

**BEFORE THE NATIONAL GREEN TRIBUNAL
PRINCIPAL BENCH AT NEW DELHI,
NEW DELHI**

Original Application No. 03 of 2014

In the matter of:

1. Srinagar Bandh Aapda Sangharsh Samiti
Through its Vice President Shri Prem Ballabh Kala
Prem Bhawan Near ITI
Bhaktiyana, Srinagar
District Pauri, Uttarakhand

2. Vimal Bhai
Convenor, Matu Jansangthan
D-334/10 Ganesh Nagar,
Pandav Nagar Complex,
Delhi- 110092

..... Applicants

Versus

1. Alaknanda Hydro Power Co. Ltd
Through its Managing Director
Srikot, Srinagar, District Pauri,
Uttarakhand- 246174

2. Union of India
Through The Secretary
Ministry of Environment and Forests
Government of India
Paryavaran Bhawan, C.G.O. Complex
Lodhi Road, New Delhi- 110003

3. State of Uttarakhand
Through The Principal Secretary (Forests)
Civil Secretariat, Dehradun- 248001,
Uttarakhand

4. Bharat Jhunjhunwala
R/O Lakshmoli, PO Maletha
Via Kirti Nagar
District Tehri- 249161
Uttarakhand

.....Respondents

Counsel for appellant:

Mr. Rahul Choudhary, Advocates for appellant

Counsel for Respondents:

Mr. M.L. Lahoti and Ms. Rashmi Chatterjee,
Advs.for respondent no. 1

Mr. Vivek Chib and Mr. Ankit Prakash, Advs.
for Respondent no. 2

Mr. Rajiv Nanda, Mr. Manish Kumar Vikkey,
Advs for respondent no. 3

Present:

Hon'ble Mr. Justice U.D. Salvi (Judicial Member)

Hon'ble Prof. A.R. Yousuf (Expert Member)

JUDGMENT

Per U.D. Salvi J.(Judicial Member)

AM

Reserved on: 10th October, 2015

Pronounced on: 19th August, 2016

1. An organisation of the residents of Srinagar District Pauri, Uttarakhand and one Vimal Bhai who calls himself as convenor of Matu Jansangthan another organisation raising various issues concerning forest and environment have filed this application for directions to the respondent no.1 Alaknanda Hydro Power co. ltd. to pay compensation for the damage suffered by the members of the Srinagar Bandh Aapda Sangharsh Samiti in terms of loss of life and property and for restoration of effected area in Srinagar due to the floods that hit the area between 16th June, 2013 and 17th June, 2013.
2. Large scale devastation due to said floods in Srinagar brought the effected people together which according to the applicants resulted in formation of 'Srinagar Bandh Aapda Sangharsh Samiti' to take up the issue of the damage suffered by the citizens before the competent legal forum collectively. The applicants submit that devastation caused due the floods,

both to person and property, was spread over an area in Srinagar District Pauri namely, Shaktibihar, Lower Bhaktiana, Chauhan Mohalla, Gas Godown, Food Godown, SSB, ITI, Resham Farm, Roadways Bus Stand, Nursery Road, Alkeshwar Temple, Gram Sabha Ufalda's Fatehpur Reti, Sriyantra Island Resort and other places including Governmental or Quasi Governmental estates.

3. The applicant have described Srinagar Hydroelectric Project as a run of the river scheme on Alaknanda River involving construction of 63 meters high dam across the river Alaknanda, 800 meters long diversion tunnel as well as 4.8 meters long power channel for generating 200 MW of power (50MW x4 Units) causing submergence of 300ha. of land including 250ha. of forest land. This project was granted clearance vide letter dated 3rd May, 1985 issued by Director and Member Secretary Environmental Appraisal Committee on certain conditions, particularly, the conditions which are important from providing the safeguards point of view are quoted hereunder:

“2) Critically eroded areas in the catchment should be identified for undertaking time bound soil conservation programme in the first phase, concurrently with the construction works. The catchment Area treatment plans be worked out expeditiously;

3) Afforestation should be undertaken on a large scale in the project area and a wide green belt to be created around the periphery of the reservoir.

