

DISASTER REHABILITATION IN THE HILL STATE UTTARAKHAND, INDIA

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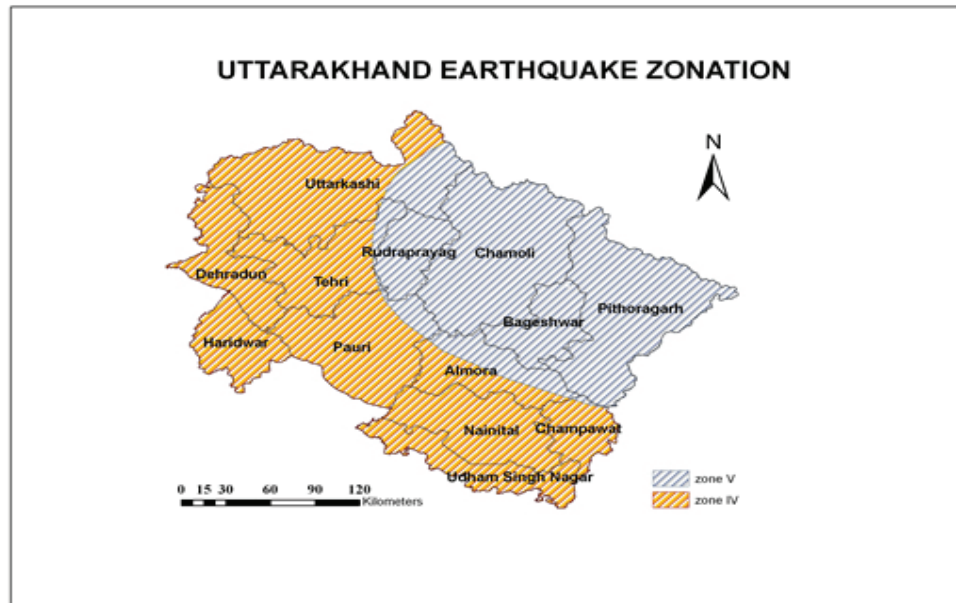
Abstract: *The research paper, most probably first time, tries to bring out information about the status of identification, geological survey and rehabilitation of disaster vulnerable villages and families in safer place in one of the Indian Himalayan States. The study informs that for last several years, identification and geological survey of disaster vulnerable villages and families are continually being done, but rehabilitation of disaster vulnerable families has started from 2012 onwards in the State of Uttarakhand. To avoid the financial burden, the State Government has mainly focused on reconstruction of houses of the disaster victim families in another location nearer to their native place (physical rehabilitation). The slower pace of undertaking rehabilitation in the State of Uttarakhand has created many challenges before the poor resourced disaster victims. They were leading a nightmarish experience because of unsure of their future. Many of the disaster unsafe families had moved to safer areas themselves while other with no options were living in unsafe place at the nature's mercy. Conclusively, in the absence of the Government's support, living of and unknowingly shifting of the poor disaster vulnerable families in unsafe place are a matter of greatest concern.*

Keywords: *Disaster, Families, Hill State, Resettlement, Rehabilitation, Uttarakhand*

