

## Climate Change and Disasters In the Hindu Kush Himalayan Region

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The entire Hindukush-Himalaya region is prone to the geological or climatically induced hazards of various forms and nature. However, there is a clear indication that not only the frequency of such hazards is increasing with time but also their intensity and impact on the lives and livelihood of people, living in the area, is increasing in severity. This year, we witnessed the incidences of cloudburst, flash floods in Leh, Shimla, Haridwar, Almora, Uttarkashi and Badrinath etc. Floods in Pakistan was also the part of the same climatic inductions. However, these were few of the nationally reported incidents but there were numerous incidences, which were not reported. Many hazards were caused due to the geological disturbances. However, such disturbance intensifies the nature of hazards when they cause massive amount of water or rock to collapse on the human settlements and their resources. Leh was the worst example of water-induced hazard. Himachal, Uttarakhand, & Jammu were also affected by hydrological hazards. In Himachal, there were several incidences of cloudburst, floods and landslide, recorded this year. The Flood of river Vyas was at the alarming point causing even a bigger threat of climatically induced hazard.

Here, we would like to share our experiences about Uttarakhand and Himachal Pradesh, especially in the context of the recent climatically induced hazards. Both the states are very sensitive to earthquake, landslide and flash flood. As reports suggested that the Hindukhush-Himalaya is very much prone to natural disasters but for last 3 to 5 years the entire Himalayan belt is facing acute hydrological & geological threat with increased frequency and intensity. Several types of disasters are being



Photo Taken by : Avnish Kumar

Figure 1: Beautiful Mussoorie

seen very frequently in the recent years that were not so common in the region in the past years:

1. Huge land slides
2. Flood(floods has very different nature)
3. dam outburst floods,
4. cloud burst and floods
5. Glacial Lake Outburst Floods,

A closer look into the pervious century indicates towards the fact that frequency of geological disasters, like landslide, are increasing. Incidences like MALPA where entire village had gone vanished within a night with all pilgrims were not very common in the past. However, not only the frequency of geologically and climatically induced disasters has increased in Hindukush-Himalyan region with the time, but also their severity has been increased. The recent incidences, like one in Almora district where entire village was destroyed due to cloudburst, pointed towards the similar findings. There are more than ten major incidences of similar nature were recorded in Uttarakhand, Himachal Pradesh and J & K during this year. 2010 has not only witnessed incidences like



Photo Taken by: Avnish Kumar

**Figure 2: Shillai Mining Area, Sirmaur, HP**

cloud burst, landslides at higher regions but also noted heavy rainfall in both upper and downstream regions. The

vast region of Haryana, Punjab, Delhi, and UP has witnessed heavy rainfall and flood. The intensity of these incidences was very high. The communities, especially, people who live on the mountains, are still facing the adverse impact of these hazards. Again, responses towards these incidences are poor although the intensity of the emerging challenges is increasing. Government machineries do not have any effective strategy regarding preparedness and mitigation of the impact.

These incidences impact the lives and livelihood of the community, especially those who live on the mountainous regain. First and foremost is the fact that incidences like landslide, cloud bust, and flood completely destroy traditional livelihood options like agricultural, farming and animal husbandry. Agriculture in this area forms only a small portion of the household economy due to the low production and lack of appropriate agricultural land and many unfavorable factors. However, people have sustained their lives with a balance in agriculture, animal husbandry and migration. This year, the heavy rainfall and hazards impacted every facet of their economic lives. Secondly, these incidences destroyed whatever means of the communication existed in the area. The road transportation was completely destroyed due to heavy rainfall in Uttarakhand. With the destruction of road transportation, essential supplies could not be sent to villages and towns. The prices of green vegetables, cereals and other essential goods skyrocketed during the period of disaster and even many weeks after that. Again, tourism and out-migration make the major portion of the economy of the entire region. Badrinath Yatra (Chardhan Yatra) is major source of tourism economy in the Garhwal region. However, this Yatra was closed within a few days after its start, due to heavy rainfall and road destruction. Thousands of family, which were depended on their income on this Yatra, suffered heavy losses, this year, with no alternative

income options to support their families, especially when the prices were gone up due to hazards & road damages.

Ironically, the Uttarakhand government took no time to request a demand of for twenty one thousand crores rupees as the central assistance to mitigate the impact of the disaster in the state. However the fact is that state government has yet not developed any effective strategy to counter the disasters and their adverse impacts. Giving the fact that such incidences are only going to be increased in future with greater potential to damage the state infrastructure, livelihood and lives. The government is still



Photo Taken by : Avnish Kumar

Figure 3: Mining Area Darlaghat, Shimla,

approaching towards them with stereotyped vision and attitudes.

Most demoralizing is the fact that instead of developing a short term and long term strategies to counter the impact of such disasters, at policy level, government seemed to look them as opportunities to fetch more money from the center.

Last month, India TV flashed a clip of Glacial Lake Outburst Flood in **Garhwal** region of **Uttarakhand**. The clip was not only dangerous but also forced us to think for the our future action. The most dangerous part of the year was the fear created due to the collapse of the major dams like **Bhakhara Nangal and Tihri**. Especially, water in Tihari dam crossed the danger level and made us think about the potential destruction in the case of its collapse.



