

Chapter-3
Planning and Reconstruction of
damaged infrastructure

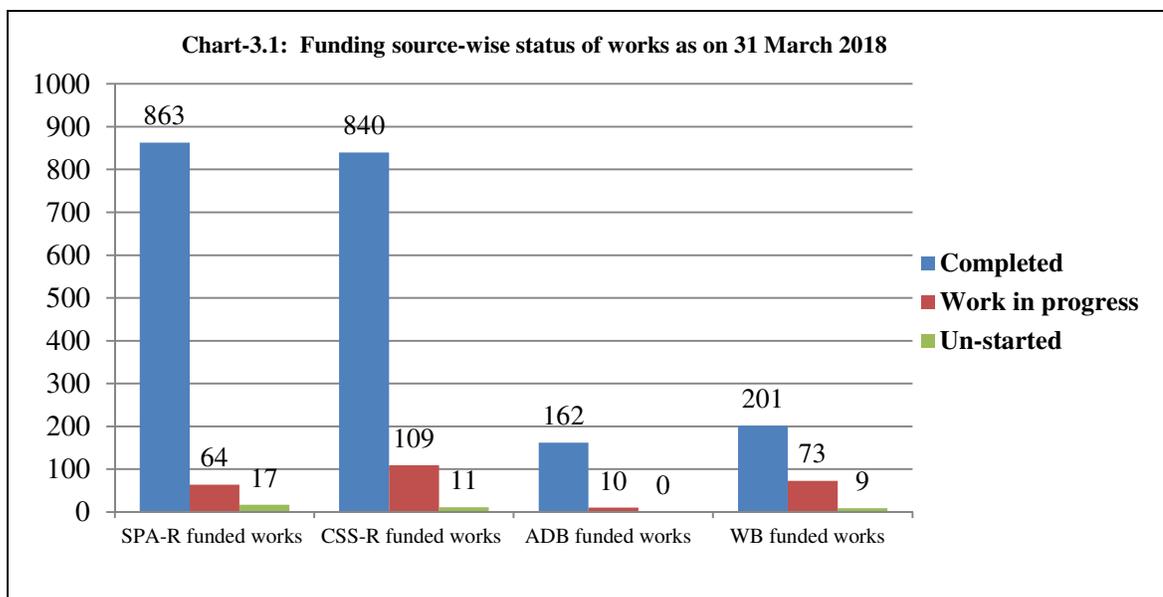
Chapter-3: Planning and Reconstruction of damaged infrastructure

3.1 Introduction

The reconstruction works sanctioned under Special Plan Assistance, Centrally Sponsored Schemes (CSS-R), and Central Plan Assistance were to be completed by March 2016 but these were extended/allowed (October 2016) by Government of India (GoI) up to March 2017 considering the tough working conditions in the State. Further, the Asian Development Bank (ADB) funded Uttarakhand Emergency Assistance Project (UEAP) and World Bank funded Uttarakhand Disaster Recovery Project (UDRP) were scheduled to be completed by March 2017 and December 2017 respectively as per loan agreements executed between the Government of Uttarakhand (GoU) and the ADB/World Bank.

The National/State Disaster Response Funds (NDRF/SDRF) of ₹ 274.43 crore was for restoration of infrastructure of essential and urgent nature during the year 2013-14. Special Plan Assistance-Reconstruction (SPA-R) was given only to the five severely affected districts whereas UEAP, UDRP, CSS-R and SDRF funding were for all the districts.

The respective line departments/agencies of the State Government were assigned the responsibility of implementation of the works sanctioned under Medium & Long Term Reconstruction (MLTR) package. Status of completion of works as on 31 March 2018 are shown in **Chart-3.1** below:



Source: Information provided by the respective Nodal Agencies.

The department wise status of works as on stipulated dates of completion and as on 31 March 2018 are given in **Appendix-3.1**.

The sectoral details of the identified damages, planning and execution of reconstruction works by the State authorities under MLTR are discussed in the succeeding paragraphs:

3.2 Roads, Bridges and Trek Routes

Roads are the lifeline of the State as about 90 *per cent* of passengers and goods in the State of Uttarakhand move by road. This sector is administered by the Public Works Department (PWD) which is responsible for planning, construction and maintenance of roads and bridges. The overall road network in the State at the time of disaster of June 2013 was around 28199 km³⁶ and 1773 Motor Bridges (MR). Additionally, the PWD also administers 3,736 km of Bridle Roads/Treks and 1,073 Bridle Bridges.

According to the Joint Rapid Damage & Need Assessment (JRDNA) Report, the disaster of June 2013 caused damages to about 2,174 roads (8,908.78 km³⁷), 85 motor bridges and 140 bridle bridges and connectivity to about 4,200 villages was broadly affected. The impact of disaster on the population due to loss of connectivity was immense with food supplies, healthcare, education and livelihood of the population getting badly affected and tourism activities completely disrupted.

The State Government, in its proposal (September 2013) to the GoI, demanded ₹ 3,456.80 crore for the roads and bridges sector against which an outlay of ₹ 2,108.49 crore was approved under the MLTR package. Funds for the restoration/reconstruction of 7,290 km road length of State Highways (SH), Major District Roads (MDR), Other District Roads (ODR), Village Roads (VR) and its bridges were included in the MLTR package whereas the GoI directly provided funds for the affected National Highways (NH), Border Road Organisation (BRO) roads and PMGSY (Pradhan Mantri Gram Sadak Yojana) roads.

The details of works planned/sanctioned under MLTR package (EAPs and SPA-R) are given in the **Table-3.1** below:

Table-3.1: Details of works planned/sanctioned under each source of funding

Category of Roads	ADB funding (UEAP)		WB funding (UDRP)		SPA-R funding ³⁸	
	Planned length of roads (km)	Approved outlay (₹in crore)	Planned length of roads(km)	Approved outlay (₹in crore)	Planned length of roads (km)	Approved outlay (₹in crore)
State Highways	1,800	708*	-	-	175	300*
Major District Roads			-	-		
USRIP ³⁹ Roads			600	-		
Other District Roads	-	-	675	930*	-	
Village Roads	-	-	3,600		-	
Bridle Roads	-	-	440		-	
Total (MR)	2,400	708	4,715	930	175	300
Motor/bridle bridges	16		140		14	

Source: Departmental figures.

*including cost of bridges

³⁶ 1,151 km National Highways, 3,788 km State Highways, 3,290 km Major District Roads, 2,945 km Other District Roads, 15,402 km Village Roads, 1,623 km Border Road Organisation's Roads.

³⁷ Motor Roads-8,472.43 km and Bridle Roads- 436.35 km.

³⁸ SPA-R funding was for those additional damaged works/bridges of five severely affected districts which were not part of UEAP/UDRP.

³⁹ Uttarakhand State Road Improvement Programme being implemented through ADB funding since November 2006.

The reconstruction works of UEAP and UDRP were managed/ executed by the dedicated Project Implementing Units (PIUs) of PWD whereas the reconstruction works of SPA-R and National/State Disaster Response Funds (NDRF/SDRF) funding were directly managed/executed by the PWD through its territorial divisions. The details of actual number of works sanctioned under each corpus for the five test checked districts as well as the State as a whole are given in **Table-3.2** below:

Table-3.2: District-wise details of sanctioned works (Cost/progress in crore ₹)

Name of district	UEAP works			UDRP works			SPA-R works		
	Sanctioned works		Financial progress (03/2018)	Sanctioned works		Financial progress (03/2018)	Sanctioned works		Financial progress (03/2018)
	No.	Cost		No.	Cost		No.	Cost	
Bageshwar	09	41.47	36.25	26	126.80	109.45	102	24.44	24.23
Chamoli	15	112.29	105.08	40	209.90	151.58	27	26.11	22.29
Pithoragarh	10	104.04	46.41	33	198.24	103.69	46	31.54	15.84
Rudraprayag	05	36.22	28.39	35	110.24	83.62	50	86.89	72.24
Uttarkashi	10	71.25	60.06	28	90.28	75.69	300	149.47	122.73
Total	49	365.27	276.19	162	735.46	524.03	525	318.45	257.33
State as whole	119*	924.12	819.08	262	1050.99	782.54	525	318.45	257.33

*110 works of Road/Bridge (₹ 860.30 crore) and 9 Trek Routes (₹ 63.82 crore).

In addition to above, 718 works of ₹ 67.30 crore were sanctioned by the respective District Magistrates of the five test checked districts under NDRF/SDRF.

In five test checked districts along with assessment of overall status of sanctioned works at nodal PIUs and Engineer-in-Chief (En-C) PWD, Dehradun, audit examined:

- 117 works (22 per cent) funded by SPA-R valued at ₹ 210.46 crore which accounted for 66 per cent of the total sanctioned cost;
- 35 works (29 per cent) funded by UEAP valued at ₹ 236.30 crore which accounted for 26 per cent of total sanctioned cost;
- 55 works (21 per cent) funded by UDRP valued at ₹ 302.47 crore which accounted for 29 per cent of total sanctioned cost; and
- 86 works (12 per cent) funded by SDRF valued at ₹ 18.56 crore (28 per cent) out of total 718 works of ₹ 67.30 crore sanctioned to the sampled PIUs.

3.2.1 Planning issues

3.2.1.1 Improper identification and planning of damaged works by Nodal Agency

GoU directed (4 July 2013) all the line departments of the State to do a quick exercise for identification/ assessment of the physical infrastructure damaged by the disaster of June 2013 and to provide details⁴⁰ of the same to the Government/JRDNA Mission for deciding the quantum of damages and provisioning of funds accordingly.

The following discrepancies were noticed:

⁴⁰ Areas of assistance required, rough estimates of requirement of funds for various assets, scope of restructuring of existing projects to include the damaged assets, and timelines proposed for preparation of project proposals.

- Under approved list of SPA-R (525 works), 119 road works costing ₹ 15.65 crore were not related to damages caused by June 2013 disaster. These works had already been sanctioned⁴¹ by the PWD under Special Plan Assistance for reconstruction/restoration in the year 2012-13 indicating that the estimation and source of funding had already been decided. The MLTR package was meant for only those works which were related to 2013 disaster. The Department, thus, recommended those works under MLTR package, which were not damaged in the 2013 disaster.
- 73 works costing ₹ 37.99 crore included in the sanctioned list of SPA-R also featured under other sources of funding. Subsequently, the sanctions of these works were cancelled after incurring an expenditure of ₹ 1.25 crore. The Department, therefore, failed to do due diligence while submitting proposals of these works under various components of funding.
- In lieu of the cancelled works and to adjust the savings of other SPA-R works, 123 works (117 roads and 6 bridges) costing ₹ 72.05 crore were sanctioned subsequently (2015 & 2016) under SPA-R. Audit found that no approval was taken from the GoI before sanctioning these works.
- Despite clear demarcation for coverage of SHs, MDRs & Urban Roads under ADB assisted UEAP and VRs & ODRs under World Bank assisted UDRP, audit observed that one work of VR (Reconstruction of Pholchatti-Jankichatti Motor Road (MR) of district Uttarkashi) costing ₹ 8.20 crore was taken up under UEAP. This road was not even included in the identified list of damaged roads of UDRP. The Department while accepting the fact stated that the changes were made with the approval of High Powered Committee (HPC). Reply is not acceptable as the work was not sanctioned/executed as per prescribed criteria.
- The Disaster Management Department, GoU entered into an agreement (March 2013) with the National Buildings Construction Corporation (NBCC) (India) Ltd. for reconstruction of 14 damaged bridges⁴² (₹ 54.10 crore) of district Uttarkashi which had collapsed/damaged during monsoon season of 2012 or earlier period. However, consequent upon disaster of June 2013, the reconstruction work of these 14 bridges was included in the MLTR package under SPA-R (₹ 80.43 crore). The work of 12 bridges (₹ 68.61 crore) was afresh assigned to the NBCC (India) Ltd and the work of two bridges (₹ 11.82 crore) was given to a territorial division of PWD by the GoU. Accordingly, a fresh agreement (₹ 68.61 crore) was signed (February 2015) between the PWD and NBCC for the reconstruction of 12 bridges of district Uttarkashi. The NBCC could complete the works of only seven bridges and balance five bridges were lying incomplete, as of November-2017. However, it was intimated by the NBCC

⁴¹ Under SPA with 90:10 cost sharing ratio between Central and State Government.