4) Geomorphologic studies be undertaken in the catchment to formulate plans for the stability of slopes on reservoir periphery through engineering and biological measures.

5) A monitoring Committee should be constituted, in consultation with the Department of Environment, to

oversee the effective implementation of the suggested safeguards.”

Subsequently, the scope of the project was revised to 330MW (55x6 units) by the State of UP.

4. It is the case of the applicants that the respondent no. 1- Alaknanda Hydro Power co. Ltd-the project proponent, dumped large quantity of muck generated from the construction of the said project just after the gates of the dams inappropriately on designated or non-designated sites without taking necessary or prescribed measures to secure such muck from the floods. According to the applicants due to heavy rains between 16th June, 2013 to 17th June, 2013 the reservoir of Srinagar Hydro electric project was filled and the dam gates being kept closed led to creation of huge reservoir of water and opening of the gates resulted in massive flow of water suddenly sweeping away the muck dumped on the river body and carrying it to the villages and the area flooded by the floods. The applicants reveal that the project proponent has not even constructed retention wall thereby causing further damage. According to the applicants, the level of the water in the Alaknanda River started increasing on 15th June, 2013 and water started entering in Municipality park and compound of the BSF by afternoon of 16th June, 2013; and the water level submerged tin shed of BSF compound and by 11:00 PM the water level reached the transformer, and in next 1-1/2 hour water reached till the road and started entering houses in residential area along it; and on the next day by

noon water submerged the residential area. The applicant gave the account of the speed of water through the residential area in para no. 8 to 10 of the application. According to the applicants, the area affected was filled with the muck atleast 8 feet high causing loss to the property as well as life. The applicants are claiming damages to the tune of Rs. 9,26,42,795/- suffered by its members and other residents of Srinagar on account of expenses incurred in removal of the muck and restoration of the property and general loss to the property as per the list at annexure A-5 to the application.

5. The applicants submit that the muck accumulated in the house of the residents due to floods has come from the dumping zones of the project area and the SDM of Srinagar communicated this fact as well as referred to the decision in the meeting held on 6th August, 2013 with the residents to do the self-assessment of the damage suffered by the affected persons and claim it from the company in the said communication sent to Mr. Personna Reddy, CEO of respondent no. 1 vide letter dated 13th August, 2013. The applicants add that having got no relief from the respondent no. 1 they wrote a letter dated 18th August, 2013 to the Ministry of Environment and Forest, Government of India, Ministry of Engineering, Ministry of Water Resources, Chief Minister, Uttarakhand, Commissioner, Mandal Pauri, District Magistrate Tehri Garhwal, District Magistrate, Garhwal to consider their demands for restoration of the area upon

removal of the muck and making the place habitable and payment of compensation to the affected persons. They also requested for taking of preventive measures such as construction of protection wall along the river from Srikotto Maldia prior to the completion of Srinagar HEP. Having received no response to such pleas made at various quarters the applicants submit that the present application has been preferred.

6. The respondent no. 1- Alaknanda Hydro Power co. ltd- the project proponent resisted the application with the reply dated 13th March, 2014. According to the respondent no. 1 the victims of the tragedy caused by the Kedarnath catastrophe on 16th and 17th June, 2013 have already been duly compensated by the State of Uttarakhand. Furthermore the respondent no.1 submits that the alleged loss caused by the floods between 16th and 17th June, 2013-Kedarnath catastrophe is due to act of God- *vis -major* and as such the project proponent which itself suffered heavy loss and damages cannot be held liable for the damages claimed by the applicants.