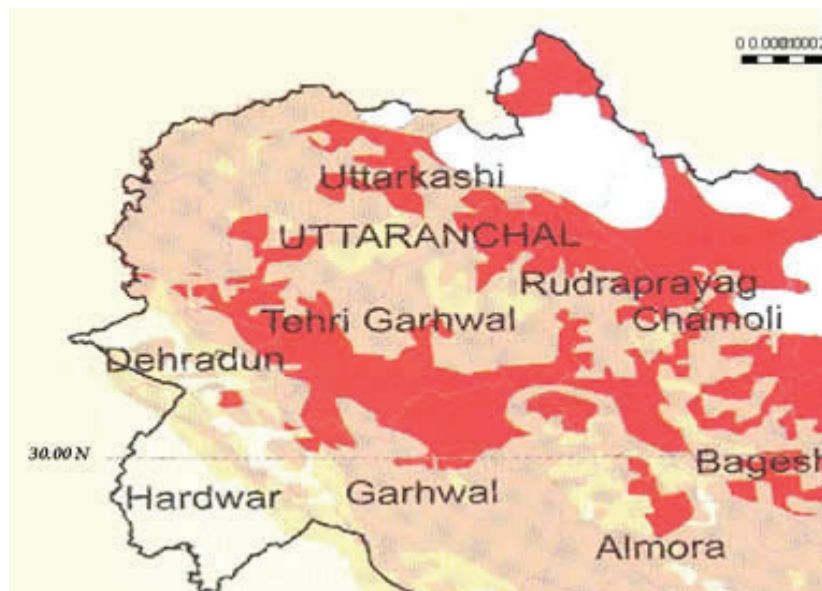
INTRODUCTION

The State of Uttarakhand, by virtue environmentally fragile with adverse geographical conditions, has always been a disaster vulnerable Indian Hill State. Its eleven districts, out of its thirteen districts, lying in the hill region covers around 91 percent of the State's total area and bears 65 percent of the State's total populations. The nature resources, animal husbandry and tourism are key livelihood sources of State's around 90 percent of the populations (Singh 2015). The State faces various disasters like earthquakes, landslides, cloudburst, flash floods, floods, avalanches, drought, lightening, clod waves and hailstorm. Its 344 unstable zone make the State the most landslide prone state in the nation (Kumar 2016 & Hindustan Times, undated). The unpredictable earthquakes are the most devastating disaster in the mountain (Comptroller and Auditor General of India 2010). Consequently, the citizens and properties in the State- being highly vulnerable to several disasters- every year face massive losses particularly during the monsoon season, due to mainly landslides induced by cloud burst, flood, water logging, flash flood and earthquake events (State Disaster Management Authority 2014 & State Disaster Management and Rehabilitation Department undated). The turning of the hill region into the more susceptible to landslides, avalanches, flash floods and

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Source: <http://dmmc.uk.gov.in/pages/display/96-landslide-zone>



Source: <http://dmmc.uk.gov.in/pages/display/95-earthquake-zone>

anti-climate resilient developments works (Prashant 2013 & National Institute of Disaster Management 2000), as per State Disaster Management and Rehabilitation Department (undated), has made large number of villages in the entire State unsafe for the human settlements. Consequently, demand for resettlement and rehabilitation in the safer place

or as per Kumar (2016) compulsion of migration from the hills among the people for the last many years have emerged. The rehabilitation process includes Physical (Relocation), Social and Economic (not the Psychological) components (State Disaster Management and Rehabilitation Department 2011). During the period of last seven years, number of identified disaster vulnerable villages requiring their rehabilitation in the safer place has increased from 83 villages in the year 2007 to around 1000 villages in the year 2013 (**Table 1**). As per the State Disaster Management and Rehabilitation Department (undated), the rehabilitation reconstruction and recovery aim restoring of the affected structures to a condition equal to better than what existed before the occurrence of disasters.

Table 1: Rehabilitation Seeking Disaster Vulnerable Villages in Uttarakhand

Year of Reporting	Rehabilitation Seeking Number of		Sources of Information
	Villages	Families	
2007	83	Not Available	Pande & Pande, 2007
2008	100 (80 villages in *Five districts)	3039 (1976 families in *Five Districts)	CAG, 2010
2010	239 (unsafe)		Prashant, 2013
2013#	1000		Chandra, 2013
2013#	572 (239 old and 233 new unsafe villages)		Prashant, 2013
2013#	365 Plus		Bhatt, 2013
2014	350 Villages		Tribune News Service, 2016
2016	300		Chakrabarty, 2016
2016	341		Abhin, 2016

Note: *Five districts include Chamoli, Pauri, Dehradun, Pithoragarh and Uttarkashi

#Different sources report different number of disaster vulnerable villages in year 2013

Instead of rehabilitating disaster vulnerable villages and families in safer place by executing already existing the National Policy on Resettlement and Rehabilitation 2007, aftermath of severe 2008 and 2010 disasters, the State Government finally formulated its own Resettlement and Rehabilitation Policy in year 2011 for specific purpose of rehabilitating extremely disaster vulnerable villages and families. The Policy 2011 notified guidelines asserted on identification of the safest location in proximity to the present unsafe location for habitation to enable them to survive by performing the agricultural activities (from the ancestral land) and traditional business. It further asserted that before displacing families, due consideration was expected for obtaining advice of the technical experts for making the place safer by considering the safety options. The families identified for rehabilitation was to be taken into confidence during developing their rehabilitation plan and their activities by ensuring their active participation. For rehabilitation, both land and financial assistance for house construction were to be provided to the families, those had possessed house in the disaster affected area. In case, rehabilitated families were not able to use their agricultural land, new agricultural land was to be provided to them alternately amount, calculated on the

basis of circle rate, was to be given them. The house to the families of the Below Poverty Line (BPL) was to be provided under various Central and State Governmental Schemes. The financial aid for improvement of barren land; construction of shed for animals; rehabilitation allowance for transportation of personal assets and other materials; and aid to artisans to start their own business in a new place was to be provided to the disaster affected families (**Table 2**). In rehabilitation, priority was to be given to the extremely disaster vulnerable villages. The job of identification of families in these villages was to be completed on the basis of habited families by 7th July, 2011. The families living after the said date were not eligible for relief or rehabilitation (State Disaster Management and Rehabilitation Department 2011