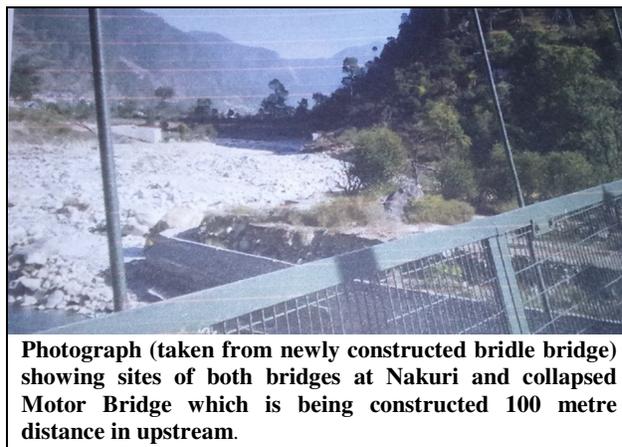
⁴² The work was sanctioned under SDRF having 90:10 cost sharing between Central and State Government.

subsequently (August 2018) that the work of 10 bridges had been completed and only two bridges were lying incomplete as on 31 March 2018.

The GoU, therefore, included old liability of these 14 bridges costing ₹ 80.43 crore in the MLTR package as part of 100 *per cent* centrally sponsored component of SPA-R which was meant for reconstruction works relating to 2013 disaster only.

▪ Further, construction work of 80 metre Span Steel Truss Motor Bridge over River Bhagirathi near Nakur-Athali, Block-Dunda was taken up by the NBCC in March, 2014. Audit found that this work was entirely new work which was shown in the records as reconstruction of old bridge damaged in 2012. However, the construction work of bridge was held-up since May 2016 due to collapse of the structure in a cyclone/thunderstorm after incurring an expenditure of ₹ 7.10 crore. The bridge was to be reconstructed by the contractor at his own cost (by virtue of insurance claim).

It was also observed that the site of this Motor Bridge was just around 100 metres away (in the upstream) from another project of the NBCC Ltd wherein a 102 metre Span Bridle Suspension Bridge had been constructed (June 2016) at a cost of ₹ 6.92 crore as shown in photograph given alongside (both bridges were among those 12 bridges which were assigned to the NBCC for construction). As such, not only the sanction of the Motor Bridge was irregular being a new work but at least expenditure incurred on reconstruction of the Bridle Suspension Bridge (₹ 6.92 crore) could have been avoided as both the bridges are being constructed at same place and targeted the same population.



The Department while accepting the facts stated (February 2018) that all the changes were made with due approval of HPC.

3.2.1.2 Multiple sources of funding for same works

Under MLTR, GoU planned that the badly damaged roads or portion of SHs, MDRs, ODRs and VRs would be reconstructed under EAPs and part damages to roads which were not included under EAPs would be carried out through funding under SPA-R. Besides, the SDRF kept at the disposal of each District Magistrate, was to be utilised for all urgent nature of road works such as opening of road communication after disaster of June 2013.

Audit scrutiny at the En-C office PWD and test checked territorial divisions/field PIUs showed that there were overlapping items of work and the same works were funded from multiple sources in 20 road works leading to excess expenditure of ₹ 5.52 crore:

- For reconstruction of 15 road works, SPA-R amounting to ₹ 3.65 crore was sanctioned by the En-C (PWD) for nine territorial divisions despite the fact that the proposals for reconstruction of identified damages to these MRs after June 2013 disaster were sanctioned under EAPs (₹ 107.69 crore) for execution by the district level dedicated PIUs of UEAP/UDRP (*Appendix-3.2-A*).
- In two cases, ₹ 0.72 crore was sanctioned under SPA-R for those items of work which were entirely being reconstructed under State Sector (₹ 20.25 crore) and PMGSY (₹ 26.46 crore) respectively after 2013 disaster. Further, SPA-R of ₹ 1.15 crore was also sanctioned (June 2016) for three roads wherein major works of widening and strengthening (₹ 8.36 crore) were already in progress under State Sector and any required works of damages could have been carried out through variations of existing contracts. The details of source wise funding are given in *Appendix-3.2-B*.

In reply, it was stated (February 2018) by the Department that the SPA-R sanctions were required to maintain the proper functioning of roads by the territorial divisions whereas EAP funds were utilised for major works. The reply should be seen in light of the fact that works of urgent nature had already been sanctioned/executed under SDRF 2013-14. The medium and long-term reconstruction works were required to be planned/sanctioned in such a manner that entire works pertaining to a MR or portion of the road should have been covered by single source of funding and executing agency/division. This could have avoided expenditure of ₹ 5.52 crore under SPA-R which could have been utilised for coverage of some other damaged works.

3.2.1.3 Excess preparation of DPRs by UDRP

For the roads and bridges (R&B) works of UDRP (ODRs/VRs), some detailed project reports (DPRs) were prepared in-house by the territorial divisions of PWD and some DPRs were to be prepared through the Design & Supervision Consultancy (DSC) firms hired by the State level PIU (R&B), Dehradun.

Audit scrutiny at PIU (R&B) UDRP, Dehradun revealed that the PIU assigned the work of preparation of 317 DPRs (between June 2014 and March 2015), pertaining to eight districts, to four DSC firms for 1,288.82 km road length and 62 bridges against which they prepared 108 and 61 DPRs of roads and bridges respectively at a cost of ₹ 14.26 crore. However, the HPC sanctioned works pertaining to 71 DPRs only (46 roads and 25 bridges) and the balance 98 DPRs (62 roads and 36 bridges) prepared at a cost of ₹ 5.81 crore remained unutilised.

It was replied by the Department during exit conference (February 2018) that some DPRs were being handed over to the regular divisions of PWD and the remaining DPRs of bridges would be utilised on receiving additional funding from the World Bank.

3.2.2 Implementation issues

3.2.2.1 Non-completion of works within stipulated timeframe

Audit scrutiny of EAP funded works showed that against the scheduled date of completion of March 2017 for UEAP funded works and December 2017 for UDRP funded works, the PIU (R&B) UEAP could complete 83 works (75 per cent) of ₹ 557.45 crore out of total 110 works (₹ 861.78 crore) and 27 works were in progress. Further, the PIU (R&B) UDRP could complete only 153 works (58 per cent) of ₹ 419.84 crore out of total 262 works (₹ 1,050.99 crore) while 93 works were in progress and 16 works were yet to be taken up as on date of audit (August/September 2017). The non-achievement of targeted timeline was despite the fact that around 66 per cent identified damaged works (Roads: 48 per cent and Bridges: 84 per cent) of the EAPs were not covered (refer paragraph-3.2.2.5) and there was no issue of non-availability of land/sites since reconstruction of existing works was to be carried out. The delay in completion of works was mainly attributed to adverse working conditions in remote/hilly terrain of the State; delay in preparation/clearance of projects and award of works; and execution of extra items of work in many cases.

In audit of six sampled trek routes (out of total nine), audit found that these works valuing ₹ 40.94 crore were divided into 98 parts⁴³ for execution through various local contractors with due approval of the HPC and by relaxing the financial rules/ADB norms in this regard on the ground that this would help in timely completion of the works. However, audit observed that all the nine works were progressing very slowly and the progress ranged between 04 and 66 per cent (June 2017).

Similarly, the territorial divisions of PWD could complete (June 2017) only 488 works (93 per cent) out of total 525 sanctioned works under SPA-R due to non-release of sanctioned funds of ₹ 72.45 crore by the GoU while 37 works were still in progress.

However, the status of the works at the end of March 2018, as intimated (July/August 2018) by the nodal agencies, was as under:

Particulars		Total No. of sanctioned works	Position as on 31 March 2018		
			Completed	In progress	Un-started
Road & Bridges	UEAP	110	110	-	-
	UDRP	262	187	67	08
	SPA-R	525	499	24	02
Trek Routes	UEAP	09	06	03	-
Total		906	802	94	10

⁴³ Munsiyari-Milam-Dung Trek Route (20 parts), Panchachuli trek route (36 parts), Askote-Kalapani trek route (25 parts), Kati-Sunderdunga Glacier trek route (4 parts), Kafni Glacier trek route (4 parts), and Janakichatti-Yamunotri trek route (9 parts).

3.2.2.2 Execution of inadmissible works

In below mentioned cases, the execution of reconstruction works was against the prescribed norm and technical specifications leading to extra/avoidable expenditure of ₹ 58.52 crore:

- According to the decision taken by the GoU/HPC (January 2014), roads having *Kutchra* status at the time of disaster were to be reconstructed up to Black Top (BT) level with Premix Carpet (PC)/Seal Coat and the roads with BT status were to be reconstructed to its pre-disaster state.

Audit observed that in 14 road works, executed by eight PIUs, the existing surface was either *Kutchra* or black top. However, these roads were reconstructed with costlier material of Bituminous Macadam (BM)/Semi-dense Bituminous Concrete (SDBC). Had the roads been reconstructed with PC/Seal Coat as per decision of GoU/HPC, the cost of reconstruction of above 14 roads would have been ₹ 23.42 crore against the actual cost of ₹ 66.33 crore (**Appendix-3.3**).

The Department during exit conference (February 2018) stated that the riding quality of BM/SDBC roads was far better than PC/Seal Coat roads and, therefore, on the demand of local populace as well as local representatives, the road works were executed with BM/SDBC material. However this was done without approval of HPC.

- The reconstruction work of VRs under UDRP was to be carried out by following the PMGSY norms which stipulates that all the link roads of VRs having traffic census of less than 100 motorised vehicles per day (MVPD) are to be constructed with carriageway of 3 metre width.

Scrutiny of records revealed that in five PIUs of UDRP, the carriageway of nine VRs was designed/constructed with a width of 3.75 metre along with extra width for curves and passing places. All these VRs were link roads having traffic less than 100 MVPD. Thus, the sanction/construction of 0.75 metre extra width for the carriageway of these roads was irregular and against the PMGSY norms which resulted in an extra/avoidable expenditure of ₹ 4.24 crore (**Appendix-3.4**).