7. Cognizance of this fact was also taken, according to the respondent no.1, by the Hon'ble Apex Court in Alaknanda's case reported in (2014) 1 SCC 769: Alaknanda Hydro Power Co. Ltd vs. Anuj Joshi & Ors. in following words:

“52. We are also deeply concerned with the recent tragedy, which has affected the Char Dham area of Uttarakhand. Wadia Institute of Himalayan Geology (WIG) recorded 350 mm of rain on 15-6-2013/16-6-2013. Snowfall ahead of the cloudburst also had

contributed to the floods resulting in the burst on the banks of Chorabari Lake near Kedarnath, leading to a large-scale calamity leading to loss of human lives and property. The adverse effect of the existing projects, project under construction and proposed, on the environment and ecology calls for a detailed scientific study. Proper Disaster Management plan, it is seen, is also not in place, resulting in loss of lives and property. In view of the abovementioned circumstances, we are inclined to give following directions:

52.1 We direct MoEF as well as the State of Uttarakhand not to grant any further Environmental Clearance or Forest Clearance for any hydroelectric power project in the state of Uttarakhand, until further orders.

52.2 MoEF is directed to constitute an expert body consisting of representatives of the State Government, WII, Central Electricity Authority, Central Water Commission and other expert bodies to make a detailed study as to whether hydroelectric power projects existing and under construction have contributed to the environmental degradation, if so, to what extent and also whether it has contributed to the present tragedy which occurred at Uttarakhand in the month of June 2013.

52.3 MoEF is directed to examine, as noticed by WII in its report, as to whether the proposed 24 projects are causing significant impact on the biodiversity of Alaknanda and Bhagirathi River basins.

52.4 The Disaster Management Authority, Uttarakhand would submit a report to this Court as to whether they had any disaster management plan in place in the State of Uttarakhand and how effective that plan was for combating the present unprecedented tragedy at Uttarakhand.

8. According to the respondent no. 1 catastrophe leading to the loss was due to heavy cloud burst which took place in the Kedarnath mountain range situated upstream the project and as a result thereof the lake "Chaura bari" got over flown and caused heavy floods in Mandakini-Alaknanda-Bagirathi river basin; and these floods were fuelled by the heavy rains and resultant heavy landslides taking entire soil along with huge

trees and boulders in Alaknanda river. Thus, the respondent no. 1 contends that the damage caused thereby is not attributable to the respondent's Hydro Power project, but was only due to massive landslide washing away the mountains. Respondent no. 1 further contends that its project has arrested huge sediment to an extent of 26 million cubic meters flown from the upstream and in fact protected the upstream areas like one in the present case from being washed away as it happened in upstream area of the water basin.

9. Respondent no. 1 in its reply referred to issuance of Section 5 Notice by the MoEF dated 3rd May, 2011 and the proceedings being appeal no. 9/2011 preferred before this Tribunal raising questions regarding illegal dumping of muck on the river bank and pollution caused thereby seeking declaration that the conditions imposed on the project proponent by the Notice under Section 5 of the EP Act were inadequate and contended that the vested interest prompting the said appeal had also alleged that the project proponent caused the heavy floods which occurred in August, 2012; and thereupon this Tribunal directed the MoEF to appoint an Expert Committee and submit a report. The Expert Committee thus appointed, made visit to the project site on 29th and 30th August, 2012 and submitted the report, according to the project proponent, stating that the project proponent was complying with Muck Management Plan prepared by IIT Roorkee and approved by the Forest Department of State of Uttarakhand. The vested

interests being not satisfied by the report further alleged, the project proponent added, non-compliance before this Tribunal and thereupon Mr. A.D.N. Rao was appointed to conduct a site visit and submit a report which again showed the project proponent as fully compliant. The said vested interest, the project proponent submits, were not satisfied with the said report of Mr. A.D.N. Rao and therefore, raised the issues before the Tribunal, again before the Hon'ble Supreme Court in the pending SPL No. 362/12 filed by the project proponent against the order of the Hon'ble High Court of Uttarakhand relating to various approvals accorded to the project. The Hon'ble Apex Court, the project proponent, submits took cognizance of the issues and was pleased to call for cases from this Tribunal vide order dated 23rd January, 2013 along with some interim application therein and to appoint another Committee to MoEF, State of Uttarakhand experts in the field to carry out local investigation at the project site vide order dated 25th April, 2013. The said Committee submitted a report observing the project proponent as compliant. Finally the Hon'ble Supreme Court vide Judgment dated 13th August, 2013 was pleased to dispose of the SLP and the cases transferred from the Tribunal together and allow the project work to go on.