Table 2: Major Provisions of the State Resettlement and Rehabilitation Policy 2011

S.N.	Head of Provisions	Details of Provisions
1	Land for House Construction	250 Square Meter Free of Cost
2	Financial Assistance for House Construction	Initially Rs. 3 Lakh per Family but later Increased to 4 Lakh per family
3	House to BPL Families	Under various Central and State Government Schemes.
4	Financial Assistance for Cowshed Construction	Rs. 15,000 per Cowshed
5	Agricultural land	New Agricultural Land or Amount at the Circle Rate
6	Improvement of Infertile Land	Rs. 15,000 per hectare
7	Transportation of Household Goods	Rs. 10,000 per Family
8	Rehabilitation of Rural Artisan and Entrepreneurs	Rs. 25,000 per Person

Source: State Resettlement and Rehabilitation Policy 2011, State Disaster Management and Rehabilitation Department, Government of Uttarakhand.

& undated). Later, in wake of the 2013 disaster, by stating crunch of fund and land resources, in year 2013 the State Government approached the Central Government for extending the financial support of Rs.10,653.38 Crore for rehabilitating 304 chronically disaster venerable villages (State Disaster Management and Rehabilitation Department undated) but instead of supporting to the States, the Central Government shifted the responsibility of resettlement and rehabilitation of disaster vulnerable families to the State Governments (Press Information Bureau 2016). In this situation, the State Government of Uttarakhand also included Owner Driven Construction of House (ODCH) Scheme in its rehabilitation plan to undertake resettlement and rehabilitation measures in the state (State Disaster Management and Rehabilitation Department, 2015). The ODCH Scheme- one of the components of the World Bank supported Uttarakhand Disaster Recovery Project (UDRP) - was introduced to benefit 2410 victim-families affected by only the 2013 disaster (Flash Flood) in five severely affected districts (Bageswhar, Chamoli, Pithoragarh, Rudraprayag and Uttarkashi) by providing earthquake seismic resistant house based on the Joint Rapid Damage and Need Assessment Report (World Bank, Asian Development Bank and Government of Uttarakhand 2013). Later, in year 2014, the State Government allowed disaster victims to get

the house constructed in any district under the ODCH scheme. The priority was to be given to disaster victims; those were lacking suitable land by identifying the land closer to their houses or make land available through the geological survey. In absence of the government land, the land was to be purchased for house construction (State Disaster Management and Rehabilitation Department 2014).

In year 2015, by taking the ground of holding limited resources, the State Government took decision of undertaking rehabilitation of only extremely natural disaster vulnerable villages. The selection of these villages was to be done through a process of dividing all the 341 most chronically disaster vulnerable villages into three categories (extremely, highly and sensitive) by following the criteria of (i) number of disaster vulnerable families / population, (ii) vulnerability of disasters, (iii) urgency status of displacement on the ground of vulnerability of disasters (iv) current status and (v) last incidence of disaster, which created need of the displacement of disaster vulnerable villages and families. These 341 most chronically disaster vulnerable villages were already identified by the district level authorities among the disaster vulnerable villages- reported by the villagers (**Table 3**). The list of classified disaster vulnerable village was to be sent by the 28th August, 2015 by the District Level Committees to enable the State Level Committee to decide priority of disaster caused unsafe villages for their rehabilitation (State Disaster Management and Rehabilitation Department 2015). Later, after two years in year 2017, the amount of financial assistance for house construction was increased to Rs. 4 Lakh per family from Rs. 3 Lakh per family (State Disaster Management and Rehabilitation Department 2017). The District Magistrates were also directed to create the land bank of the disaster free land through the geological survey (State Disaster Management and Rehabilitation Department 2015). Thus, formulation of own Resettlement and Rehabilitation Policy 2011 was the significant policy move of the State Government towards resettlement and rehabilitation of the disaster vulnerable villages and families. By complying the provisions of the Policy 2011 and ODCH Scheme, resettlement and rehabilitation was to be done as early as possible within time of two or three years by paying emphasis on the restoration of the disaster affected permanent livelihood and special attention to the needs of women headed households, artisans, farmers and people belonging to marginalized and vulnerable sections as stipulated by the National Policy on Disaster Management 2009 (National Disaster Management Authority 2009). But unfortunately, in the public domain, neither the clear picture of the identified disaster vulnerable villages nor the rehabilitation status of these identified extremely disaster villages and families in the safer place was available. Consequently, in this backdrop to fill the gap of above information, this study was conducted; so-that learning can be applied in improving the rehabilitation process.

