

Inam-ur-Rahim

Floods in mountain areas

The devastating floods of July and August 2010 in Pakistan have different impacts in different ecological settings. The proximity

to the Hindu Kush mountain range, where the flood originated, the up and downstream land use system, availability of flood warning systems and the type of economic activity followed by the population are variables which have contributed to the risks of the overall devastation. The analysis given by the media often lack a local understanding encompassing these variables. This paper shows how the local context has determined different levels of flood impacts and how efficient disaster risk reduction and contingency planning depend on such downscaling.

First, the geography and topography of the Hindu Kush Mountains can help understanding why the upstream water catchment of the floods is mainly located in the Swat valley. Second, we explain why the overall direct casualties have been rather limited considering the amplitude of the disaster. Still, providing assistance to more than 10 million IDPs to prevent further casualties remains a major challenge. Moreover, pro-active contingency planning to anticipate food shortages due to the destruction of crops, washing of soil on upstream cropping fields and reconstruction roads and other communication axes remains a large challenge. Third, this paper will provide insights on potential disaster risk reduction strategies that can prepare for such floods.

The Western tributaries of the Indus include mainly the River Kabul and River Swat. The upper limits of the monsoon can only reach the Hiduraj Mountain range, the name of the Hindu Kush Mountains sub-region located in Swat and Dir constituting the watershed of Swat River. The watershed of River Kabul is only partially in the reach of monsoon.

Dr. Inam-ur-Rahim, Senior Researcher University of Central Asia and Coordinator Landless Pastoralists Research Project, National Center for Competence in Research (North-South) Central Asia.

Unlike the western tributaries, the eastern ones have an efficient flood warning system - because in the eastern tributaries the flood is more

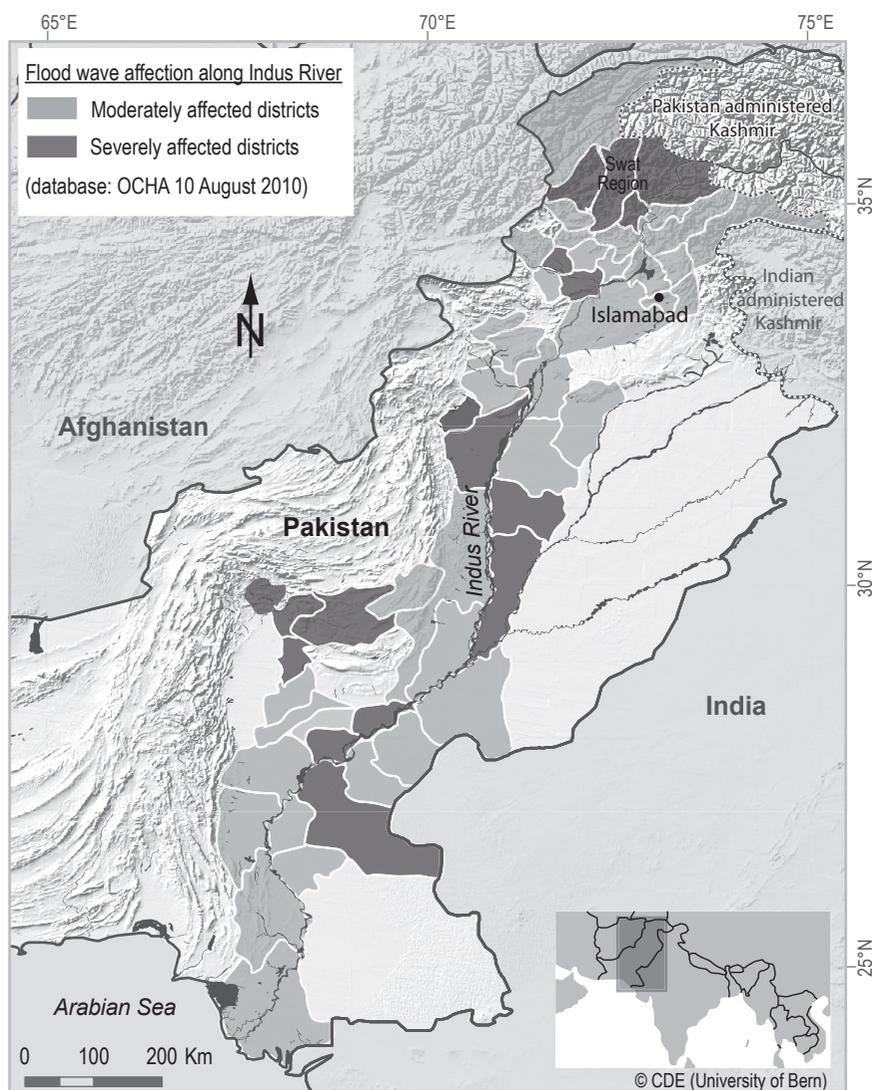
recurrent but usually less devastating (approximately once every 5 years there is flooding in the eastern tributaries).