During exit conference (February 2018), the Department replied that the carriageway of these roads was kept at 3.75 metre as per PWD norm to maintain the uniformity of road width across the State. The reply is not acceptable because roads constructed under PMGSY with 3 metre carriageway are also finally taken over by the State PWD. Hence, the argument of need to maintain uniformity of road width does not appear valid.

- The PMGSY and PWD norms for VRs specify that the choice of design and surface for rural roads to be constructed would be determined by the factors of traffic and type of soil as per technical specifications and geometric design standards given in IRC: SP-72 (2007).

It was observed that in three VR works executed by one PIU (UDRP-Pithoragarh), the pavement thickness for sub-base/ base courses of these roads was kept higher than the prescribed norms (IRC: SP-72) for the respective traffic category and California Bearing Ratio (CBR)⁴⁴ values of soil of the roads. The enhanced pavement thickness resulted in use of extra material costing ₹ 0.93 crore (**Appendix-3.5**) which was avoidable as per provision of IRC: SP-72 (2007).

- A circular issued (February 2013) by the Head of Department (HoD)-PWD, Dehradun stipulates that the carriageway/width of bridges for link roads and through⁴⁵ roads in hill area shall be constructed in single lane (4.25 metre) and 1.5 lane (5.5 metre) respectively. Audit scrutiny showed that the carriageway/width of five bridges (₹ 27.65 crore) being constructed by the NBCC in rural/hill roads of district Uttarkashi was kept at 8.5 metre (double lane) against the aforesaid norms of State PWD. This resulted in excess expenditure of ₹ 6.01 crore (worked out on proportionate basis).

- HPC accorded (September 2014) financial sanction of ₹ 16.64 crore for reconstruction of 26 km long Karnprayag- Nainisain MR under UEAP. As per assessment of damages and DPR prepared by the PIU (R&B) for this work, only 14.82 km portion of the road was to be reconstructed with Bituminous Macadam (BM: 2121 cum) as profile corrective course (PCC) whereas Semi Dense Bituminous Concrete (SDBC) was to be laid in the entire length of 26 km. Audit observed that the BM was laid by the PIU (UEAP-Chamoli) for the entire length (5353.43 cum) of MR which resulted in excess expenditure of ₹ 3.02 crore⁴⁶. Similarly, it was observed during audit of the PIU-UDRP, Uttarkashi that the BM / SDBC works costing ₹ 1.41 crore was executed in four km stretch of 31.70 km long Chilyanisaud-Jogath MR which was not earmarked as damaged as per the sanctioned DPR. Execution of these works was done without approval of competent authority.

3.2.2.3 Cost escalation due to inadequate planning

Management of a Bridle Bridge being constructed by the NBCC Ltd. over Assi Ganga at a cost of ₹ 6.15 crore for Uttaro Village of Bhatwari Block (Uttarkashi) was poor as due cognizance of sliding zone on the Left Hand Side (LHS) was not taken while preparing the DPR. Resultantly, the scope of work (span) was reduced three times from 150 metre span to 102.6 metre (to



⁴⁴ California bearing ratio (CBR) is a penetration test for evaluation of the mechanical strength of natural ground, subgrades and base courses beneath new carriageway construction.

⁴⁵ Through roads are those which collect traffic from several link roads or a long chain of Habitations and lead it to Marketing centres either directly or through the higher category roads i.e. the District roads or State or National Highways.

⁴⁶ BM: 3,232.43 (5,353.43 – 2,121) cum at the rate of ₹ 9,327.50/cum.

remove abutment of bridge from sliding zone and increase in height of anchor blocks), as shown in the photograph. The frequent revision⁴⁷ of bridge works resulted in escalation of cost of work by ₹ 2.95 crore due to execution of extra protection works.

Similarly, scope of 75 metre Bridle Suspension Bridge with 2 metre pathway over River Yamuna near Badiya Village of Naugaon Block had to be changed to 80 metre Steel Girder Bridge as the construction of suspension bridge at the selected site was not feasible due to sliding zone on the LHS which was not considered while preparing the DPR. The change in scope of work and consequent delay resulted in escalation of cost of work by ₹ 3.38 crore.

3.2.2.4 Irregular and unjustified application of height and distance index on trek route works

Every government agency of State Government dealing with execution of works has to prepare work estimates as per Schedule of Rates (SoR) published by the PWD from time to time and admissible Height and Distance index⁴⁸ thereupon for cost of transportation of materials from road head.

It was found during audit scrutiny at four PIUs⁴⁹ implementing four trek routes⁵⁰ (₹ 40.90 crore) that estimation of these works (DPRs) and clearance of projects by the HPC were not based on applicable PWD-SoR and H&D index admissible thereupon. The PIUs applied a very high/special rates for labour on the plea that labour was not available as the works were situated at very high altitudes and applied H&D index on inadmissible⁵¹ items of works. Audit observed that the justification given by the PIUs for the high rates of labour was not sustainable as the same PIU/PWD divisions had carried out similar works on these trek routes on PWD-SoRs (urgent nature work under SDRF in 2013 and 2014) wherein the tendered rates of the contractors were 0.25 to 0.50 *per cent* below the estimated rates. Thus, the approval of these projects with high labour rates was irregular which resulted in extra expenditure of ₹ 1.44 crore.

3.2.2.5 Short coverage of identified damaged works under EAPs

In ADB funded UEAP, 2400 km SHs/MDRs/USRIP roads and 16 Bridges were identified as damaged by the disaster but the PIU-R&B (UEAP) took up the

⁴⁷ Initially, the bridge was planned to be constructed as Suspension Bridge for 150 metre span (₹ 5.62 crore) which was revised subsequently (March 2015) for 120 metre Span (₹ 6.15 crore) and the scope of work once again proposed (December 2016) to be reduced to 102.636 metre in a revised DPR (₹ 8.57 crore) submitted for approval.

⁴⁸ The H&D index over applicable SoR is admissible on material components and there is no provision for charging the same for items of work like Earthwork, Hillside cutting, Slip clearance, Dry Stone Masonry and HP Stone Fillings.

⁴⁹ PIU (Trek Route): Askote and Didihat of district Pithoragarh, Badkot-Uttarkashi, Kapkot-Bageshwar.

⁵⁰ Panchachuli, Yamunotri Dham, Munsyari-Milam & Durgkhati-Sunderdunga.

⁵¹ H&D index is not admissible on item of works- 'Excavation work/ Hill cutting/ Slip clearance/ dry stone masonry/ Dry stone kharanja/ Hand packed stone filling' as per PWD Circular (August 2011).

reconstruction works for only 1,968.11 km (82 *per cent*) roads and no bridge work was taken up. Similarly, in World Bank funded UDRP, the reconstruction works were taken up for only 1,711.49 km ODRs & VRs (36 *per cent*) and 25 Bridges (18 *per cent*) by the PIU-R&B (UDRP) against identified damaged road length of 4,715 km ODRs/VRs/ Bridle roads and 140 number of bridges.

The short coverage of the identified damaged works (Roads: 48 *per cent* and Bridges: 84 *per cent*) under these two EAPs was due to exhaustion of earmarked funds because of execution of unplanned/inadmissible works (*paragraph-3.2.2.2*), over estimation of works (*paragraphs-3.2.2.4*), deficient contract management (*paragraph-2.2.6*) and large variations in execution of works (few specific examples are given in (*Appendix-3.6*)). Further, short coverage was despite allocation of additional funds by the HPC to the road works under UEAP and UDRP which stood at ₹ 1,911.29 crore (UEAP: ₹ 860.30 crore and UDRP: ₹ 1,050.99 crore) against the approved outlay of ₹ 1,638 crore (UEAP: ₹ 708 crore and UDRP: ₹ 930 crore). This additional cost was met from the savings of other EAP components and additional receipts due to better exchange rate of rupee *vis-a-vis* the dollar.

During exit conference (February 2018), the State Government accepted the audit findings and stated that initially only damaged portions were planned for reconstruction but on the demand of local public/representatives, complete stretches of roads were reconstructed with appropriate design/ provisions for cross drainage structure and culverts to enhance life of the roads and which was in line with the concept of ‘Build-Back-Better’. This indicates that assessment of damages was not done properly which resulted in incorrect projection of fund requirement.

3.3 Tourism infrastructure

Tourism is the major driver of the economy and livelihood in Uttarakhand and it contributes around 22.48 *per cent*⁵² to the GSDP (Gross State Domestic Product). The State is home to some of the most important pilgrimage centres known as *Char-Dham*⁵³ and it handles on an average over 3.2 crore tourists annually. The disaster severely affected the livelihood of the people dependent solely on the flow of pilgrims and tourists. The estimated physical losses to the existing assets of the Government according to the Department of Tourism (DoT), GoU were around ₹ 116.61 crore for the entire State and ₹ 85.30 crore in the most affected five districts. However, the State Government demanded (September 2013) ₹ 809.64 crore for the Sector. The proposal included new projects for giving a boost to the tourism sector and facilitate the *Char Dham Yatra* in particular; and expansion of existing infrastructure of Helipads to improve disaster preparedness. Against this projection, ₹ 894.03 crore (SPA-R: ₹ 455.09 crore, EAP-

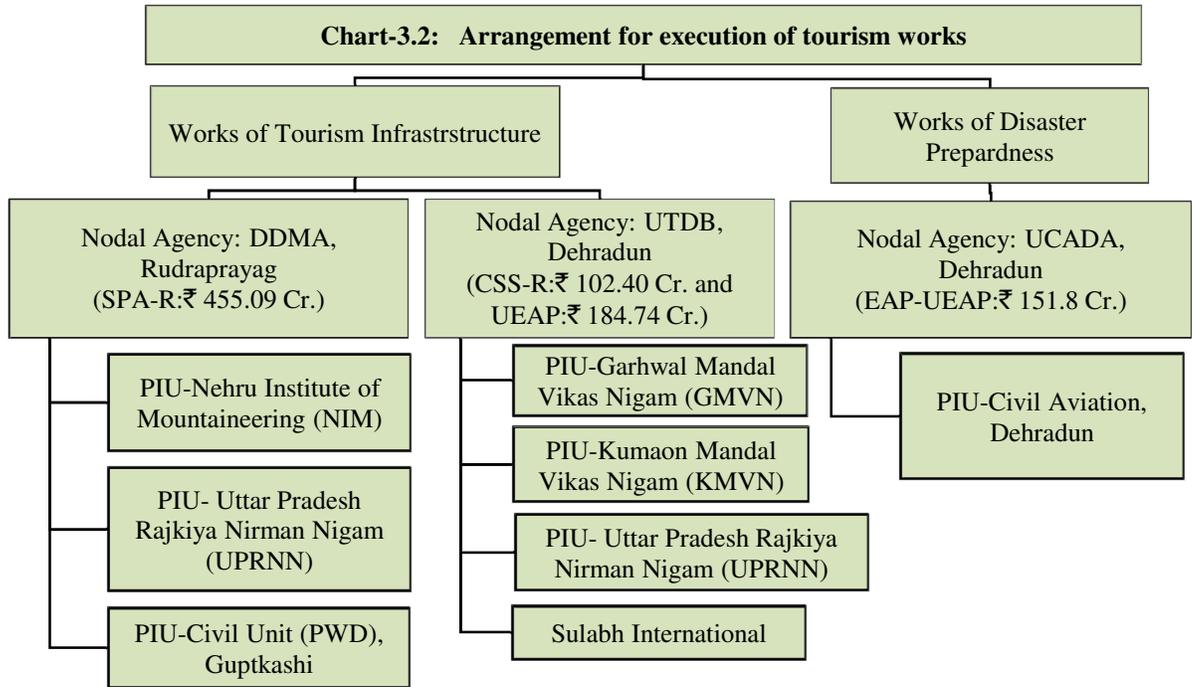
⁵² As per Economic and Statistics Department, GoU.