RESEARCH METHODOLOGY OF THE STUDY

The study paper is primarily based on the secondary data obtained from various sources mainly the State Government departments. The paper covers only the household level resettlement and rehabilitation aspects of the rehabilitation component of the disaster management. It does not cover reconstruction of the community facilities.

RESULTS

The analysis of obtained secondary data brings out the below mentioned research question wise results:

Identification and Conduction of Geological Survey of Disaster Vulnerable Villages and Families in Uttarakhand

Though the entire state's population is by virtue at the risk of disasters, but reporting of occurrence of disaster vulnerable villages followed by raising of demand by the disaster unsafe families for their rehabilitation in safer place had started several years back. The identification and conduction of the geological survey of the disaster vulnerable villages had been the regular processes towards undertaking necessary rehabilitation and protection measures. Consequently in the entire state, number of identified disaster vulnerable villages had increased from 233 in year 2010-11 to 395 in year 2016-17 while number of geological surveyed disaster vulnerable villages had increased from (more than) 86 in year 2010-11 to 225 in year 2016-17 and number of disaster caused unsafe villages (declared after their geological survey) had increased from 70 in year 2008-09 to 237 in year 2014-15 (**Table 4**). Table 3 also indicates that during the year 2017-18, number of both geological surveyed villages and unsafe villages had reduced to 73 and 51 respectively. On investigation, it is found that after completing the initial phase of geological survey of all the identified most chronically disaster vulnerable villages (341), by taking the ground of fund and land crisis, in the next phase of geological survey, the State Government did re-geological survey of selected 73 extremely disaster vulnerable villages in year 2017-18 to identify and prioritize rehabilitation seeking extremely disaster vulnerable villages. These 73 villages were selected among the 341 most chronically disaster vulnerable villages. As per the State Disaster Management Authority (2014), surprising issue is that these 341 most chronically disaster vulnerable villages, first time publicly reported in the wake of the 2013 disaster, were already declared unsafe for the human settlements due to their continuous vulnerability to and

Table 3: Identified Chronically Disaster Vulnerable Villages in Uttarakhand

S.N.	Divisions	Regions	Districts	Number of Chronically Disaster Vulnerable Villages as on		Difference
				November 2014	December 2016	
1	Kumaon (6 districts)	Hill	Bageshwar	42	42	0
2		Plain	Udham Singh Nagar	1	1	0
3		Hill	Pithoragarh	129	129	0
4		Hill	Champawat	10	10	0
5		Hill	Nainital	6	6	0
6		Hill	Almora	9	9	0

7	Garhwal (7 districts)	Plain	Haridwar	0	0	0
8		Hill	Uttarkashi	8	62	+54
9		Hill	Pauri Garhwal	26	26	0
10		Hill	Rudraprayag	14	14	0
11		Hill	Tehri Garhwal	33	33	0
12		Hill	Chamoli	61	61	0
13		Hill	Dehradun	2	2	0
			Uttarakhand	341	395	+ 54

Sources: State Disaster Management Plan 2014. State Disaster Management Authority. Government of Uttarakhand and Disaster Mitigation and Management Centre, Government of Uttarakhand, Dehradun

Table 4: Status of Identification and Conduction of Geological Survey of Disaster Vulnerable Villages in Uttarakhand

Reported Year	Number of Disaster Vulnerable Villages			
	Identified	Geological Surveyed	Unsafe	Rehabilitated
2008-09			70	
2009-10			99	
2010-11	233	86 +	100	
2011-12	233	100		
2012-13	233	115	80	1
2013-14	337	158		0
2014-15	237/341	237/200	237	1
2015-16				0
2016-17	395	225		0
2017-18		*73	51	11
2018-19				6
2019-20				#6

Note: ambiguity or contradiction in number of identified disaster vulnerable villages is because of differences in data sources

* 73 extremely disaster vulnerable villages were re-selected from already identified and geologically surveyed 341 most chronically disaster prone villages

status upto May / November, 2019

Sources: State Planning Commission and State Disaster Management and Rehabilitation Department, Government of Uttarakhand.

