

Report on the Rain and Snow Damages and Relief Operations at Sangla Valley, district Kinnaur from 20-6 to 27-06-2013.

(Report Jointly prepared by DC Rana, State Project Director SSA and Mr. Navneet Yadav, SDMA Volunteer during their stay at Sangla)

Cause of Damage

- The havoc caused by the mixed effect of heavy precipitation (which also brought down fresh snow) and mudflow was the most likely cause of the extensive damage in Sangla Valley. Pictures have been added at the end of this report showing the nature and extent of damage.
- Over 350mm. of rainfall was recorded at the Tehsil Office at Sangla from 14th to 17th of June, 2013 (four days) against the average rainfall of less than 20mm. observed in the entire month of June for past 12 years. For details please see Table 1 below.

Situation Report as on 20th June, 2013.

Stranded Tourists and Local Residents Requiring Evacuation

Around 460 Indian tourist, 56 nationals of other countries and more than 200 local residents which included Government officials, students and sick people required to be evacuated through helicopter as road connectivity to the valley was totally disrupted.

Condition of Roads:

- The Sangla Valley was totally cut off from rest of the district. There is major damage/blockage of road from Rutrung to Karcham. Roughly 400 meter road near Kupa will require reconstruction/reformation and there is no road in roughly 30 meter stretch in this section.
- The road from Sangla Valley to Chhitkul was also disrupted at many locations. Huge boulders have come on the road near Gangrang which will require blasting.
- It is estimated that it will require roughly 2 weeks to establish connectivity between Karcham on the one side and Chhitkul on the other side.

Electricity

- There was hardly any electricity in the valley.
- 15-20 poles for LT lines and 24 poles for HT lines would be needed to restore the electricity and the same cannot be brought to the valley till road link is established.
- Electricity line from Mastrang onward was completely damaged.

Water Supply

- Water supply has also been disrupted. All water supply schemes were either damaged or disrupted.

- As an temporary measures 500 meters of plastic pipeline would be needed to restore water supply in the valley (two inch = 200 meters; one and half inch = 150 meters; and quarter inch = 150 meters).

Initial damage figures which emerged from various departments has been compiled as under:-

Sr. No.	Revenue Department	House Fully Damaged	House Partially damaged	Cow shed/Dogri	Estimated Loss	Damage Land /Govt./Private
1		26	287	197	4,20,00000/-	51 Hect.
2.	H.P.P.W.Deptt.	Loss of Roads Estimated about			10,00,00000/-	
3.	I&PH Deptt.	Loss of water supply scheme			2,5000000/-	
4.	Horticultural Deptt.	Estimated loss of Horticulture crop			75,00000/-	
5.	Agricultural Deptt.	Estimated loss of Agriculture crop			70,50000/-	
					18,15,50000/-	

Essential Commodities

- As per information available on 1000 liter diesel and 150 liters petrol has been left in the local petrol pump. Tehsildar was requested to start rationing of the same. But pumping the supply of the same to the valley by way of airlifting would be needed.
- LPG stocking has been exhausted. Same is the case of kerosene.
- If the link to the valley is not restored, the supply of food grains also has to be arranged.

Relief Operations

- As on today there is no requirement of search and rescue activities.
- Some gratuitous relief has been given to the affected families. More funds would be needed once the assessment of damage is done (could take 2-3 days).
- Some shepherds have been reported to be stranded with their herds in ITBP camps and presently reported to be safe. We may have to respond to their needs if the situation so warrants.

Restoration of the Infrastructure/Service, and Relief Operations etc.

- The Status of restoration of lifelines is as under:-

Sr. No.	Name of the Service/Infrastructure	Date of Restoration	Remarks

1.	Water Supply	27.06.2013	Partial restoration
2.	Electricity	23.06.2013	Within Sangla Teh. HQ
3.	Road Connectivity	28.06.2013	Only from Sangla to Chhitkul
4.	Initial Damage Assessment	27.06.2013	

- Kerosene, PDS ration, etc. was airlifted to Sangla through AIF Helicopter.
- The details of evacuation of tourists and local residents is given in table 2 below.