10. According to the project proponent the applicants or the vested interest have been trying some how to get the project work stayed but have not been able to achieve their ulterior

motive and the present application is yet another attempt in the same direction. The project proponent dismissed the allegation that it is responsible for large scale devastation as an absolute absurdity.

11. The project proponent termed the technical parameters of the project given by the applicant as false. According to them the technical parameters are as follows: Dam height from the river bed 66 m, Length of diversion tunnel 550m, length of the power tunnel 3500m, installed capacity of project 330MW.

12. According to the project proponent, the highest flood (12,610 cumecs) occurred on 17th June, 2013 and it was almost three times greater than the highest flood level (4500 cumecs) which occurred in August, 2012, the highest ever in the history of Uttarakhand.

13. The project proponent submits that the Hon'ble Supreme Court after having extensively examined the conditions imposed vide EC dated 15th April, 1997 and considering the various committees reports regarding compliance of those conditions gave green signal to the project to proceed which was almost near completion. The project proponent made reference to the committees the reports of which found reflection in the Judgment of the Hon'ble Supreme Court in its reply.

14. According to the project proponent radial gates were kept open well before the floods including 15th, 16th and 17th June, 2013. Pursuant to the direction of the district administration vide communication dated 15th May, 2013 and sluice gates were

never closed. The project Proponent contended that at no point of time during the floods the gates were closed so as to lead to the filling up of the reservoir but the flood water was allowed to pass over the dam spillway and it is for this reason the huge velocity of water in Dhari Devi Temple was noticed on 16th June, 2013.

15. The Project proponent in its reply gave account of muck disposal sites as approved by State Forest Department of Uttarakhand. The Project proponent averred that State Forest Department of Uttarakhand had approved 10 sites for muck disposal out of which site nos. 1 and 2 were upstream of the dam and remaining 8 sites are downstream of the dam and all sites were protected with toe walls and necessary repair work after monsoon was carried out from time to time. The project proponent further revealed that the muck from sites 1, 2, 3 and 5 was completely utilised before 2004 and the muck at site no. 4 and 7 was already utilised for Supana quarry and for back filling of long power channel respectively. As regards site no. 6 this site was utilised for storing construction material, warehousing, and other related purposes and was to be dismantled only after operationalization of the project and utilised for restoration of quarry. Only sites nos. 8 and 9 according to the project proponent are permanent from where the muck was not required to be removed for re-utilisation; and the site no. 8 being situate at a higher elevation from the river the muck at that site remained intact. Project proponent

further revealed that the muck at site no. 10 was kept for landscaping and post completion activities and there was no sign of muck getting into river from the said site.

16. Respondent no.1 revealed in its reply that even in the heaviest rain falls witnessed by Uttarakhand no muck was eroded from the muck sites other than the sites no 6 and 9. The project proponent confirming that the river had changed the course towards right sites at location no. 9 in spite of the deflectors installed by Central Water Commission for protection of the bank and the river course hit the site no. 9 overtopping the toe wall and part of the original land mass situate on the right bank of the river got eroded during the heavy flow of flood water which took way the muck from site no. 9. Respondent no. 1 added that the flood water has eroded many other locations other than the muck disposal locations along its course downstream of dam from Joshimat; and the reason for high silt concentration levels during the floods near dam sites and power house site was due to the huge landslides in Mandakni basin; and resultantly the large amount of fine silt was found deposited at the affected sites-, the muck disposal sites being made of a coarser material.