Table 5: Details of 73 Extremely Disaster Vulnerable Villages in Uttarakhand Before and After their Re-technical Assessment

S.N.	Districts	Most Chronically Disaster Vulnerable Villages	Details of 73 Extremely Disaster Vulnerable Villages Before their Re-Technical Assessment		Details of 73 Extremely Disaster Vulnerable Villages After their Re-technical Assessment	
			Extremely Villages	Extremely Vulnerable families	Require Rehabilitation	Require Protection Measures
1	Bageshwar	42	3	31	2	1
2	Pithoragarh	129	21	582	12	9
3	Udham Singh	1	0	0		
4	Champawat	10	0	0		
5	Nainital	6	3	158	3	
6	Almora	9	3	84	2	
7	Haridwar	0	0	0		
8	Uttarkashi	62	11	1149	10	
9	Pauri Garhwal	26	0	0		
10	Tihri Garhwal	33	8	507	8	
11	Chamoli	61	17	888	10	5
12	Rudraprayag	14	7	92	7	
13	Dehradun	2	0	0		
	Total	395	73	3491	54	15

Source: List of 73 Extremely Disaster Vulnerable Villages, State Disaster Management and Rehabilitation Department, Government of Uttarakhand and Letter dated 13th Jan, 2017, Geology and Mining Unit, Government of Uttarakhand

Note: Technical assessment of 4 villages could not be done.

adverse impact of the disasters (mainly landslides) in the past years. In re-geological survey of 69 (not 73) extremely disaster vulnerable villages, 54 extremely disaster vulnerable villages in eight districts were found unsafe while 15 extremely disaster vulnerable villages in three districts (Bageshwar, Pithoragarh and Chamoli) were found in need of the protection

Table 6: Details of Identified 51 Extremely Disaster Vulnerable Villages in Uttarakhand

S.N.	Districts	Total Number of villages	Number of Villages Having Land	Number of Villages Lacking Land	Number of Villages having Unsuitable Land	No information
1	Uttarkashi	10	10			
2	Tihri	8	4	2	2	
3	Pithoragarh	12	5	7		
4	Chamoli	10	8	1		1
5	Bageshwar	2	2			

6	Almora	2	2			
7	Rudraprayag	7	6	1		
	Total	51	37	11	2	1

Source: Letter dated 27 June, 2016 of the Deputy Director, Geology and Mining Unit, Uttarakhand written to the Executive Director, DMMC– Regarding Geological Survey of Disaster Sensitive Villages

Measures. Out of State’s eleven most chronically disaster vulnerable districts, three districts (Champawat, Pauri Garhwal and Dehradun) were now not having any extremely disaster vulnerable village (**Table 5**). In a geological survey report, a ranking of 54 extremely disaster vulnerable villages were also done on the basis of the level of their vulnerability to the disasters. Out of 51 (not 54) extremely disaster vulnerable villages in eight districts, 37 villages had possessed own land for rehabilitation while 11 villages were lacking own land and 2 villages had unsuitable land (**Table 6**). Thus, by following the guidelines of the Policy 2011, according to the set priority order of these 51 extremely disaster vulnerable villages, their rehabilitation was to be done within the stipulated time of two or three years in the safer place. It was also shared that after completing rehabilitation works in 51 extremely disaster vulnerable villages, re-geological survey of rest 322 (395-73) most chronically disaster vulnerable villages was also to be conducted to identify and prioritize rehabilitation seeking disaster vulnerable villages towards undertaking their rehabilitation in safer place.

Rehabilitation of Disaster Vulnerable Villages & Families

After formulation of the State Policy 2011, the State Government had started working on the rehabilitation of the disaster caused unsafe villages and families through both the Owner Driven Construction of House (ODCH) Scheme and State Policy 2011 and. The details of rehabilitation of disaster vulnerable villages and families undertaken through these policy measures are given below:

Rehabilitation Measures through OCDH Scheme

In the Owner Driven Construction of House (OCDH) Scheme, by giving priority to the land holding disaster unsafe households for the reconstruction work, against the total targeted 2410 houses, the State Government constructed only 2382 houses in the five most 2013 disaster affected districts (**Table 7**). The scheme led entire constructed houses were insured for next 10 years against the damage caused by the 15 types of disasters. Under the scheme, Rs. 5 Lakh was given to each household to construct the house (State Disaster Management and Rehabilitation Department 2016). Out of 2382 households, 2284 (95.72 %) households had possessed own land for their house construction while 98 (4.28%) households were given the land by the Government for their house construction. In comparing the 2013 disaster caused fully and partially damaged 19309 houses (16879 Pukka and 2430 Kutcha) and 361 cow sheds (State Emergency Operation Centre, 2013) with constructed 2882 houses,

Table 7: Details of Houses Constructed under the ODCH Scheme in Uttarakhand

District	Total Beneficiaries in ODCH	Actual Beneficiaries in ODCH	Insurance to Beneficiaries	Retrofitting Houses	Other District allotted in ODCH	Land Arranged by District
Bageshwar	96	96	96	06	0	30
Chamoli	581	529	573	47	101	36
Pithoragarh	656	636	652	87	77	22
Rudraprayag	860	826	833	125	130	04
Uttarkashi	290	295	296	31	15	06
Total	2488	2382	2450	296	323	98

Source: State Disaster Management and Rehabilitation Department (undated): PIU Resilient Housing and Public Buildings, Dehradun, Uttarakhand Disaster Recovery Project <http://ukdisasterrecovery.in/index.php/projects/udrp1/hpb>

construction of only 2382 houses is found inadequate. It is also mentionable here that the Uttarakhand Disaster Recovery Project (UDRP) had mainly focussed on the reconstruction of community facilities. Conclusively, ODCH scheme had targeted limited number of the 2013 disaster vulnerable families by addressing their physical rehabilitation component (house construction).