Relief Operations by Other Organization

- A team of 7th Bn NDRF under command of Inspector Viresh kumar deployed for rescue operation in Sangla (Kinnaur) area w.e.f. 20.06.2013 to 28.06.2013. During this period work done by team is as under:
 - i. Road opening with PWD by cutting trees between Sangla and Batseri, Mastrang.
 - ii. Rescued 128 persons by track from Sangla to Karcham Changsu Nala, Song and Burua which was appreciated by tourists and local people.
 - iii. Escorted polling staff from Sangla to various polling stations through rough routes.
- State Bank of India through its Branch Manager, Sh. RK Sharma started relief activities – mineral water, juice, biscuit and cooked food to the tourist waiting for helicopter at Baspa Dam Site helipad. The members of Mahilla Mandal Kupa, Pradhan GP Kamru, BDC Member and local residents helped the SBI in cooking and distributing food.
- ITBP located at Mastrang, Chhitkul and other forward areas rescued stranded tourists and local residents. The ITBP rescued three Israeli girls who were unable to move because of blockade of road. The forward posts of ITBP provided safe shelter to shepherds who were unable to move due heavy snowfall.

Month	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
January	0	0	16	27.8	68.8	0	0	0	0	0	0	0	0
February	0	0	85	0	111.8	11	0	0	39	60	12	13	0
March	0	0	124.4	2	80.7	17.5	9.5	9	23	67	12	36	41
April	0	156.4	53.6	87	44.2	17.5	6	125	54.5	116	63	93.6	71
May	0	17	23.4	18.8	57.2	0	21	17	53	105	37	12.5	19
June	0	9	25.2	0	0	4.5	7	26.5	28.5	91	40.2	6	359.5
July	0	0	86.8	20.4	180	162.5	34	37	63.5	129.5	52.5	39	
August	22.2	102.8	92.5	53.4	13.2	16.5	92.5	96	34.5	120	118	69.5	
September	4	124	40.4	0	131	5	84.5	171	204	223	22.8	43.5	
October	0	0	0	67.2	0.5	0	27	0	22	11	0	3	
November	13	0	0	0	0	10	0	0	12	22	0	0	
December	27	0	53.6	25	5	28.5	0	35	0	112	0	0	
	66.2	409.2	600.9	301.6	692.4	273	281.5	516.5	534	1056.5	357.5	316.1	490.5

*Upto
17th June

Table 1: Month-wise Annual Rainfall Data (Sangla)

Year	Rainfall	No. of Days
2001	0	0
2002	9	2
2003	25.2	4
2004	0	0
2005	0	0
2006	4.5	3
2007	7	5
2008	26.5	9
2009	28.5	6
2010	91	10
2011	40.2	7
2012	6	3
2013	359.5	6

*Upto 17th
June

Rainfall (in mm.) data for past
years in the month of June

Table 2: No. of Passengers lifted by the Pawan Hans and IAF Helicopters from 18.6.2013 to 25.06.2013

Sr. No.	Dated	Indian Air Forces					Pawan Hans					
		Tourist	Local	Foreigner	Student/ Patients	Total	Tourist	Local	Foreigner	Students/ patient	Total	G. Total
1.	18.6.2013	--	---	---	---	-	67	Nil	Nil	25 VIPs	92	92
2.	19.6.2013	--	-	-	-	-	20	30	Nil	Nil	50	50
3.	20.6.2013	50	4	--	--	54	58	8	4	--	70	124
4.	21.6.2013	85	--	16	5	106	Nil	Nil	Nil	Nil	Nil	106
5.	22.6.2013	84	8	3	Nil	95	--	--	--	--	--	95
6.	23.6.2013	--	--	--	---	---	---	---	---	---	---	---
7.	24.6.2013	82	12	12	28	134	--	---	---	---	---	134
8.	25.6.2013	11	54	--	30	95	---	---	---	---	--	95
	Total	312	78	31	63	484	145	38	4	25	212	696