In the western tributaries the flooding is only occasional but more intense (the last such flood was in 1929, before the creation of Pakistan). So, the 2010 floods took the people living along the western tributaries by surprise. The result was that approximately 1100 of the total 1700 flood casualties occurred along the Swat River and its tributaries. The two western tributaries, River Swat and River Kabul, that may normally contribute 16% to the Indus water, contributed 60% of the water to the current exceptional flood disaster. But it was not only the water that was flowing through the flood; it also contained large amounts of sediment washed away from the mountain slopes. This not only contributed to the volume of the flood water but also to its viscosity and damaging potential down the Indus valley.

Impacts of the floods

In the mountain valleys the damage is for longer duration as the entire layer of cultivable soil has been washed away, filled with gravels or buried under the sand. The rehabilitation of the damaged infrastructure will require years. In the plain areas down the country the impact is at a wider scale but for shorter duration. In these areas the waters slowed down and flooded the lands and houses, rather than washing them away.

Here a relatively large proportion of population in comparison to the mountain valleys was directly affected. The standing crops were destroyed and the clay-made homes were severely damaged. A large



proportion of the inhabitants' possessions were drowned and rendered useless. The infrastructure of the houses are partially damaged and filled up with debris and mud, which can be cleaned when the water recedes.

There are more chances of disease outbreaks with the standing water all around. The land productivity has been affected negatively in the short term. But the flood has also deposited fertile soils in the fields brought from mountains, so the farmers in these areas are hoping for a bumper crop next year. This will en-

able them to repair their houses. The life in these areas has already started coming back to normal after the receding of the flood water.

In Swat a small proportion of directly affected people lost all their belongings including lands, houses and livestock, leaving no traces behind. They were however accommodated by their non-directly affected neighbours – the majority – at least for shelter. As the water receded in one or two days, that limited the chances of disease outbreaks. The indirect effects on the remaining entire population, due to severed com-

munications are, however, long term. In the past the local land was used for subsistence crops. Now with the improvement of communications the off-season vegetables and tourism are the primary opportunities. With severed communications all these opportunities are lost until communication is restored.

Actually, most of the Swat Valley has been cleared of Taliban, but the army is still everywhere in the valley to monitor the situation. Consequently as a result of the flood disaster, the entire military operation to clear the Taliban was immediately diverted to relief activities, hence the provision of relief was much quicker in Swat Valley as compared to other flood affected regions down the country.

Land use and its role in flood

The catchment area of the River Swat is 13650 Sq kms and the total length of the river is nearly 300 km, before it joins the River Kabul in Charsadda. The last major flood in the valley occurred in 1929, but the degree of devastation was far less. At that time the population was far less vulnerable mainly because of the circulatory land tenure and hence sharing the impact of devastation. The following land use seems to have contributed significantly to the devastation of the recent floods.

- After communication improvement the land along the river banks became more expensive because of its tourism potentials. Consequently most of the hotels were built along the river banks and were washed away by the current flood

- During 1980s potatoes were introduced as off-season vegetables to improve the economic conditions of the Swat mountain communities. This increased the cash output from land by at least 10 times. Gradually the continued mono-cropping contributed to the loss of soil fertility and as a result the potato size became smaller and smaller. This compelled the locals to further clear the deep-rooted deodar forest and extend the potato cultivation to the resulting virgin lands on steeper slopes. Many of the newly tilled steep slopes and river banks' potato lands have been washed away by the current floods

- Legally any tree in a natural forest belongs to Government, and it gives 60% royalty from the sale of timber to the stakeholder communities. In the real situation, however, the stakeholder communities pre-

fer to log a tree for homestead use and use the cleared land for potatoes. Once the land is tilled, under the law the user cannot be forcefully evicted. The unclear tenure thus contributed to the vulnerability of the ecosystem

- In the lower catchment, where the valley widens and the river slow down, willow trees were naturally grown on the river banks and the islands inside the river. Such trees were cut for fuel to clear the land for rice cultivation, with rapidly growing shallow-rooted poplar plantations along the field boundaries. The un-regulated land use economy thus contributed to the impact of the disaster.