⁵³ Gangotri, Yamunotri, Kedarnath and Badrinath.

UEAP: ₹ 336.54 crore and CSS-R: ₹ 102.40 crore) was approved by the GoI under MLTR package. These works were assigned to three nodal agencies as detailed below:

- The District Disaster Management Authority (DDMA), Rudraprayag was nominated as nodal agency for implementation of projects for restoration/ construction works of Shri Kedarnath township and other tourist facilities along the Kedarnath yatra route. The Kedarnath yatra route was most affected by June 2013 disaster. SPA-R amounting to ₹ 455.09 crore was sanctioned/made available by the GoI for these projects.
- The Uttarakhand Tourism Development Board (UTDB) was the designated agency for implementation of tourism infrastructure/projects sanctioned under UEAP (₹ 184.74 crore) and CSS-R⁵⁴ (₹ 102.40 crore).
- The Uttarakhand Civil Aviation Development Authority (UCADA) was the nodal agency for expansion of existing infrastructure of Helipads under UEAP (₹ 151.80 crore) to improve disaster preparedness of Uttarakhand.

The arrangement for execution of these sanctioned works can be seen from the **Chart-3.2** given below:



⁵⁴ Product Infrastructure Development for Destination and Circuits.

Audit examined 81 works of ₹ 333.77 crore at seven PIUs⁵⁵ of above mentioned three nodal agencies out of a total sanctioned number of 213 works of ₹ 460.22 crore as on 31 March 2018. The audit coverage in terms of number of works is 38 per cent which accounts for 73 per cent in terms of total sanctioned cost for the tourism sector. The nodal agency-wise status of sanctioned works and audit findings thereof are discussed in the succeeding paragraphs:

3.3.1 District Disaster Management Authority (DDMA), Rudraprayag

The GoU proposed five projects for reconstruction/restoration works of Kedarnath Township, development of other Dhams, construction of ropeway between Gaurikund and Kedarnath, restoration of Kedarnath Shrine and other temples in its vicinity, and for construction of Shelter-cum-Godowns at certain strategic locations in remote hilly districts. Against total demand of ₹ 525 crore, the GoI approved an outlay of ₹ 455.09 crore (₹ 380.09 crore for four projects and ₹ 75 crore for Shelter cum Godowns) under SPA-R and the balance fund of ₹ 69.91 crore was to be contributed by the State from its own resources. However GOU neither contributed its share of ₹ 69.91 crore nor released sanctions for construction of ropeway, development of other Dhams and construction of shelter-cum-godowns as mentioned in *paragraph 2.2.2*.

Implementation issues

3.3.1.1 Delay in restoration of tourist facilities at Shri Kedarnath Dham and its Yatra Route

Total 56 works costing ₹ 250.43 crore were sanctioned by the GoU to the DDMA, Rudraprayag, of which 47 works of ₹ 248.11 crore were assigned to three PIUs (NIM, UPRNN, & Civil Unit-PWD) and nine procurement/installation works⁵⁶ were directly managed by the DDMA, Rudraprayag. The GoU, in view of the tough working condition of the area, granted (April 2015) special relaxation for execution of these works on work order basis without adopting tendering process and allowed higher rates for labour and cartage of materials. However despite special relaxation/rates, these PIUs, could not

⁵⁵ **GMVN:** 33 works (5 packages) of CSS-R (₹ 24.40 crore) & 5 works of UEAP (₹ 39.74 crore), **KMVN:** 2 works of UEAP (₹ 26.78 crore), **UPRNN:** 8 works (3 packages) of CSS-R (₹ 15.13 crore) & 4 works of SPA-R (₹ 95.65 crore), **NIM:** 6 works of SPA-R (₹ 84.24 crore), **Civil Unit (PWD):** 9 works of SPA-R (₹ 12.79 crore), **DDMA:** 5 works: (₹ 1.83 crore) and **UCADA:** 9 works of UEAP (₹ 33.21 crore).

⁵⁶ Installation/commissioning of 5 automated digital display boards (₹ 19.65 lakh), Local internet network with Wi-Fi internet connectivity (₹ 69.66 lakh), Installation/commissioning of 4 unit Video Conferencing set-up (₹ 10.35 lakh), Establishment of emergency radio communication network (₹ 6.73 lakh), Installation/commissioning of Mobile BTS (Base Transceiver Station/System) for strengthening of communication network (₹ 47.66 lakh), Construction of hut for mounting BSNL mobile BTS at chain camp (₹ 7.12 lakh), Installation of 4 DSPT (Digital Satellite Phone Terminal) Phones for strengthening of communication network (₹ 6.45 lakh), Establishment of DHQ (District Headquarter) between Rudraprayag to Sonprayag with 50 mbps point to point connectivity (₹ 39.79 lakh), and Creation of DDMA's/USDMA's web-site for information dissemination (₹ 24.23 lakh).

provide the intended facilities to the tourists on the yatra route even after a lapse of four yatra seasons, as can be seen from **Table-3.3** below:

Table-3.3: Position of sanctioned works (Shri Kedarnath Yatra Route) (₹in crore)

Working agency	Sanctioned works by the GoU		Actual funds released	Physical progress (03/2018) (No. of works)			Financial Progress (03/2018)
	No.	Cost		Completed	In progress	Un-started	
NIM	11	119.73	86.66	08	03	0	64.69
Civil Unit-PWD	32	33.00	33.00	24	06	02	21.13
UPRNN	04	95.38	92.80	01	03	0	81.54
DDMA itself	09	2.32	2.32	07	02	0	1.94
Total	56	250.43	214.78	40	14	02	169.30
<i>Percentage</i>			<i>86</i>	<i>71</i>	<i>25</i>	<i>04</i>	<i>68</i>

The PIU wise status of completion of tourist facilities are discussed below:

a) UPRNN works

- For providing accommodations to the pilgrims at Kedarnath town, a work for construction of 120 cottages at a cost of ₹ 29.72 crore was assigned (October 2015) to the UPRNN. The intended objective of providing tourist accommodation at Kedarnath town remained unachieved as only 92 cottages were constructed by the UPRNN as of March 2018 and these were not handed over to the DDMA or User Agency (GMVN) since some minor works were yet to be completed. The construction of remaining 28 cottages was in progress although all the required furniture items amounting to ₹ 2.42 crore had already been procured (April 2016). The furniture items were not stored at a safe place according to a report (April 2017) of the District Administration, Rudraprayag. UPRNN replied that slow progress of works was attributable to limited working season and due to non-release of funds by the DDMA-Rudraprayag (*refer paragraph 2.2.5*).

- With a view to rebuilding/upgrading the tourist infrastructure, construction of a state of the art Multi-Level Parking and Administrative Block at Sonprayag was sanctioned/ assigned to UPRNN (October 2015) at ₹ 65 crore. This terminal at Sonprayag was supposed to act as a Hub with facilities like Vehicle Parking; Yatri Conveniences; Food Court; Helicopter Service; Hotel Wing with Spa; Enquiry Counter to cater to 1000 devotees per day; and administrative control station from where the entire movement to Kedarnath Dham was to be regulated. A prospective view of the proposed terminal/ complex can be seen from the photograph given.



However, it was noticed that the construction work of this building was started by the UPRNN only in November 2016. There was no further progress of work after execution of foundation work costing ₹ 38.57 crore till October 2017. This was due to non-execution of flood protection wall on the

riverside by the Irrigation Department. Although the GoU had accorded sanction for this work to the Irrigation Department in July 2017.

b) NIM works

▪ Most of the buildings at Shri Kedarnath *Dham* were damaged by the flood of June 2013. A committee of the District Administration Rudraprayag decided that buildings which were considered unsafe/precarious or were situated in the main path of the Kedarnath shrine and nearby should be demolished for reconstruction of a planned Kedarpuri Township to facilitate the Yatra. This work was sanctioned under SPA-R at a cost of ₹ 70 crore.

Audit observed that the work was planned to be executed by the DDMA-Rudraprayag in two phases but the State Government issued administrative/ financial sanction (September 2016) for phase-I works of ₹ 38.63 crore only which included the works pertaining to demolition of buildings, provisioning of temporary store/godown, and reconstruction of 113 buildings for *Tirth Purohits*. The construction of phase-I works

was assigned to the NIM-Uttarkashi. The works of phase-II could not be started due to non-release of funds by the State Government. NIM was working on reconstruction of only 40 houses with up to date expenditure of ₹ 12.67 crore (September 2017), out of 113 houses for the *Tirth Purohits*.



Under Construction Buildings for Tirth Purohits by NIM

NIM stated (October 2017) that

the reconstruction of remaining 73 houses could not be started due to non-finalisation of DPRs/Drawings and non-execution of agreements with beneficiaries and non-allotment of land by the Government Authorities.

▪ A work for construction of three bridges (₹ 6 crore) at Kedarnath town was sanctioned (June 2015) but only one bridge (₹ 1.98 crore) was constructed by the PIU up to March 2018. The second bridge has not been constructed since approval of GoU for the DPR was awaited. Construction of the third bridge has been held up due to non-completion of works related to Ghat by another working agency.

▪ Seven works amounting to ₹ 6.67 crore (**Appendix-3.7**) were executed by the NIM from the unutilised funds of sanctioned works without obtaining administrative/ financial sanction from the GoU. NIM stated (February 2018) that due to exigency the works were executed on the verbal orders of the Government authorities.

c) Civil Unit-PWD works

The works pertaining to construction of ‘Medical Relief Posts along Yatra Route (₹ 1.50 crore)’ and ‘Police Check Posts & X-Ray Scanning Counters’ (₹ 50 lakh) for safe and secure movement of tourists were not started by the Civil Unit-DDMA at the end of March 2018. It was replied (January 2018) by DDMA-Rudraprayag that these works could not be started on time due to non-availability of suitable land; however, subsequently the land had been identified.

d) Procurement and installation works of the DDMA

No initiative was taken by the DDMA-Rudraprayag for ‘Installation/ commissioning of Video Conferencing Set-up along Kedarnath Yatra Route’ (₹ 10.35 lakh); and ‘Creation of DDMA/SDMA Website for Information Dissemination’ (₹ 24.23 lakh) despite sanctioning of SPA-R fund by the GoU. The DDMA intimated that these works would be carried out through the National Informatics Centre Services Incorporated (NICSI).