Photo: Taken by Avnish Kumar

Figure 4: Mining in Darlaghat, Shimla, HP

Uttar Pradesh also witnessed the roaring form of river 'Ramganga' and entire area including cities like Bijnaour, Moradabad and Bulandshahar witnessed the worst experiences of flood. However, the worst this which was reflected in the case of Tehri dam that it showed that government did not have any

concrete strategy to counter such a situation.

However, we do not have any national policy to protect Himalayas and its environment. Our policy makers never developed a Himalaya friendly policy to develop Himalayan ecosystem. Our governments are in hurry to replicate the model of plains in the entire Himalayan region. That was not very suitable for the Himalayas as well. As we know that Himalaya is a sensitive zone and contains large areas which is covered by glaciers, seasonal and perennial snows, wetlands (including lakes), quagmire, and peat. Subsequently, it is very necessary to make a sensitive policy to save Himalaya and to make this entire region safe for community and for the life of the entire sub continent. It is also essential to understand the need of entire environment of Himalaya.

However, central's approached towards issues associated with Himalaya with stereotyped models of creating states, with a notion that smaller states would take care of their developmental issues. But if we could dig into the reality then we would find that environment of Himalayan region is actually stressed under the needs of sustaining the state machinery rather than empowering the community. Revenue needs have

necessitated both the state governments to formulate and practice anti-environmental policies, which is reflected in the presence of JPs, Ambuja's and other similar industrial groups in the areas. Although, there are environment related policies and safeguards existed in both the states however when it comes to practice then anyone can see that worst examples of destroying the mountains and its environment is being practiced at ground level.

Mountains are being blown up with blasts (for cement production, stones and contraction) with poor technologies right from Shimla to Kinnaure and even one can see the worst situation in Shillai mining area in district Sirmaur. There is no one to save the Himalayan environment at the ground level. Kinnaure witness hundreds of incidences of avalanches each year however if you enter into the district you would witness that dynamites being used by JP group for blowing the mountain, on regular basis, causing the internal weakening of the rocks and reasons for future hazards.

Why is this all happening? The answer is very clear state needs revenue from industries and from other states which purchase electricity. However the major portion of this revenue is spent on running and sustaining the state machinery rather than running the schemes of employment to the members of communities in hilly areas. There is an

### Most Negative Aspects of Our Long Term Policy

- The policy maker were never interested to develop a model for Himalayas
- They were hurry to replicate the plains model in the entire Himalaya zone
- The model of stereotyped urbanization damaged the whole eco system of the region.
- Himalayan friendly system is highly ignored by the authorities.
- The traditional safe system is replaced by the endangered system
- local people are not the part the policy making processes in the Himalaya
- lacking researches and studies on various aspects related to Himanlayan region.

### Ground Realities of The HinduKush Himalayan Region

- ✚ Government agencies have no system to know about any incident which takes place in remote areas.
- ✚ Government agencies are very less informed agencies at local level. There is lack of coordination among various agencies.
- ✚ People working with the agencies responsible to respond in emergency situation are working with stereotyped mindset. They do not respond quickly. They also lack the skills and trainings to respond efficiently during emergencies.
- ✚ Official information system is also very poor.
- ✚ There is huge gap between government official's action and community requirement.

immediate need to stop all such activities which are causing damages to the mountains. There should be a national consensus on these issues. Again, there should be a long term policy framework for Himalayan states with protecting the environment at the center of it. Other policies of the states including industrial policy should be formulated with putting the environment at the center. At the cost of environment, there wouldn't be a good and sustainable economy.

Himalayan community is highly vulnerable to the disasters due to fact that any rescue or support operation requires much time and resources to reach to them, especially in the remote areas. Nevertheless, in changing scenario people are much feared about the new faces of disasters. They are trying to understand the reasons behind the new types of disasters. They are familiar with the past trend of the disasters like earthquake, landslide and floods, which has been normal part of their lives. However, in the changing climatic scenario community needs information, awareness and proper training to cope with disasters & also for adaptation. There should be an appropriate policy and mechanism for preparedness in the context of disasters. There should be appropriate state preparedness to mitigate short term as well as long term impact of the hazards. Last, but not least is that fact that Himalayan life is very much dependent on natural resources and practices like agriculture, jungle, and animals. There should be effective provisions for livelihood development for people and communities living in the hills, especially for those living in extreme geographical conditions.

### Some Most Considerable Points For Protecting The Himalayan Region:

- To develop a Himalayan friendly policy process to fight with disasters and also to reduce it
- To develop a understanding between community and government people to make some local understanding
- Also to develop a Capacity Building for Flash Floods Management and Sustainable Development in the Himalayas.
- Himalayan people must be the part of the policy process for the region.
- Policy must be in the favor of the Himalayan environment and people
- To conduct researches and studies, on the regular basis, to contribute in risk reduction in the Himanlayan region

# ! Stop *Playing* With Nature!

**Note:** This article has originally been published by the Solution Exchange, run by UNDP, New Delhi, India. The writer is Dr Alka Singh, President of AMRITA, India.

## AMRITA

(Agency For Multidimensional Research, Implementation, Training & Advocacy)

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