Rehabilitation Measures through Resettlement and Rehabilitation Policy 2011

In the State, by complying the provisions of the Policy 2011, resettlement and rehabilitation process had also started year from 2012 onwards. Between the period of the last seven years from year 2012 to the year 2019, 634 families of 25 extremely disaster vulnerable villages had been shifted near to their native places by incurring an amount of Rs. 26.94 Crore (**Table 8**). It is also found that during the period of the last three years from year 2012-13 to year 2014-15, 11 families of only two villages while during the period of the last three years from year 2017-18 to year 2019-20, 623 families of 23 villages had been rehabilitated. Overall, against the planned rehabilitation of 939 families of 34 extremely disaster vulnerable villages during the period of last seven years from year 2012 to year 2019 (till October, 2019), rehabilitation of 634 families of 25 extremely disaster vulnerable villages in five districts were done (**Table 9**). In other words, rehabilitation of average 25 families of around four villages per year was done during the last seven years. It is also found that the set priority order for undertaking rehabilitation of extremely disaster venerable villages was not being followed-up in both sanctioning rehabilitation fund and undertaking rehabilitation measures.

Table 8: Status of the Undertaken Resettlement and Rehabilitation Works in the Extremely Disaster Vulnerable Villages in Uttarakhand

S.N.	Districts	Extremely Disaster Vulnerable Villages				Number of Rehabilitated Families	Fund Allotment (INR Lakhs)
		Name	Year of Approval of Rehabilitation Fund	Ranking of Villages	Number		
1	Rudraprayag	Chhatikhhal	May, 2012		1	4	13.00
		Semitalli, Kunjethi, Jaltalla, Kaviltha and Panjana	March, 2018	Kunjethi -45 Jaltall-50, Kaviltha-48, Panjana-49	5	56	237.70
		Rudraprayag Total			6	60	250.70
2	Chamoli	Jagadi Hamlet of Pharkandey Village	March, 2015		1	7	24.50
		Simar Faki and Lodh hamlets of Kanol Village	September, 2017	6	1	60	195.00
		Chhapali	March, 2018	42	1	7	29.75
		Tyula	May, 2018	43	1	21	89.25
		Baula	August, 2018	35	1	6	26.75
		Bhyadi	July, 2018	41	1	48	204.00
		Sarpali	December, 2018	39	1	38	165.75
		Gondi Giwala	October, 2019		1	4	18.00
		Chamoli Total			8	191	753.00
3	Bageshwar	Dobad, Badet, Seri	July, 2017	Dobad-7 Badet-16 Seri-	3	28	91.00
		Kunwari	July, 2017		1	18	76.50
		Phulai	August, 2019		1	5	20.95
		Bageshwar Total			5	41	188.45
4	Tihri Garhwal	Bhelunta Chherdanu	December, 2017	37	1	26	110.50
		Indraula	May, 2019	15	1	166	705.00
		Tyalani Tok Khalunda	September, 2018	19	1	20	85.00
		Agunda	May, 2019	17	1	99	420.75
		Tihri Garhwal Total			4	311	1321.25
5	Pithoragarh	Kanar Tok Toyla	May, 2019		1	5	21.25
		Takul Tok Mangati	August, 2019	11	1	16	138.63
		Pithoragarh Total			2	21	159.88
		Grand Total			25	634	2673.28

Source: Details of Undertaken Rehabilitation of Disaster Vulnerable Villages Provided by Disaster Mitigation and Management Centre, Government of Uttarakhand, Dehradun in October, 2019

Table 9: Details of Year-wise Undertaken Rehabilitation of Extremely Disaster Vulnerable Villages and Families in Uttarakhand

Year	Rehabilitation was to be done of Number of		Rehabilitated Number of	
	Villages	Families	Villages	Families
2012-13	1	4	1	4
2013-14	0	0	0	0
2014-15	1	7	1	7
2015-16	0	0	0	0
2017-18	12	177	11	177
2018-19	6	151	6	151
2019-20	14	330	6	295
Total	34	939	25	634

Note: Rehabilitation of Pulinda and Khurpal villages is planned in year 2019-20 but details of families and fund are not mentioned in list of proposed villages for rehabilitation. In year 2019-20, rehabilitation of 3 villages was already done and rehabilitation of 11 new villages was planned

Sources: Details of Undertaken Rehabilitation of Disaster Vulnerable Villages Provided by Disaster Mitigation and Management Centre in October, 2019 and GOs of between year 2012 to year 2019 and Updated List of Rehabilitation Villages, State Disaster Management and Rehabilitation Department, Government of Uttarakhand, Dehradun .