3.3.2 Uttarakhand Tourism Development Board (UTDB)

An amount of ₹ 102.40 crore under CSS-R (Product Infrastructure Development for Destination and Circuits) and ₹ 184.74 crore under ADB assisted UEAP were earmarked for the reconstruction and development of tourism infrastructure. However, under CSS-R, the Uttarakhand Tourism Development Board (UTDB) could submit only 11 projects (116 works) costing ₹ 72.55 crore to the GoI; against which, first instalment of ₹ 14.51 crore (20 per cent) was received in 2014-15 from the GoI. The scheme was delinked by the GoI from 2015-16 on the recommendation of 14th Finance Commission. However, there was a provision for one time settlement (OTS) of pending liability of ongoing projects of the Himalayan States like Uttarakhand. GoI asked (13 January 2016) GoU for submitting details of each project (stage of each of the project and date when they shall be completed) and intimate liabilities of projects where more than 50 per cent work had been completed. Although the requisite information were sent by the UTDB in the same month (January 2016), yet the proposal of OTS remained pending with the GoI. Under UEAP, only nine projects valuing ₹ 91.01 crore were submitted/ sanctioned against the approved outlay of ₹ 184.74 crore under UEAP.

Planning issues

3.3.2.1 Non-conducting of tourist regulation studies and measures under UEAP

According to the Project Administration Manual of UEAP, the following activities were to be carried out by the PIUs (GMVN and KMVN) to strengthen the disaster risk management of the State by conducting studies and preparation of Master Plans & Pre-feasibility Reports. These reports/studies were intended to provide road map to:

- convert 20 destinations at middle reaches into base camps for the destinations at higher reaches to stagger the tourists;

- enhance the facilities in surrounding villages of 20 gateways to act as satellite towns;
- facilitate development/installation of Tourist Bio-metrics Centres and Regulation Software at various entry points; and
- assess the carrying and absorption capacities of about 20 destinations at higher altitudes.

However, it was observed that these activities were not carried out by the designated PIUs (GMVN/KMVN) of the UTDB. The Project Management Unit (PMU)-UEAP while accepting the facts replied (November 2017) that the studies were not conducted because GoI was conducting a study comprising 89 destinations including high, middle and pilgrim destinations; and the work relating to development of tourist Bio-metrics and Regulation Software was under bidding process.

Implementation issues

3.3.2.2 Non-achievement of intended objectives of restoration of tourist accommodations sanctioned under UEAP

It was decided by the GoU to construct dwelling units in the form of cottage accommodation made of eco-friendly Fibre Reinforced Polymer/Plastic (FRP) material in the disaster affected districts. The objectives were to compensate for the loss of tourist accommodation units on priority and use minimum concrete work for ensuring maintenance of ecological balance of the region.

HPC sanctioned (February 2014) construction of 290 FRP Huts in the five severely affected districts. However, the intended objectives were not achieved as the agencies (KMVN and GMVN) responsible for construction failed to complete the works even after lapse of more than four years from the disaster of 2013. The poor completion rate of tourist huts was attributed by the Department to the adverse geographical condition of the sites, like remote locations from road head, limited working seasons and issues of land availability.

The district-wise status of FRP Huts/accommodations sanctioned and physical progress there against as on date of audit is given in **Table-3.4** below:

Table-3.4: Physical and financial status of FRP Huts/tourist accommodations

Zone	Name of district	Sanctioned FRP Huts		Status of FRP Huts		Physical progress (in %)	Financial Progress ⁵⁷ (₹in crore)
		Numbers	Cost (₹in crore)	Completed Huts	Under Construction		
Kumaon	Bageshwar	45	8.74	0	45	60 – 80	6.54
	Pithoragarh	100	17.94	0	100	20 – 85	11.38
Garhwal	Chamoli	32	5.07	0	32	72 – 98	4.20
	Rudraprayag	92	21.87	4	88	32 – 96	13.41
	Uttarkashi	21	3.48	0	21	90 – 98	3.03
Total		290	57.10	4	286		38.56

⁵⁷ As on June 2017 (Bageshwar & Pithoragarh) and July 2017 (Chamoli, Rudraprayag & Uttarkashi).

However, latest information provided (August 2018) by the PIUs disclosed that the construction of 282 FRP huts had been completed.

These projects were being implemented through six packages, of which, five packages were examined in audit. Scrutiny of records at KMVN and GMVN disclosed deficiencies in estimation of works and management of contracts as detailed below:

- GMVN assigned (September 2014) work of construction of 10 Huts at Kanchauri, Rudraprayag without obtaining necessary clearance of land from the Forest Department. Resultantly, Forest Department stopped (June 2016) the work. Mobilisation advance of ₹ 15.89 lakh and material advance of ₹ 25.23 lakh were paid to the contractor by the GMVN which were lying (August 2017) unrecovered with the contractor. The PIU while accepting the facts assured that the Huts would be constructed at another place from its own resources and advances given to the contractor would be recovered.
- Initial cost of two packages of Kumaon region was ₹ 18.21 crore based on PWD-SoR 2013-14 plus 20 *per cent* additional provision for height and distance (H&D) index for zone four works. However, the sanctioned cost was got revised (July 2014) by the PIU (KMVN) from the HPC to ₹ 26.68 crore on the ground that 20 *per cent* cartage distance provided in earlier estimates was for only 20 km whereas various locations were situated at a distance of 10 to 90 km from the road heads with average distance of 36 km (Pithoragarh: 41 km and Bageshwar: 31 km). Accordingly, one *per cent* additional cartage per km for distance of each km beyond 20 km (Pithoragarh: 21 *per cent* and Bageshwar: 11 *per cent*) was added on current PWD-SoR (April 2014) along with 20 *per cent* cartage distance for first 20 km as per H&D index.

Audit observed that the aforesaid revision and basis for obtaining additional funds from the PMU-ADB were neither realistic nor based on applicable PWD-SoRs and other provisions in this regard. The H&D index applied by the PIU for up to 20 km distance was meant for 'snow bound area/ area above 2500 metre height beyond 20 km distance from road heads' and no additional index was applicable as per provisions of the PWD Circular (August 2011). Moreover, the calculation of 36 km average distance of the sites from road head was also not correct as the distance of each location of selected sites was mentioned in the DPRs and the average distance stood at 21 km for Pithoragarh and 17 km for Bageshwar. The calculation done by audit with the applicable H&D index rates revealed that irregular index of ₹ 3.39 crore was added on these two estimates. In reply, KMVN stated (February 2018) that the estimates were revised due to non-participation of bidders for the works due to remote sites and high cost of material cartage.

Further, according to PWD circular (August 2011) the H&D index over applicable SoR is admissible only for those material components which are required to be carted from nearest road head and there is no provision for charging the same for items of work like Earth work, Hill side cutting, Slip clearance, Dry Stone Masonry and HP Stone Fillings. Audit scrutiny showed that this provision was not applied appropriately by the KMVN

while framing of estimates of the two packages and placing revised proposal to the HPC. Resultantly, the H&D index amounting to ₹ 21.58 lakh was also added on the aforesaid inadmissible items of works.

3.3.2.3 Delay in completion of CSS-R works

Under CSS-R, 12 works amounting to ₹ 21.23 crore were assigned to UPRNN and 39 works of ₹ 27.55 crore were given to the GMVN by the UTDB. Audit found that no work was completed by the UPRNN. The Department dropped seven works⁵⁸ of ₹ 11.68 crore midway (September 2015) after incurring an expenditure of ₹ 71.48 lakh due to slow progress in execution of the works by UPRNN. The balance five works⁵⁹ with sanctioned cost of ₹ 9.55 crore were held-up after incurring an expenditure of ₹ 1.72 crore due to short release of funds by the GoI. Similarly, there was no further progress in 26 works⁶⁰ (₹ 21.78 crore) of GMVN after incurring an expenditure of ₹ 4.20 crore due to non-release of required funds by the GoI.

3.3.3 Works of Uttarakhand Civil Aviation Development Authority (UCADA)

By taking lessons from past and with a view to improve the disaster preparedness of State, the GoU planned to expand the existing infrastructure of helipads for undertaking emergency evacuation and relief operations. For this purpose, an outlay of ₹ 151.80 crore was approved under UEAP and a dedicated PIU-Civil Aviation set up under UCADA. Total 5 Helidromes, 19 Heliports, 34 Helipads and 37 Multi-Purpose Hall (MPH)/ Shelters⁶¹ of 3,550 capacity were planned (*Appendix-3.8*) to be constructed towards disaster preparedness of Uttarakhand. However, only 32 works costing ₹ 49.53 crore (27 Helipads, 3 Hangers & 2 MPHs) were being implemented by the UCADA.

Test check of records (August 2017) at the PIU-Civil Aviation (UEAP), Dehradun relating to the implementation of nine projects (₹ 43.07 crore) disclosed the following shortcomings:

⁵⁸ **Three works** pertaining to the Development of Integrated Tourism Circuit at Kharsali-Uttarkashi (Construction of 100 bed capacity eco-friendly accommodations, Construction of Tourist Reception cum Information Centre, and Construction of approach road/improvement of premises); and **four works** pertaining to the Development of Integrated Tourism Circuit at Askote-Pithoragarh (Construction of 50 bed capacity eco-friendly accommodations, Construction of Tourist Reception, Construction of Tourist Information Centre, Construction of parking/improvement of premises).

⁵⁹ **Three works** of Integrated Tourism Circuit at Joshimath-Chamoli (Construction of Uttarakhand Tourism Expedition Hostel, Construction of protection wall and Restoration of Uttarakhand Tourism Guest House). **One work** for reconstruction of public Yatri Niwas at Batwari-Uttarkashi, and **one work** of Sangam Ghat and TRH at Devprayag in Tehri district.

⁶⁰ Mainly pertaining to restoration works of Tourist Rest Houses and Tourist Facility Centres.

⁶¹ For providing space along the helipads to public to be shifted/evacuated during natural calamities.

3.3.3.1 Deficient planning of UCADA towards disaster preparedness

Audit observed that the above proposals in UEAP was included without ensuring the availability of land for the works and taking cognizance of road accessibility up to the proposed helipads. This resulted in dropping and shifting of a large number of projects, as detailed below:

- No Helidrome and Heliport was being constructed at 5 and 19 identified places due to non-availability of land and accessibility issues.
- Only 27 Helipads were being constructed against target of 34 Helipads. Out of these, 18 Helipads were being constructed at new locations and only nine Helipads were being constructed at locations initially identified by UCADA. The work of 26 Helipads had been completed by March 2018 and construction of one (Sahstradhara, Dehradun) Helipad was in progress.
- Against target of 37 MPH/Shelters (3,550 capacity), no MPH/shelter was being constructed by the nodal agency in five severely affected districts⁶² due to non-availability of land and non-construction of helipads at pre-identified places. However, two small shelters were being constructed in district Pauri and Almora having a total capacity of 20 persons only.

During exit conference (February 2018), the State Government while accepting the facts stated that many helipads were dropped/relocated due to non-availability of suitable land. As such, non-implementation of these projects in a planned manner was a setback towards disaster preparedness of the State.

3.3.3.2 Overestimation of works

It was noticed that in case of sanctioned DPRs of two Helipads (Barkot and Bageshwar), 15 *per cent* 'Height and Distance (H&D)' index amounting to ₹ 31.58 lakh was added despite the fact that the sites of these works were accessible (motorable) for which no such index was admissible as per circular issued (June 2011) by the Uttarakhand PWD.

State Government while accepting the fact stated (March 2018) that the 15 *per cent* H&D index charged in said two DPRs was for working in hilly areas. The reply was not acceptable as it was against the specified norms for work estimation.