- The banks of the river Swat and tributary streams were the prime sites for dumping the solid wastes. There is no recycling facility and this solid waste also contributed to the volume of the flood

Affected people and their vulnerability

We may divide the people affected by the flood of the River Swat into the following categories. Each affected group needs different types of support mechanisms to rehabilitate their livelihood

- Agriculture laborer. This is a newly emerged class, who work as daily wage labour in the cash cropped areas, orchard picking and packing etc. They hired houses and when these were washed away, they had no relatives nearby, or other alternative to take shelter. These are the prime occupants of the tented villages established in Swat valley. They are an extremely vulnerable group and the prime candidates for receiving the rehabilitation support.

- Tenants. They have no house or land of their own, but they have lost their belongings in the landlord-built house and the land used through share-cropping. The landlord has given protection to them and they can rehabilitate their livelihood with the support of the landlords.

- Purchased landowners. These are landless tenants, who are working abroad or down the country and through remittance earnings had been enabled to buy a piece of land for home construction and small scale cropping. They have lost everything and they are facing hopelessness in rehabilitating their livelihood. They have taken shelter if they have relatives, but are among the prime candidates for receiving rehabilitation support

- Landlords and small landowners. They have lost part or all of their entire possessions, but many among them have extended links for shelter in another village, with relatives, or even occupy hired premises for the time being. They usually have savings or saleable assets to re-establish their livelihood.

- Hotels and businessmen/shopkeepers. These are mostly the non-local investors. They were not affected physically, but most of them have lost their entire economic assets. No rescue or relief has been so far provided to this group. They have the capacity to rehabilitate themselves, if loans could be provided to them.

Responses to flood and relief activities

As the traditional social set-up is still partially in place, most of the people provided shelter to those affected on the basis of ethnic relations. Also it is a traditional social obligation of the big landlords to provide shelter to the poor tenants and agriculture labourer. The role of the business oriented local people was however; mostly negative and almost all took advantage of the situation. For example, the taxi drivers and private transport increased the fares by many times to take advantage. Those offering rented accommodation suddenly increased the rent money by many times. Even the shopkeepers sold the food items at a very high price to take advantage of the situation.

The relief activities on the other hand were not properly channelled and duplication occurred almost everywhere. If one organization is distributing the food items in a particular area, another organization is distributing the food items in the same village at the same time and among the same recipients. Further, the relief was concentrated along the road side and easily accessible areas.

No organization bothered to focus on the remote less accessible areas, hence the people along roadsides were over supported and those in remote areas were left to bear it on their own. These political representatives distributed the aid on the basis of political affiliation to strengthen their vote bank, rather than the extent of need. Hence those with political alliances were the prime recipient of relief rather than the actual affected people.

The NGOs are linked with local CBOs and the aid provided through them goes to the people allied

to these CBOs rather than merit. The military already available for insurgency relief have however created a more realistic list of the affected families and have provided special cards for receipt of the relief goods.

Concluding and way forward

The traditional society is still divided on the basis of ethnicity, however, wherever a disaster occurs, their response is mostly consensual in nature providing support on ethnic lines but with due accommodation for the marginal social segments. Let the traditional society respond to the immediate relief in food, clothing and shelter in its own way. From now onward start providing the affected people with building material particularly cement, which they can mix with the now abundantly available sand and crush to rebuild the shelters.

The current political system could not break the ethnic societal stratification; however, every political leader tries to increase the number of his active supporters, hence further dividing the society on the basis of political affiliations. Even the social and economic services for the society are politicized. In such a situation the current formal political system has lost its utility to respond to such a disaster. Unless effective institutions are built the political interference in civil services is strictly forbidden. The hopeless people will never start trusting the current political system and will be looking toward fundamentalist alternatives.

Weak institutional mechanism

The NGOs are similarly creating alternative social structures in the form of CBOs to the traditional social structures. The economic and business oriented structures have not been properly regulated and are free to extract from the affected people as much they wish. This is again due to the current weak institutional mechanism to monitor the social welfare and businesses. The continued relief is creating a dependency syndrome that can be avoided, if the support is diverted to rehabilitate and improve the infrastructure to improve the capacity of affected people to rehabilitate. This can be further complemented with support in appropriate land use planning and enforcement to avoid encroachment of the river bed in future. This will reduce the vulnerability of the people to similar disasters.