17. In the reply of the Respondent no. 1-Alakhnanda Hydro Power Co. ltd., it is revealed that as per DPR of M/s WAPCOS the reservoir dead storage upto spillway level of dam is 28million Cum; and during the monsoon 2012 the reservoir bed level arose to 560 meters corresponding to the silt deposition of 2

million cubic meters; and during the floods of June 2013, the reservoir bed level rose to 585 meters corresponding to silt deposition of 26 million cubic meters. The Respondent No. 1 submits that this shows the severity of flood and silt carried by it and without the Srinagar dam this silt could have entered Srinagar town and completely buried it.

18. The Respondent No. 1- Alakhnanda Hydro Power Co. ltd., further reveals that the damage to muck disposal sites, namely, Site No. 6 and 9 was reported and all the muck disposal sites are located within 5.2 KMs from dam site and it is only after 10 KMs the silt laden water entered the properties due to severe sudden constriction in the river at the said location and some of the structures were located in the river bed area and as such any flood of 7 Thousand Cumecs would submerge the said structures even without the presence of the dam according to the Respondent No. 1, the loss alleged cannot be attributed to the project of the Respondent and any flood protection and rehabilitation measures required and have to be dealt with by the respective forums.

19. The Respondent No. 2- Ministry of Environment and Forests (MoEF) gave a brief reply dated 12th March, 2014 shifting the burden of compensation to the Respondent No. 1- Alakhnanda Hydro Power Co. Ltd., and Respondent No. 3- Government of Uttarakhand, on the ground that the case made out pertains to the said Respondents. The Respondent no. 3- State of

Uttarakhand did not file any reply it having nothing to say about the factual matrix of the Applicant's case.

20. The Applicant filed rejoinder dated 30th April, 2014 besides denying the contentions raised by the Respondent No. 1, the Applicant explained that the issue before the Hon'ble Apex Court was whether hydroelectric project had impact on environment and it contributed to the Uttarakhand disaster and not the issue of assessment of damage in the project area and fixing responsibility of the same as per 'Polluters Pay Principal'. Referring to the observations made by the Hon'ble Supreme Court in Alakhnanda Hydro Power Co. Ltd Case (Supra) reported in (2014) 1 SCC 769: Alakhnanda Hydro Power Co. Ltd V/s Anuj Joshi and Ors. that the total muck utilisation to be 44%, the Applicant pointed out that the amount of muck lying at different muck disposal sites having been moved from the said sites due to floods caused damage downstream areas as referred to in the Application. The Applicant further elaborated the neglect shown by the Respondent No. 1 in enforcing the muck disposal management plan properly. The Applicant categorically asserted that the Hon'ble Apex Court did not give any clean chit to the Respondent No. 1- Alakhnanda Hydro Power Co. Ltd., and only decided not to hold up the project with the expectation that the Respondent No. 1 and the Authority would take immediate steps to comply with all the recommendations made by the joint team in the report dated 3rd May, 2013 and the Authorities could oversee the compliance

of the directions by the Respondent No. 1-Alakhnanda Hydro Power Co. Ltd. Significantly, the rejoinder maintained silence about the Respondent No. 1's contentions that the residential area suffered due to muck and silt deposition in the floods of 2013 as they were located below the flood levels.

21. Respondent No. 4- Bharat Jhunjhunwala resident of Lakshmoli of place 15 KMs of downstream of the project who claimed to be floods affected was allowed to be joined to the present Application vide order dated 12th May, 2014 in M.A. No. 269/2014 with an expectation that some more information regarding the controversy before us would come forth which would help us render substantial justice in the matter. The Respondent No. 4-Bharat Jhunjhunwala live to our expectations by placing before us a copy of the report submitted by the expert body constituted by the MoEF on the directions of the Hon'ble Supreme Court in Alakhnanda Hydro Power Co. Ltd case (Supra) on 13th August, 2013.