3.4 Irrigation and Flood Control

The disaster had damaged around 495 km length of canal works out of a total existing length of 11,702 km in the State, according to the Irrigation Department. In addition to this, 508 Flood Protection Works (FPW) having 74 km length, 60 Lift Canal Schemes, 53 Tube-wells, 02 Lakes, 01 Barrage and 12 Buildings were also identified by the Department as damaged due to the disaster of 2013. The total command area in the State under irrigation was 3,33,800 hectare of which 38,330 hectare was reported as affected due to the damages sustained by the irrigation infrastructure.

⁶² Bageshwar, Chamoli, Pithoragarh, Rudraprayag and Uttarkashi.

The State Government, in its proposal (September 2013) to the GoI, demanded ₹ 1,215.17 crore for the sector against which an outlay of ₹ 1,062.12 crore⁶³ was approved under the MLTR package. However, GoI released ₹ 179.52 crore (CSS-R: ₹ 79.52 crore and SPA-R: ₹ 100 crore) up to August 2017. The State Government issued administrative/ financial sanctions for ₹ 815.98 crore for execution of 77 Flood Protection Works (FPW) out of which 12 works were sanctioned in July, 2017. Physical and financial progress were as per **Table-3.5** below:

Table-3.5: Physical and financial position of sanctioned FPWs

Name of the District	Source of fund	Total works	Sanctioned Cost (₹ in crore)	Progress of works (as on date of audit)			
				Completed works	In progress	Unstarted works	Financial progress (₹ in crore)
Bageshwar	CSS-R	3	30.39	1	2	-	18.56
Chamoli	SPA-R	4	38.42	2	2	-	36.99
	CSS-R	2	21.54	2	0	-	17.36
Pithoragarh	SPA-R	4	36.15	1	3	-	31.77
	CSS-R	10	97.30	6	4	-	64.88
Rudraprayag	SPA-R	13	68.03	1	0	12	9.80
	CSS-R	7	64.23	7	0	-	60.15
Uttarkashi	SPA-R	2	15.60	2	0	-	15.60
	CSS-R	10	99.60	9	1	-	82.77
State as a whole (Status as on date of audit)	SPA-R	23	158.20	6	05	12	94.16
	CSS-R	54	657.78	28	26	-	468.67
Status as on 31-03-2018	SPA-R	23	158.20	11	12	-	113.55
	CSS-R	54	657.78	34	20	-	617.87

Source: Departmental figures.

20 FPWs (37 per cent) out of 54 works funded by CSS-R remained incomplete due to short release of CSS-R funds by the GoI (refer paragraph-2.2.1). Only 11 out of 23 SPA-R works (48 per cent) were completed and remaining 12 works (₹ 58.23 crore) were in progress with 25 per cent financial progress as these works were sanctioned only in July 2017 by the GoU.

In addition to above, an amount of ₹ 21.91 crore under NDRF/SDRF was kept at the disposal of respective District Magistrates for urgent nature of works for this sector.



FPW at Chamoli (After Disaster)



FPW at Chamoli (After Reconstruction)

⁶³ CSS-R: ₹ 940.21 crore, SPA-R: ₹ 100 crore, and SDRF (2013-14): ₹ 21.91 crore.

Audit examined 10 works (43 per cent) of SPA-R (₹ 92.05 crore) out of 23 works, and 22 works (69 per cent) of CSS-R (₹ 213.13 crore) out of 32 works in the five test checked districts along with assessment of overall position at office of the Engineer-in-Chief (En-C), Dehradun. The audit findings are discussed below:

3.4.1 Planning issues

3.4.1.1 Inadequate coverage of damaged Irrigation Infrastructure

Audit scrutiny (July 2017) at the office of the En-C, Irrigation Department, GoU disclosed that the Department submitted proposals for 74 FPWs costing ₹ 779.40 crore to the State Government for inclusion in the special MLTR package. However, there was no proposal for reconstruction of the damaged Irrigation Canals, Lift Canal Schemes, Tube-wells, Lakes, Barrage and Buildings. The Department, therefore, failed to prepare and submit the required number of proposals which led to deprivation of benefits aimed at supporting the main source of livelihood of the local populace. Further, audit also observed that damages to six FPWs (₹ 64.28 crore) out of 74 works submitted for approval pertained to period earlier than the disaster of June 2013. These six FPWs were either already under consideration of the Department or were in pipeline for sanction after due clearance of the Technical Advisory Committee (TAC) of the Department well before the disaster of June 2013.

En-C office stated (March 2018) that the reconstruction works were taken up on the basis of priority of damaged works and some reconstruction works were taken-up through other sources of funding such as District Plans, NABARD and Revenue Expenditure. However, no supporting documents regarding sanction of works through other sources of funding were furnished to audit.

3.4.1.2 Wrong inclusion of projects relating to Power Sector

The approval (January 2014) of GoI for MLTR package was specific for each sector wherein approved outlay for Irrigation Sector and Power/Energy Sector was ₹ 1,062.12 crore and ₹ 100 crore, respectively.

Audit scrutiny showed that two works costing ₹ 125.52 crore were included under CSS-R works of Irrigation Department which pertains to the Power Sector (Maneri-Bhali Stage-I & II Hydro Electric Projects of the UJVNL). As discussed in preceding paragraph, there was short projection of fund requirement by the department as a result of which several damaged works remained excluded. Inclusion of two works of the power sector further reduced coverage of damaged works with available funds.

3.4.2 Implementation issues

3.4.2.1 Irregular execution of works with large number of contracts

Paragraphs 3, 13(a) and 33(g) of Uttarakhand Procurement Rules-2008 and instructions issued by the GoU in this regard stipulate that all works having estimated value above ₹ 1.50 crore are to be awarded on the basis of e-tendering through National Competitive

Bidding (NCB) process as a single package to ensure transparency, competitiveness and fairness, and to secure best value for money.

During audit scrutiny in nine divisions of five test checked districts, it was observed that there was no compliance with the aforesaid financial rules/instructions for execution of 20 FPWs (₹ 187.73 crore) despite the fact that the value of lowest FPW was ₹ 5.68 crore. For execution, these FPWs were divided into numerous contracts by different authorities and not even a single work was found executed through one contractor exclusively. The details of number of contracts given at different levels are given in the **Table-3.6** below:

Table-3.6: Details of number of contracts awarded from different levels

Name of district	Sampled FPWs		No. of contracts awarded at each level			Total number of contracts executed
	No.	Cost (₹ in crore)	Superintending Engineer (SE)	Executive Engineer (EE)	Assistant Engineer (AE)	
Bageshwar	03	30.39	01	45	72	118
Chamoli	05	48.00	03	34	533	570
Pithoragarh	03	29.83	02	25	04	31
Rudraprayag	07	63.91	03	96	343	442
Uttarkashi	02	15.60	04	08	42	54
Total	20	187.73	13	208	994	1,215

Out of total 1,215 contracts, 193 contracts worth ₹ 39.73 crore were awarded to 56 individual contractors by the EEs/AEs in violation of delegated financial powers and Rule⁶⁴-369 and 370 of the Financial Hand Book (Vol.-6) which was a serious financial irregularity.

The implementation of the FPWs through numerous contracts was irregular, non-transparent and the intended objective of getting the best value for money could not be achieved due to non-adoption of e-tendering through NCB process.

The En-C replied (March 2018) that the works were executed through numerous agreements by considering the site conditions and allocation of budget by the Government in instalments. If the entire work was awarded to a single contractor there could have been chances of non-completion of the works on scheduled time. However, the reply should be seen in light of the facts that five out of 20 selected FPWs were not completed by the Department till the date of audit (August 2017).

3.4.2.2 Flood Protection Works not executed up to desired height

Each FPW under Irrigation Department was to be cleared by a departmental Technical Advisory Committee (TAC) chaired by En-C after considering all facts like high flood level and scouring depth of the concerned river. The TAC cleared (October 2013) an FPW of district Rudraprayag for the Mandakini River at Ganga Nagar, Jawahar Nagar, Bedubagad and Saudit Market to be executed up to five metre height.

⁶⁴ Para-370 stipulates that no authority can enter into agreement(s) which he is not empowered under prescribed “Delegation of Financial Powers” by the State Government and the financial rules under Para-369 which advocates that ‘No individual contractor may receive second contract in connection with the same work or estimate while the first is still in force, if the total sum of his contracts exceeds the powers of acceptance of the authority concerned.

However, audit observed that the height for the FPW was kept one metre short (four metre) while executing the work by the Irrigation Division, Augustmuni. Neither the revised height was got approved from the TAC nor the saving (due to reduction of the height by one metre) of ₹ 46.72 lakh available was surrendered by the division as the same was exhausted for other items of work without due approval. The En-C stated that an inquiry would be conducted into the matter and appropriate action would be taken accordingly.

3.5 Power and Energy

The 2013 disaster caused extensive damage to the electricity system across the State resulting in disruption of power supply to about 3,758 villages and hamlets. As per the survey of the State Government, the identified damages to Power and Energy Sector was ₹ 328.28 crore but the State Government demanded ₹ 151.80 crore under MLTR for restoration of 13 (10 Small and 3 Large) Commissioned/Operational Hydro Electric Projects (HEPs) maintained by the UJVNL having an installed capacity of 553.85 MW, 46 Small Hydro Projects (SHPs) of the Uttarakhand Renewable Energy Development Agency (UREDA) having combined installed capacity of 6.47 MW for providing power supply to 126 villages/hamlets and strengthening of distribution network of the Uttarakhand Power Corporation Ltd. (UPCL) in 109 villages fed by the SHPs of UJVNL/UREDA.

Against GoU demand of ₹ 151.80 crore⁶⁵, the GoI approved/released ₹ 100 crore⁶⁶ under SPA-R with a remark that the balance requirement of UJVNL (₹ 47.60 crore) and UPCL (₹ 4.20 crore) should be mobilised from the market sources as these power utilities are commercial entities. However, actual allocation by the GoU was on higher side in respect of UJVNL (₹ 57.72 crore) and UPCL (₹ 60.60 crore), as detailed in *paragraph-2.2.4*.

3.5.1 Planning issues

3.5.1.1 Submission of proposals for multiple source of funding

Total 46 SHPs of UREDA were damaged in 2013 disaster and funds demanded for restoration of these SHPs of ₹ 17.60 crore were approved/made available by the GoI in full under SPA-R. Audit scrutiny showed that the UREDA also obtained non-refundable funds of ₹ 181.24 lakh for 25 SHPs from the Tehri Hydro Development Corporation (THDC) India Ltd (Central-PSU) and ₹ 91.73 lakh for 11 SHPs from the respective district authorities under NDRF/SDRF despite the fact that required funds for restoration of these SHPs were already considered/sanctioned under SPA-R by the GoI. This resulted in idling of funds with UREDA (*refer paragraph 2.2.5*).

⁶⁵ UJVNL (₹ 80 crore), UREDA (₹ 17.60 crore), UPCL (₹ 54.20 crore).

⁶⁶ ₹ 32.40 crore for UJVNL, ₹ 17.60 crore for UREDA, ₹ 50 crore for UPCL.

Similarly, an Electricity Distribution Division (Uttarkashi) of UPCL obtained SDRF amounting to ₹ 36.56 lakh from the DM-Uttarkashi for restoration of five damaged works of 11 KV lines despite inclusion of its proposal under SPA-R.