In the State, rehabilitation of a large number of villages declared unsafe years back (even before the year 2008) was not done after passing of long time (Kasniyal 2015; Bhatt 2013; Amar Ujala 2015 & 2017 & Hindustan 2019). The analysis of the sanctioned financial aid for undertaking rehabilitation (**Table 10 -given in the last page**) indicates clearly that financial support was approved mainly for the construction of the houses and cow shed along-with transportation of the household goods. Only in Chamoli district, out of the five rehabilitation undertaken districts, financial aid for re-start of business activities was approved for 29 families. Also, in Chamoli district, for reconstruction of community facilities in only one village (16 families), Rs. 70.63 Lakh was sanctioned. The rate of financial support per family was also varying most probably due to the household specific requirements and increase of the amount of the house construction (since year 2017). Thus, the State Government had targeted mainly the sub- component of the physical rehabilitation (by reconstructing houses and cowsheds) of the rehabilitation approach while attention to other sub-components of rehabilitation approach like economic component was normally not needed due to shifting of families closer to their native place. Overall, in the State, late, slow and inadequate rehabilitation measures were seen. Behind the late and slow undertaking of rehabilitation works in the State, as per Chandra (2013) lack of capability of rehabilitating large number of (761) disaster vulnerable villages and as per (Prashan 2013; Kasniyal 2015, Bhatt 2013; Amar Ujala 2015 & 2017 & Hindustan 2019) lack of seriousness of the State Government towards rehabilitation had been the main reasons but as per Prashant (2013), ground of lacking adequate resources for not undertaking rehabilitation of already declared unsafe villages was condemned by the Member of Parliament of Almora Constituency. It was also reported by Charabarty (2016) that many of the disaster victim families were deprived of financial

assistance against their losses and the urgent need of creation of employment and livelihood opportunities in disaster affected areas was ignored for their survival (Maikhuri Dhayni and Nautiyal 2015). Also, as per Bhatt (2013), the disaster unsafe families were left with no option and as per Kumar (2016) due to the inadequate and untimely rehabilitation, large numbers of families in the entire state were facing various kinds of problems and challenges. Due to lack of timely and proper rehabilitation in the State, as per Maikhuri, Dhayni and Nautiyal (2015) and Kumar (2016) migration of families within and out of districts; Chakrabarty (2016) own resettlement in the unsafe places; Amar Ujala (2017) living in the public places and tents (Markund 2013) and as per Hindustan (2019) psychological imbalances among the disaster unsafe families were seen. Also, as per Bhatt (2013), over 10,000 families living in 365 disaster vulnerable villages of the entire State were leading a nightmarish experience because of unsure of their future. Many of the disaster unsafe families with no options were living in an unsafe place at the nature's mercy.

CONCLUSIONS AND SUGGESTIONS

Emergence of the hill state of Uttarakhand as the most disaster prone Indian state has made large number of villages and families vulnerable to disasters and created their demand for rehabilitating them in safer place. To meet their rehabilitation demand, the State Government identified (341) the most chronically disaster vulnerable villages among the disaster vulnerable villages and conducted their geological study to assess and meet their need of rehabilitation and protection measures. By formulating own Rehabilitation Policy 2011, the State Government had initially decided to rehabilitate all the disaster unsafe villages. After receiving refusal of the Central Government, instead of rehabilitating already declared all disaster unsafe villages (341) under the veil of resource crisis, the State Government did re-geological survey of few selected (73) extremely disaster vulnerable villages among them and decided to rehabilitate recommended (51) extremely disaster vulnerable villages through the Policy 2011. The State Government also included ODCH scheme under the rehabilitation measures for covering large number of families. Through the Policy 2011 and ODCH Scheme, between year 2012 to year 2019, the State Government relocated 3016 (634 plus 2382) families in safer place closer to their native place by constructing their housing structures mainly (physical rehabilitation). Against the large number of rehabilitation seeking families (around 10,000 families), number of families, rehabilitated so-far, is a very small number. The State Government's expectation of housing reconstruction by the rehabilitation deprived families (including ex-gratia payment recipient) from their own resources is an irresponsible act due to the higher cost of land and house reconstruction in the hill region. The rehabilitation work was undertaking slowly and not meeting the demand of disaster victim families timely and properly. The State Government could not fulfill the urgent rehabilitation need of the families living in the disasters created unsafe conditions. The rehabilitation deprived families of disaster caused unsafe villages were compelled to live on the mercy of disasters and somehow resource capable families had also shifted to another both safer and unsafe place at own. The slow pace of undertaking and pending rehabilitation