22. We have heard the rival parties at length and have gone through the record placed before us. Learned Counsel Mr. Datta appearing for the Applicant submitted that approval to the muck disposal plan does not mean that the Respondent No. 1 was complying with the same. He pointed out with a reference to the observations made by the Hon'ble Apex Court in its Judgment dated 13th August, 2013 passed in Alakhnanda Hydro Power Co. Ltd case (Supra) that muck disposal was not proper and the neglect shown by the Respondent No. 1 in

complying with the muck disposal plan laid to the damage suffered by the Applicants, the victims of the floods. It is for this reason, he argued that the Respondent No. 1- Alakhnanda Hydro Power Co. Ltd cannot seek shelter under specious plea of “*Act of God – Vis Major*” and avoid responsibility to pay the compensation. He further submitted that under section 17(3) of the National Green Tribunal Act, 2010, this Tribunal can invoke the principle of No Fault and saddle the Respondent No. 1 with the liability to pay the compensation for the damages incurred as a result of the floods caused even assuming the same to be an accident involving a fortuitous or sudden or unintended occurrence. He urged us to view the activity of establishing and running hydroelectric Project as the plant referred to in the definition of term accident under section 2 (a) of the National Green Tribunal Act 2010. He invited our attention to findings/recommendations of the Sub-Committee of Forest Advisory Committee, Central Empowered Committee Report of the site visit by Dr. B.P. Das, Report of the group constituted by the Ministry of Environment & Forest, & CC Mr. A.D.N. Rao’s Report and Expert Body Report. He placed on record the final submissions dated. 10.10.2015 as well as Written Submission dated 12.09.2015 (Page 320-325)

23. The Respondent No. 4- Bharat Jhunjhunwala submitted that there was designated site for disposal of muck as per the approved muck disposal plan and muck had eroded from Site No. 6 and 9 and got deposited between Site No. 9 and 10 and

damaged the property. This fact concerning the erosion of Site No. 6 and 9 is admitted by the Respondent No. 1 –Alaknanda Hydro Power CO. Ltd. According to him, though the muck disposal plan was approved and the sites were designated, the same were not maintained as recommended and there was no compliance of the recommendations made in muck disposal plan. According to him volume of the muck in the river bed increased the flood levels and as such the flood levels in floods of 2013 exceeded the flood of 1970. He pointed out from geo chemical analysis of the sediments in the affected area that 23 % contribution of the sediments was from the muck. He further submitted that the question whether the affected area lay in the flood plain would remain unresolved in view of the State having not determined the flood plains zone lawfully in terms of the Flood Plain Zoning Act, 2012. In this context he invited our attention to the Order passed by the Hon'ble Uttarakhand High Court in WP (PIL) No. 25/2013 Sanjay Vyas V/s State of Uttrakhand and Ors., on 20th September, 2013. He submitted that the facts in the present case are so *eloquent* – “*Res Its a Locquitor*” that nothing further needs to be established by the Applicants to establish the case for damages in the present case. He placed his reliance on the following Judgments:

- a) AIR 1965 SC 17:. *State of Punjab V/s Modern Cultivators, Ladwa*

b) AIR 1975 SC 529 :Municipality of Bhiwandi and
Nizampur V/s Kailash Sizing Works

24. Learned Counsel Lahothy submitted that there was muck disposal plan authored by IT Roorkee in November 2008, though EC did not mandate for it and the same plan was approved by the Forest Department. He submitted that the project was started in 2006 and the muck was dumped in 2008. According to him the erosion of muck from Site No 6 and 9 situate far away from the localities and the muck had to travel distance of 7 KM downstream. He took us through the various reports in order to impress upon us that the Respondent No.1 had done all that to secure the muck and there was sudden rise in the flood river due to cloud burst “An Act of God - Vis Major” which led to the devastation in question and as such the Respondent no. 1 cannot be held liable for the damage alleged by the Applicant.