3.5.2 Implementation issues

3.5.2.1 Unrestored Hydro Electric Projects

Total 13 commissioned/operational HEPs owned by the UJVNL having installed capacity of 553.85 MW were damaged in 2013 disaster. Audit scrutiny showed that:

- Against the allocated funds of ₹ 57.72 crore, the UJVNL undertook restoration works of only three HEPs of 95.25 MW (Maneri Bhali-1: 90 MW, Urgam: 3 MW and Pilangad: 2.25 MW), of which, two HEPs (Maneri Bhali-1 and Urgam) were restored. Restoration work of Pilangad HEP (2.25 MW) was in progress.
- Two HEPs of 448 MW (Chilla and Maneri Bhali-2) were restored by the UJVNL from own resources within few months and six Small Hydro Projects (SHPs)⁶⁷ of 7.40 MW were transferred (2013-14) to the UREDA without transfer of sanctioned fund.

As such, the UJVNL restored only four HEPs and rest three HEPs of 5.45 MW remained unrestored despite receipt of additional funds of ₹ 25.32 crore from the State Government and six SHPs were transferred to the UREDA. It was replied by the UJVNL in respect of two unstarted projects (Kanchauti & Kulagad of 3.2 MW) that the restoration work could not commence as the GoI did not sanction funds for the same. Reply is not acceptable since UJVNL had to arrange for the remaining funds from market sources according to the GoI sanction.

Apart from initially sanctioned 13 works, two additional projects (HEPs) of 9 MW for Asiganga-1 and II were sanctioned for an amount of ₹ 23.81 crore. However, restoration work for these two HEPs had not commenced since the region was declared eco-sensitive zone by the GoI.

In addition to 46 SHPs of UREDA that were identified as damaged, 06 SHPs were transferred from the UJVNL. Out of this, the work of 46 SHPs (includes three SHPs transferred from UJVNL) had been completed whereas restoration work of four SHPs (4.8 MW)⁶⁸ is pending due to various reasons. It was replied (March 2018) by the UREDA in this regard that the work in Relagad HEP is in progress; feasibility studies for two SHPs (Tarula & Kotijjala SHPs) are under progress; and sanction for Chirkila SHP has been issued (December 2017) and work for the same would commence shortly. One project (HEP: Pinswad) had been dropped as the power supply to the beneficiaries of this HEP had been provided by the UPCL⁶⁹ and restoration of Sonprayag SHP is not possible as the same had been completely washed out in subsequent disaster of 2015.

⁶⁷ SHPs: Badrinath-II (1.25 MW), Pandukeshwar (0.75 MW), Tharali (0.4 MW), Chirkila (1.5 MW), Relagad (3 MW) and Sonprayag (0.50 MW).

⁶⁸ Tarula (100 KW), Kotijjala (200 KW), Chirkila (1.5 MW), Relagad (3 MW).

⁶⁹ Under Deendayal Upadhyay Gram Jyoti Scheme.

Thus, the intended objectives of restoring seven damaged HEPs/SHPs (10.25 MW) remained unachieved even after lapse of more than four years from the June 2013 disaster whereas the work of four HEPs/SHPs (9.55 MW) had been dropped due to non-feasibility.

3.5.2.2 Idle expenditure on preparation of excessive DPRs by UREDA

The UREDA was provided an amount of ₹ 43.98 lakh under SPA-R for preparation of nine DPRs for SHPs which were either in dilapidated condition or were severely damaged in disaster of 2013.

Audit observed that UREDA prepared eight DPRs at a cost of ₹ 36.20 lakh, of which, four DPRs were utilised for restoration of SHPs. Remaining four DPRs⁷⁰ prepared at a cost of ₹ 18.50 lakh were not utilised as the proposed restoration works of two SHPs (Bhikuriyagad and Balighat) had been cancelled subsequently due to non-feasibility of SHP at proposed site. Two DPRs were prepared in anticipation of transfer of two SHPs from UJVNL which did not materialise. As such, the expenditure of ₹ 18.50 lakh incurred on preparation of these four DPRs remained idle.

3.5.2.3 Abnormal delay in the execution of works by UPCL

The GoU released (June 2014) an amount of ₹ 2.28 crore under SPA-R to UPCL for construction of 11 KV line from 33/11 KV sub-station Karmi (Bageshwar). The work was awarded (December 2014) on turnkey basis at a cost of ₹ 2.15 crore (Supply: ₹ 1.63 crore and Erection: ₹ 52.58 lakh) with stipulated completion period of nine months. Audit observed that the work was not completed even after lapse of three years after incurring an expenditure of ₹ 2.15 crore. The intended objective to provide power supply to the affected area, therefore, could not be achieved. Management stated that the work was got delayed due to hilly and tough terrain.

3.6 Public Buildings

3.6.1 Planning issues

According to the JRDNA Report, about 995 Public Buildings⁷¹ were damaged (212 fully and 783 partially damaged). However, 836 partially/fully damaged buildings⁷² were planned/ sanctioned under MLTR for reconstruction.

⁷⁰ SHPs: Balighat, Bhikuriyagad, Kanchauti, and Kulagad.

⁷¹ Education (873), Health (56), Women & Child Development department (49), Block Offices and residences (17).

⁷² **21 buildings** (₹ 74.35 crore) under UDRP (Primary School: 08, Inter College: 04, Hostel of PG College: 01, Police/Fire Stations: 04, Dispensary/Health Sub-Centre: 02, ITI building: 01, and Food Godown: 01), **32 ITI buildings** (₹ 50.00 crore) under SPA-R, **736 School buildings** (₹ 35.94 crore) under Sarva Shiksha Abhiyan (CSS-R), and **47 buildings** (₹ 0.98 crore) under Integrated Child Development Scheme (CSS-R).

3.6.1.1 Delay in sanctioning of ITI buildings

Under SPA-R, an amount of ₹ 50 crore was approved under MLTR for strengthening/construction of Industrial Training Institutes (ITI) and Polytechnics in each development block to train the youth of Uttarakhand in alternative means of livelihood which could substitute/supplement their current occupation. Against this, 32 ITIs buildings were identified for construction but administrative/financial sanction was given for only 22 ITI buildings at a cost of ₹ 36.62 crore and the remaining 10 ITI buildings were yet to be sanctioned by the GoU.

3.6.1.2 Coverage of inadmissible school buildings

Under CSS-R (Sarva Shiksha Abhiyan-SSA), an amount of ₹ 35.94 crore was provided by the GoI for the reconstruction works of 159 fully damaged and 577 partially damaged schools during 2013 disaster. However, audit scrutiny in the selected districts showed that 63 school buildings⁷³ (out of 114 sanctioned schools buildings) were not actually damaged in the disaster of 2013. These 63 school buildings (₹ 8.54 crore) were included in the approved Annual Working Plans (AWP) of 2012-13 and 2013-14 for reconstruction. Hence, coverage of these buildings by the Department was inadmissible.

3.6.2 Implementation issues

3.6.2.1 Buildings for setting-up Industrial Training Institutes (ITIs)

Construction work of 15 ITI buildings (₹ 15.18 crore) was assigned (March 2014) to the Unit-1 of Uttar Pradesh Rajkiya Nirman Nigam (UPRNN), Dehradun and the construction of seven ITI buildings (₹ 21.44 crore) was assigned to the BRIDCUL (Bridge, Ropeway, Tunnel & Other Infrastructure Development Corporation of Uttarakhand Ltd.), Dehradun. The work was awarded to the BRIDCUL very late (September 2016) by the GoU which resulted in delay in construction. The physical progress of the works was between nine and 55 per cent only.

Audit scrutiny of the records at UPRNN revealed that:

- Although work was sanctioned by GoU in March 2014, no work was commenced by the UPRNN for three ITI buildings (Kathpuriyachina, Thal & Gangolihat) since the Department of Technical Education provided the land for these buildings in September 2016. Construction was not possible as per sanctioned estimates as the estimates were based on old schedule of rates.
- Construction of two ITIs buildings at Badabe (Pithoragarh) and Basukedar (Rudraprayag) was not taken up by UPRNN due to non-availability of land for approach roads up to the proposed sites of construction which indicates poor planning by the Technical Education Department.

⁷³ Uttarkashi (35), Rudraprayag (6), Chamoli (22).

- The construction of ITI Dhontri (Uttarkashi) building was held-up midway due to hindrance by local public (April 2016) after incurring an expenditure of ₹ 1.04 crore, of which, unutilised material at site was of ₹ 0.66 crore.
- UPRNN completed construction work of seven ITIs but site development of four ITI buildings costing ₹ 2.17 crore was yet (July 2017) to be carried out by the UPRNN due to non-allocation of fund by the Department.
- ITI buildings at Chirbatiya and Ukhimath (Rudraprayag) were under construction with a financial progress of ₹ 0.72 crore (July 2017) against the sanctioned cost of ₹ 2.06 crore.

The delay in construction of ITI buildings resulted in depriving around 1,681 youth of the disaster affected areas of Uttarakhand annually from training in 19 trades of alternative means of livelihood.

3.6.2.2 Reconstruction of damaged buildings of various departments under UDRP

Under UDRP, a dedicated PIU⁷⁴ for Public Buildings was working for reconstruction of 21 buildings⁷⁵ (under 16 packages costing ₹ 74.35 crore) of various departments with targeted date of completion as December 2017. The following points emerged during audit scrutiny (August 2017) of the records of PIU-Public Building, Dehradun:

- The PIU could complete the reconstruction work of only six buildings⁷⁶ (₹ 8.08 crore) and 13 works (₹ 45.29 crore) were under construction (August 2017) with physical progress ranging between 10 and 83 *per cent*.
- Work of ITI-Building, Srinagar (₹ 10.49 crore) could not start due to non-availability of land as the original site was proposed to be acquired for Rishikesh-Karnprayag Railway line.
- Construction of Food Godown at Srinagar was stopped (October 2016) after incurring an expenditure of ₹ 1.67 crore and the same was shifted (May 2017) to another place (main town Srinagar) as the original site suffered from underground seepage and was situated in the mainstream of a seasonal drain and hence was not suitable for food storage. The entire expenditure of ₹ 1.67 crore became wasteful due to wrong selection of site.

It was replied (February 2018) by the Programme Manager (UDRP) that the work at original site was stopped due to occurrence of landslide which required treatment work at a cost greater than the cost of shifting of project at new location. The reply should be seen in light of the fact that initial survey (April 2014) had indicated that the site of work was vulnerable to landslide and underground seepage as it was situated in the mainstream of a

⁷⁴ A unit of the Bridge Ropeway Tunnel and other Infrastructure Development Corporation of Uttarakhand Limited (BRIDCUL), Dehradun.

⁷⁵ Primary School: 08, Inter College: 04, Hostel of PG College: 01, Police/Fire Stations: 04, Dispensary/Health Sub-Centre: 02, ITI building: 01, and Food Godown: 01.

⁷⁶ Buildings for- 04 Primary Schools, 01 Inter College and 01 Health Sub-Centre.

seasonal drain. Despite this, the project was located at this site which eventually resulted in relocation and avoidable expenditure.