Important Issues and Recommendations:-

1. The management at Rampur Helipad was far from satisfactory. All the stranded tourists and locals from different parts of Kinnaur were being evacuated to this helipad. Essential commodities were also being airlifted from this helipad to different locations in Kinnaur. Many locals were also too eager to go to their homes in the Kinnaur district. As a result of which the team of officials deputed there were too busy to handle the inward rush of local population whose number far exceeded than the daily inward intake capacity of the helicopters. The barrier free access to helipad compounded the problem of the officials. The end result was that Rampur helipad which was to act as Coordination Point for various locations for Kinnaur district from was working mainly as dispatch center. There was hardly any communication and coordination between Rampur helipad and rest of the helipads in Kinnaur. In case of bigger disasters this problem may increase and there is need to institutionalize the role of this helipad.
2. Communication gap between GAD and field offices was also felt. Due to absence of landline communication the schedule of helicopter sorties was not being received at the field. The officer at Section level in GAD should be tasked to ensure that he sends the schedule through Police Wireless and also tries to talk to the field offices within available means of communication.
3. The communication gap between Air Force and the Civil Administration was far more pronounced. There is urgent need to establish coordination mechanism at all level. Whenever such operations are organized in future a senior AIF officer should be requested coordinate at the State level and local team leader should coordinate with the District Magistrate.
4. At Sangla it was found that LPG stock in the local godown was nil despite the provision of keeping some supplies as reserve. The depot incharge of LPG godown never attended any meeting and never cooperated with the Food and Civil Supplies Department. The PDS ration in the location is also being supplied on monthly basis. Keeping in geographical location of Sangla and rest of the district it is advisable to stock all the essential commodities for at least three months in advance. This will be very crucial in large scale disasters.
5. Other than the PDS supply, there are many category of people such as labourers, tourists and people staying in Govt. guest houses and private lodges. They depend on market supplies. In case of large scale disruption of roads the local traders may not be in a position to procure and transport supplies to these locations and the Government may have to step in even to airlift ration and other basic items required for survival. SOPs for a scenarios needs to be framed.
6. Evacuation of stranded tourists and local residents who are otherwise not victims of disasters/emergencies need careful thinking. Offering free rides on AIF and State Helicopters may put huge burden on state exchequer. It was seen that due to absence of any fair on airlifting all kinds of people who otherwise could have taken footpath route or afforded full or subsidized fair were overburdening the system.
7. At Sangla the main job was evacuating the stranded tourists. The whole administration was pre-occupied with this job only and damage assessment and relief work was relegated to the background. Fortunately there

were hardly any search and rescue activities to be undertaken. But in case of large scale disaster district administration would be too busy in search and rescue and relief work to take care of evacuating the stranded tourists. In this regards, the role of Tourism department needs to be defined so that evacuation of tourist can be taken care of.

8. The services of BSNL remained paralyzed during the main phase of the evacuation. However, the services of AIRTEL and Vodafone were available throughout. The BSNL needs to disaster proof its systems as landline services are only provided by it. The BSNL is yet to erect its mobile tower near Chhitkul though material for it has reached there. Its erection will facilitate communication in this area and also provide communication facility to the ITBP personnel deployed in the forward areas.
9. There is urgent need to provide fail safe communication network to such locations with multiple redundancies.
10. The NDRF team landed at Sangla with huge cache of heavy equipment for urban search and rescue. However, no such activities were required to be executed by them. They only needed to carry with them ropes, saw cutters and shovels and levers, etc. Both the NDRF and AIF were put to a lot of inconvenience in transporting the heavy material to and from their base at Bathinda. In future NDRF team can be briefed about the nature of duty they are expected to perform so that they bring equipment with them accordingly.

Sangla Specific Issues

11. The geology of Sangla appeared to be very fragile and sensitive to natural events. Many areas of the valley are getting soil erosion at very fast pace. May habitation and orchards can be threatened/damaged with heavy rains. Road connectivity to Sangla is highly vulnerable. Internal roads are also threatened by landslides. Extreme natural events such as snow or rain in future may lead to greater damage and losses. It is therefore suggested that a team of geologist should visit the area and carry out study to diagnose the problem and suggest remedial measures.
12. The only link road to Sangla from Karchham is highly unstable at few locations which gets blocked with moderate rain. The part of the road near Baspa Dam Site can be stabilized if its toe is checked from the riverbed on the pattern of channelization work done by the power developer on the exit of the dam spillways.
13. During field visit it was seen that local residents have made construction on the natural drainage slopes. It was also learnt that in some cases these lands were allotted to residents by the Government. Construction on natural drainage system can cause havoc in big disasters.
14. As the various climate change scenarios suggest, the precipitation is expected to rise in coming decades. Therefore, major developmental activities should be carried out STRICTLY keeping in view not only the current but also the long-term changes in demographic and as well as weather related patterns.
15. There was absolutely no intervention or offer of assistance from any non-governmental organization in Sangla Valley. This endorses the lack of voluntary sector's contribution to disaster management in the state and also calls for the need to strengthen the Himachal Pradesh Inter Agency Group.