measures were further creating a long list of rehabilitation seeking villages and multiplying their problems and challenges many folds in the disaster unsafe conditions. The existing trend of creation of disaster unsafe villages and slow pace of their rehabilitation work indicate that rehabilitation of families of the large number of disaster vulnerable villages would take very long time and during this period their number would further multiply many times. Keeping the citizens in disaster unsafe living conditions is denial of their constitutional rights and shifting from own goal of reviving their socio-economic life by extending its full support. By keeping their life in risk, the State can never be a developed state.

Considering the urgent need of rehabilitation seeking large number of disaster vulnerable villages, there is a pressing requirement of the incorporation of the agenda of the long term rehabilitation in both the disaster management and development plans. The families of disaster vulnerable villages need their immediate rehabilitation. Though the State Government claims lack of both fund and land resources but with the support of the Central Government and development funding agencies, rehabilitation of the disaster vulnerable families can be done properly within a short span of time. It would be possible, if the State Government has a sense of ownership and responsibility of rehabilitating the families of all the disaster created unsafe villages. In their rehabilitation, the Central Government cannot ignore its responsibility as being the Federal Government and revenue sharing partner; it is also her secondary responsibility. By engaging the national and international level technical institutes and experts, disaster vulnerable villages can be identified and both protection and rehabilitation measures can also be done properly. Moreover, by addressing the needs of pro-environmental development approach and rehabilitating disaster vulnerable families in a safer place, the State Government can minimize both risk of disasters and investment in relief works, ultimately benefiting the people to enjoy the development gains with minimum risks. In other words, rehabilitating the families in safer place is an opportunity for the State Government to make disaster resilient housing infrastructures to minimize the losses and associated costs.

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Table 10: Rehabilitation Component wise Details of Approved Fund in Uttarakhand

S.N.	District	Number of		Sanctioned Fund for R and R Measures in Uttarakhand										
		Village	Families	Free Land for House Construction	Rate of Per Family (INR Lakh)	House Construction (Rs. 3 / 4 Lakhs per Household)	Agricultural Land or Its Market Cost	Improvement of Land (Rs. 15000 per Hectare of Land)	Cowshed Construction (Rs.15000 per Cowshed)	Transportation (Rs.10000 per Household)	Re-start of Business (Rs. 25000 per Person)	Other Expenses	Total Sanctioned Amount	
1	Rudrapur	1	4		3.25	1200000			60000	40000			1300000	
		5	56		54 families-4.25	21600000		810000	540000				22950000	
2	Chamoli	1	7		2 families-4.10	800000		0	20000				820000	
		1	60		3.5	2100000		105000	70000	175000			2450000	
		1	7		3.25	18000000		900000	600000				19500000	
		1	7		4.25	2800000		105000	70000				2975000	
		1	21		4.25	8400000		315000	210000				8925000	
		1	6		5 families-4.50	2000000		75000	50000	125000				2250000
		1	48		1 family -4.25	400000		15000	10000					425000
3	Bageshwar	1	38		4.25	19200000		720000	480000				20400000	
		1	28		21 families -4.25	8400000		315000	210000				8925000	
		1	18		17 families -4.50	6800000		255000	170000	425000			7650000	
		3	28		3.25	8400000		420000	280000				9100000	
4	Bageshwar (Fulai Village)	1	18		4.25	7200000		270000	180000				7650000	
		1	6		4.25	1800000		90000	90000				1980000	
		1	5		4.25	1200000		45000	30000				1275000	
4	Tithi Garhwal	1	26		4.1	800000		0	20000				820000	
		1	20		4.25	10400000		390000	260000				11050000	
		1	20		4.25	8000000		300000	200000				8500000	
		1	99		4.25	39600000		1485000	990000				42075000	
		1	166		4.25	66400000		2490000	1660000			70550000		

5	Pithoragarh	1	5	2125000		4.25	2000000			75000	50000			2125000	
		1	16	13863000		4.25	6400000			240000	160000		7063000	13863000	
	Total	24	631	267558000			243900000		0	0	9480000	6390000	725000	7063000	267558000

Source: GOs of State Disaster Management and Rehabilitation Department, GoUK