram Mountains is at its peak.

But now, because humans have sculpted the river and the surrounding natural floodplain and wetlands for farming and other needs, there are fewer floods, but when they hit, they are far worse, said Mustafa.

There's not very much space [in the river channel] to absorb all the rainfall," says Asad Sarwar Qureshi, a water resources expert at the [International Water Management Institute \(IWMI\)](#) branch in Lahore, Pakistan. "We need to get it back into shape, so that it can carry its original capacity."

Wetlands along the river's course used to take up some floodwaters, and the government also used to divert excess water into "no man's land" during the monsoon season, he says. But those areas have been converted to farmland, he says . . .

Allowing the river to flood more regularly, and naturally, could help temper the floods and make them more tolerable, say Mustafa and other experts . . .

Managing Pakistan's floods is a delicate balance between giving the river more room, and building barriers to protect people and their land.

As Daanish Mustafa explains in this [BBC interview](#), the unusual monsoon pattern behind the current catastrophe has been seen in a weaker form already several times in the past decade. The hydrological past is no longer a reliable guide to the hydrological future and we need to rethink our management of rivers to take account of this.

To help relief efforts in Pakistan, International Rivers recommends that people in the US donate to [Action Aid](#), whose local staff do excellent work with poor communities impacted by river mismanagement.

More information:

This blog was originally published on the [Huffington Post](#).

For satellite photos of the flood devastation, and shocking illustrations of the size of the area flooded that overlay the affected area onto maps of the US, click [here](#).

To read more about the failure of flood control and how we can reduce flood risks, click [here](#).

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