3.7 Resilient Housing

Under Uttarakhand Disaster Recovery Project (UDRP), the reconstruction of residential houses under Owner Driven Constructed House (ODCH) was financed by the World Bank. On the recommendations of the District Disaster Management Authority (DDMA), payment to the beneficiaries was made by the concerned PIU directly in the bank accounts of the beneficiaries. Scrutiny of records of the ODCH beneficiaries in the affected five districts of the State revealed the following shortcomings:



Owner Driven Constructed House
at Bageshwar

3.7.1 Selection of beneficiaries without clear title of land

As per provisions of the policy laid down by the GoU (October 2013), the houses were to be constructed on the land of beneficiaries who had clear title deeds of land in their names. Audit scrutiny of records related to the selected beneficiaries in the five districts revealed that 136 beneficiaries who did not have clear title of land in their names benefitted under the scheme, as detailed in **Table 3.7** below:

Table-3.7: Details of beneficiaries without clear title of land

Name of district	Total Beneficiaries in district	No. of beneficiaries, who did not have land title in their names	Amount ⁷⁷ disbursed to beneficiaries (₹ in crore)
Pithoragarh	655	19	0.95
Bageshwar	96	09	0.45
Uttarkashi	296	18	0.90
Rudraprayag	860	52	2.60
Chamoli	581	38	1.90
Total	2,488	136	6.80

Source: Project Implementing Unit (PIU), Housing, Uttarakhand, Dehradun

In the exit conference, the Secretary, Disaster Management Department stated that the selection of the beneficiaries was done as per the report/recommendations received from the district administration. No further assurance was however provided that the matter would be further looked into.

3.7.2 Non-transfer of old property to State Government

Policy framed by the State Government for reconstruction of residential houses under ODCH scheme provides that in cases where beneficiaries are provided land in new locations due to the original locations being declared unsafe/disaster prone all the

⁷⁷ As per the provision of the scheme each beneficiary was entitled to get the amount of ₹ 0.05 crore in four installments.

damaged property (Old Site and Old Houses) shall be the property of the State Government and the respective District Magistrates should ensure that the old property are transferred in favour of the State Government. Audit scrutiny revealed that no such transfer of the damaged property/houses was made in favour of the State Government in disaster affected five districts, despite the fact that the State Government provided land to 127 beneficiaries⁷⁸ for construction of ODCH as their land was not safe for construction of houses.

In the exit conference the Secretary, Disaster Management Department replied that suitable action would be taken up in this regard.

3.8 Agriculture and Soil Conservation

The State Government requested for ₹ 14 crore under SPA-R for soil conservation activities and restoration of agricultural lands washed away by floods. The full amount was approved and sanctioned by the GoI. The Department executed 241 soil conservation works of ₹ 13.49 crore and four reconstruction works of departmental properties of ₹ 0.51 crore from the released funds, of which, 94 works (39 *per cent*) were examined in audit. As on 31 March 2018, all works have been completed by the Department. The following irregularity was noticed during execution of soil conservation (SC) works of the department:

The Department executed all soil conservation works without following the tendering process. This was against the provisions of the Uttarakhand Procurement Rules-2008 which stipulates that all the works exceeding the amount of rupees three lakh must be executed through tendering process.

3.9 Forest and Biodiversity

As per JRDNA report, 149 residential buildings, 50 non-residential buildings, 998 kilometres (km) of forest roads, 2,545 km of bridle path, 76 bridges/culverts, 63 nurseries, plantation works in about 247.50 hectares and about 1,787 soil and water conservation works were damaged during the disaster. Audit observed that the Department received proposals for restoration of the damaged assets amounting to ₹ 74.97 crore from 13 Divisions after the disaster of June, 2013 and the same was sent to the State Government. However, the State Government requested funds for ₹ 54 crore only which was approved by the GoI under SPA-R.

The State Government issued sanction of ₹ 34.97 crore under SPA-R for reconstruction works of eight divisions which was 47 *per cent* of fund requirement projected by the Department for restoration works. However, actual fund release by the State Government to the Department was only ₹ 27.72 crore for four Divisions against which an expenditure of ₹ 12.35 crore was incurred as of March 2018.

⁷⁸ Pithoragarh: 51, Bageshwar: 31, Chamoli: 40, and Rudraprayag: 05.

3.9.1 Works executed from SDRF fund

Tones Forest Division, Purola sent proposal for 138 restoration works for an amount of ₹ 5.19 crore to the District Magistrate (DM), Uttarkashi on the basis of preliminary report/estimates received from the field offices of the division. Further, the Division submitted DPRs of 76 works for an amount of ₹ 4.19 crore to DM, Uttarkashi. DPRs of the remaining works were not sent as these were not received from the field offices. Against the 76 restoration works to be taken up by the Division, DM, Uttarkashi released an amount of ₹ 0.45 crore for restoration of only 14 works and remaining 62 restoration works could not be taken up due to non-release of funds.

3.10 Integrated Watershed Management Programme (IWMP)

The GoI through MLTR package approved an outlay of ₹ 150 crore⁷⁹ under CSS-R for the Integrated Watershed Management Programme (IWMP) for seven projects to be implemented in the five severely disaster affected districts of Uttarakhand.

Audit observed that the Department of Land Resources (DoLR), GoI released ₹ 49.77 crore to the State Government (May 2014) and the State Government transferred ₹ 55.30 crore including the State share to State Level Nodal Agency (SLNA) for IWMP (July 2014). It was noticed that only an amount of ₹ 23.31 crore was released to PIAs of seven projects in five disaster affected districts by the SLNA during the period 2014-15 to 2017-18. Out of this, only ₹ 17.47 crore (*Appendix-3.9*) was utilised by the PIAs of the disaster affected projects till March 2018 indicating slow progress of the projects.

On this being pointed out, the SLNA replied that as per the timeline of the scheme guideline the preparatory phase (1-2 years) was completed within the time frame and the preparatory phase completion report was submitted to DoLR (May 2016) and DoLR was requested to release the balance fund for the projects. However, remaining funds of the watershed projects have not been released by GoI (March, 2018).

3.11 Drinking Water Supply and Sanitation

There were 12 water supply schemes under UEAP. Audit selected these twelve projects for assessing the adequacy of water quantity and quality being supplied to the habitations/towns. From the quality and quantity reports, it was seen that the quality and quantity of water supplied were as per the norms of the design sanctioned in the detailed project reports. Further, the water supplies were being monitored online through Supervisory Control and Data Acquisition System installed/ displayed at divisional level offices as well as headquarters office of Uttarakhand Jal Sansthan at Dehradun.

⁷⁹ ₹ 135 crore was to be borne by GoI and ₹ 15 crore by State Government.

3.12 Other activities related to disaster preparedness

3.12.1 Lack of departmental planning and budget

The Disaster Management (DM) Act, 2005 stipulates that the State Disaster Management Authority (SDMA) shall prepare State's DM Plan and lay down detailed guidelines to be followed by each department of the State Government for the purpose of integration of measures for prevention of disasters and mitigation in their development plans/ projects and provide necessary technical assistance. Section-18 of the DM Act also states that it shall be the responsibility of the State Authority (SDMA) to approve the Disaster Management Plans (DMPs) prepared by the departments; recommend provision of funds for mitigation and preparedness measures; and review the measures being taken for mitigation, capacity building and preparedness by the departments of the State Government.

Audit found that State DM Plan was prepared by the SDMA but the line departments of the State Government did not prepare their disaster management plan (DMP). Further, no budget provision was made in their departmental budget for prevention, mitigation and preparedness for disaster, even after lapse of more than 12 years of the enactment of the DM Act, 2005.

The Secretary, Disaster Management Department (DMD) replied that the State Government had been issuing directions from time to time for preparation of Departmental Disaster Management Plans (DDMPs) and adoption of safe technologies, etc. The DMD issued guidelines for preparation of DDMPs to the line departments in January 2008. The reply has to be seen in the light of the fact that even after the lapse of more than twelve years of the enactment of DM Act, the line departments of the State Government neither prepared the DMPs nor provisions were made in their annual budget for disaster management related activities.

3.12.2 No support from PIU-Technical Assistance & Capacity Building for Disaster Risk Management

The State's institutional capacity to manage the disaster was challenged during the 2013 disaster. Therefore, the GoU recognised the need to work on disaster risk reduction and quickly help communities to recover from the impacts of disaster. A component of Technical Assistance and Capacity Building for Disaster Risk Management (TA&CBDRM) costing ₹ 228 crore was included (February 2014) in the Uttarakhand Disaster Recovery Project (UDRP) to enhance the capabilities of the USDMA and other Government entities by December 2017. For this purpose, a dedicated PIU-TA&CBDRM was set up for management of the following sub-components:

- **Risk Assessment, Modeling and Capacity Enhancement of Uttarakhand Space Application Centre (USAC)** to provide technical assistance to institutions to plan, set-up and implement a multi-hazard risk assessment of Uttarakhand.
- **Establishment of Decision Support System (DSS)** to integrate and analyse information from multiple sources and provide access in user-friendly ways.
- **River Morphology** to analyse and identify critical protective infrastructure works needed for riverbank strengthening for some key rivers impacted by the disaster.
- **Slope Stabilisation Studies** from existing successful techniques, ongoing cutting-edge work and research in this sector.
- **Strengthening of the USDMA** by development of institutional set up, technical enhancement of the facilities at Disaster Management Mitigation Centre (DMMC).
- **Strengthening Hydro-meteorological network and Early Warning Systems (EWS)** in the State for enhanced emergency preparedness and response.
- **Strengthening Emergency Response Capacity** of State's disaster response force.

The objective and activities required to be carried out under each sub-component are given in *(Appendix-3.10)* along with progress of works.

Audit scrutiny showed that the PIU-TA&CBDRM, Dehradun which was assigned the responsibility of managing these vital activities, could not provide the intended support to the USDMA and other Government entities within stipulated time frame:

- The work relating to establishment of DSS (₹ 18 crore) and development of institutional set up of USDMA (₹ 30 crore) had not been taken up by the PIU as of March 2018. The works could not be commenced due to non-finalisation of 'Terms of Reference' for works to be done/awarded for DSS and delay in approval of staff proposal for institutional set up of USDMA.
- Part contracts for four sub-components (₹ 77 crore out of earmarked fund of ₹ 162 crore) were awarded very late⁸⁰ to various consultancy firms leading to delay in delivery of the desired result.
- Phase-III works (₹ 7.57 crore) of Strengthening Emergency Response Capacity to State's Disaster Response Force was yet to be carried-out (March 2018).

In reply, PIU-TA&CBDRM stated (October 2017) that the major part of components had to be executed by outsourcing work which took time in finalisation due to the works being complex and unique in nature. It further added that some part of the earmarked funds was transferred to the PIU (Roads & Bridges) as per the direction of the HPC,

⁸⁰ Risk Assessment & Modelling (May 2016), River Morphology (December 2015), Slope Stabilisation (June 2016), and Strengthening of Hydro-meteorological network & Early Warning System (Phase-I in March 2015 & Phase-II in June 2018).

which is approaching the World Bank for additional funds, and once funds are provided, the implementation of rest of the works shall be started. The reply is not acceptable as the transfer of funds by the HPC was due to slow utilisation⁸¹ of earmarked funds by the PIU.

⁸¹ Expenditure up to August 2017 was only ₹ 27.17 crore which is a mere 12 *per cent* of sanctioned outlay of ₹ 228 crore.