16. While the contributions of local administration and line departments were considerably significant, it was observed that the lack of good standards of reporting and journalism from print media had negative influence on the spirits of government officials involved in relief and rescue operation.
17. As there is very little sensitization among the local people over disaster preparedness, the construction practices lack a futuristic approach and completely overlook the concerns related to a changing climate.
18. Critically referring to planning and preparedness of Tourism Department particularly in places where large number of tourists throng everyday (especially during tourist season), there remains a lot to be done to strengthen the emergency management and coordination aspect of the department.
19. Training of line department officials on general and situational aspects of disaster management is highly required, particularly in places like Sangla valley, where access becomes the toughest challenge in times of a natural disaster.

PHOTOGRAPHS



People going toward Sangla getting aboard the helicopter at Rampur Helipad.



Shri D. C. Rana, HPAS, State Project Director- SSA deputed to look after the relief and rescue operations in Sangla valley of Kinnaur discussing with the local officials and stranded people.



Tourists and other stranded people were airlifted by the MI-17 helicopter.



Shri D. C. Rana and Tehsildaar- Sangla Shri R. P. Bhardwaj during a coordination meeting at Sangla.



Damage caused by the mud flow to a rest house in Sangla.



An MI-17 helicopter of Indian Air Force airlifting the tourists at JayPee Group's Baspa Power Project near Kuppa Village, Sangla.

Shri Rana instructing the owner of local filling station to cease the sale of diesel to private vehicles to ensure regular supply of fuel to bulldozers, JCB Machines engaged in cleaning the roads.



A coordination meeting with officials from line departments.



Manager of SBI, Sangla Branch and the members of the Mahila Mandals of nearby villages volunteered to provide hot meals, drinking water & refreshments to stranded tourists.



Stranded tourists awaiting their turn to be airlifted at the Helipad.



Foreign tourists appeared happy and slightly unaffected by the road blockage and relevant problems.



Members of Mahila Mandals of Sangla Valley serving food to stranded tourists.



Picture showing the destruction of Apple orchards in Sangla valley.



Shri D. C. Rana assuring the stranded tourists of their evacuation.



The team of National Disaster Response Force gearing up for the rescue operation.



The glimpse of the combined force of snow and rain is visible on the hills.



Shri D. C. Rana getting the feedback of PWD engineer and the NDRF Team Leader over the progress of clearing the road blockage on Sangla-Chhitkul road.



NDRF team members planning for clearing the alternative trek route from Kuppa to Karchham.



The damaged stretch of road near the Kuppa village in Sangla Valley.



A house sitting on the top of a sliding slope.



Local people serving food to the tourists.



Devastation caused by heavy rains and mud flow.



Apple trees uprooted by the flash floods and mud flow.



A local farmer sharing the information about loss caused by flash floods and mud flow to his house and apple orchard.



The destruction caused by the force of mud flow.



Apple trees uprooted by the flash floods and mud flow.



A glimpse of what flash flood and mud flow did to houses and property in Sangla valley.



The entrance of a house completely blocked by mud and debris.



Mud flow covered the houses upto 5-6 feet.



Cooperation among the villagers is visible as womenfolk of Kuppa village helped in removing the debris and mud from eachothers' house.



Shri D. C. Rana during a discussion with the local officials.



Massive soil erosion caused by the flash floods in Sangla village.



Team Leader of NDRF team Shri Viresh Kumar giving instruction to the rescue team.



Shri D. C. Rana getting the viewpoints of a senior citizen about the disaster that hampered life in the valley.



Picture showing the combined effect of Snow + Rain + Mud.



Local people discussing their problems with Shri D. C. Rana and Shri R. P. Bhardwaj.



An inhabitant of Sangla village showing the damage caused to his house by a rock fallen during the landslide.



Sinking land also destroyed some houses in Sangla village.



Some houses are on the verge of collapsing.



The shop that is closed forever.



Flash floods created havoc in this green valley.



Local villagers discussing their problems with Shri D. C. Rana.



Some local political leader discussing over the key issues with Shri D. C. Rana.



Stranded tourists await their turn to be airlifted by the helicopter.



Shri D. C. Rana and Shri Rajiv Mehta (SHO-Sangla) discussing over the prioritization of people to be evacuated.



Local people assessing the damage caused by the landslide to a connecting road.



Shri Rajiv Mehta requesting local people to prioritize among themselves on the basis of need and urgency to be airlifted.



Evacuated tourists and some local people in the IAF helicopter.