25. Learned Counsel appearing for the Respondent No. 3- State of Uttarakhand reiterated the submission made on behalf of Respondent NO. 1 that what all has had happened was an Act of God- Vis-Major and, therefore, no liability for compensation arises in the present case. Even otherwise he argued that the Principle of “No Fault Liability” under section 17(3) of the National Green Tribunal Act, 2010 cannot be invoked in the present case as the alleged loss incurred is not the consequence of accident or the adverse impact of an activity or operations or process; and if the unfortunate happening were to be viewed as

merely an accident the same also do not fall within the meaning of the definition of the accident under section 2 of the National Green Tribunal Act 2010. He submitted that whatever had happened may be sudden or unintended occurrence but the same had not taken place while handling any hazardous substance within the meaning of Section '2' (e) of the Environment (Protection) Act 1986. He submitted that the muck generated due to excavation of the earth cannot be called as "hazardous substance" as nothing can be attributed chemically or by physicochemical property or by way of handling of such muck in any way would cause harm to life, property or the environment.

26. Unfortunately, the flood waters entered the residential area in Srinagar and had taken with the flow silt as well as muck. This part of the story put forth by the applicant is quite evident from the photographs annexed to the application at annexure A-4. A huge sedimentation almost engulfing the ground floor of the structures can be seen from the said photographs. There is no way to reach to any other conclusion than what is propounded by the applicants that damage to the property was incurred as a result of flood water entering the residential premises and bringing along with it soil / muck.

27. Parties have drawn our attention to the main Report on "Assessment of the Environment Degradation and Impact of HydroElectric Project Report during June 2013 in Uttarakhand" it is one of those documents which the parties do not dispute.

This Report reveals that a team of Experts collected rock, muck and river sediments upstream and downstream of the barrage and these samples were analysed at Physical Research Laboratory in Ahmadabad for major elemental geo-chemistry in order to determine the contribution of the muck in raising the river bed and the sedimentation of the lower Srinagar. The Report reveals that on the basis of CIA determination (Chemical index of alteration) that the contribution of **Phyllite in the River bed sediments between Koteshwar (below barrage) to downstream of Kriti nagar varies from 47% to 23 %**. This implies, the Report reads, that there was indeed a significant contribution of muck in inundating the settlements located on the lower terraces on Saktinagar and SSB. Considering the preponderance of the probabilities a conclusion can be safely drawn that the sedimentation which wreaked havoc in the residential area comprised of both the silt and muck (47 % to 23 %). This begs further question as to where from such muck came from.

28. Geological structure of Srinagar valley both upstream and downstream affords some clue in the matter. Srinagar Hydropower project is located upstream of Srinagar town on the Alaknanda river in the Lesser Himalaya. The Report of April, 2014 on “Assessment of environmental degradation and impact of hydroelectric projects during June 2013 disaster in Uttarakhand” reveals that Srinagar valley is dominated by two major lithologies namely Quartzite above the barrage and

Phyllite downstream of it (R.N. Srivastava and A. Ahmed (1979): Geology and Structure of Alaknanda river valley, Garwal Himalaya, Himalayan Geology 9: 225-254). The report further reveals that the phyllite dominated muck (47% to 23%) was generated from digging the tunnel and the canal and power house excavation and was kept at 10 locations along the river bank. The report further observed that out of these substantial muck erosion occurred at the muck dumping site 9 (university stadium) and 10 near the power house and the Srinagar project officials accept that contribution from the muck also led to raising the river bed. These observations, particularly as regards contribution of muck leading to raising of the river bed, find basis in the results of the detailed field mapping undertaken immediately after June 18, 2013 which are reproduced herein below for quick reference:

- (i) *The June 2013 flood deposits invariably overlie the 1970 flood sediment below the Srinagar project barrage in the Alaknanda valley implying that the June 2013 flood was the highest flood recorded there in the last 600 years. For example the highest flood level at ITI was 536 m during the June 2013 flood against the previous highest flood level of about 533.5 m at the same location.*
- (ii) *But the upstream segment between Rudraprayag and Joshimath nowhere did the June 2013 flood sediments overtop the 1970 flood sediments which are still visible at Kaleshwar (Karanprayag), Chamoli, Chinka and at the confluence of Birehi and Alaknanda rivers.*
- (iii) *The June 2013 flood sediments are incised into two surfaces indicating that the flood peak came in two distinct pulses.*

29. From the observations made as aforesaid the following conclusions have been drawn in the said report of April 2014:

- (i) *The massive natural pile of sediments in the upper catchment of the Mandakini valley (around Kedarnath) were largely trapped between Kedarnath and Sitapur. In the lower Mandakini and Alaknanda valleys the landslides- affected slopes are not all that spectacular, for example when compared to those observed during the 1998 Madhyamaheshwar Ganga tragedy near Ukimath. Therefore, it is clear that the sediments were locally generated by a mechanism other than sliding.*
- (ii) *Downstream from Kund to Tilwara in the Mandakini valley it was sediment bulking caused by a combination of muck and collapse of unconsolidated banks due to lateral migration of the Mandakini river channel under hyperconcentrated flow.*
- (iii) *The Srinagar hydropower project officials appear to have been unable to retain the muck which got washed into the river and assisted in aggravating the damage in the lower reaches of Srinagar town. A significant contribution to the flood sediment was made locally available by the muck disposal sites no. 6 to 10 (fig. 3.19). The geochemical analysis indicate that the phyllite contribution (muck) in the June 2013 flood varied from 47% (proximal to the barrage) to 23% (distal location below Kirtinagar), fig. 3.19.*
- (iv) *Finally can it be a mere coincidence that the maximum destruction of land and property occurred in areas downstream of hydropower projects at Singoli-Bhatwari, Vishnuprayag or Srinagar hydropower Project?*

30. The contra view of Dr. Das, Co-Chair of the Expert Body has also made available in the said report as follows:

The Srinagar project generated a total muck of 6.69 Mm³ which was deposited on 10 muck dumping (MD) sites. Out of this 0.859 Mm³ of muck was generated from excavation of power channel of 3.2 km length. In the power channel phyllite is encountered 0.22 km to 1.05 km and from 1.275 km to 1.475 km. The quantity of phyllite excavated and deposited at MD site 9 (chainage 5.2 km) was around 0.073 Mm³.

Significant erosion of 0.5 Mm³ occurred from MD 9 during the 2013 June flood which got conveyed with the torrential flood. The MD 9 site being on the concave bank was severely attacked by the high intense velocity of 7m/sec. and a 10 to 12 m deep flow.

It has been stated that the sediment concentration at Supana bridge which was as high as 38230 ppm got reduced to 24790 ppm at power house (PH) site, which

means significant deposition on the left bank would have occurred.

It is important to note that the river flows along a convex bend from 3 km upstream of PH location to about 5 km downstream. Thus 8 km of urban area was impacted by the sediment laden flow. That a convex bank is a deposition zone is well known. The deposited material on the urban stretch came from the suspended sediment mostly from landslides and bank erosion of the Mandakini and Alaknanda. The eroded muck got transported along with the high flood.

Because of the slack zone in the convex bend massive deposition occurred. While recognizing that fine to coarse phyllite will move with flow, it is definite that phyllite would deposit in a short distance below chainage 5.2 km. The overall deposition quantity in urban area is 1.2 Mm³ up to PH site and another 1.3 Mm³ up to ITI totalling 2.5 Mm³, attributable to flow changing its path from right bank to left bank. Since the quantity of 0.073 Mm³ of phyllite is only 3% and the total muck eroded is 20% of the deposition on Srinagar terraces, it is obvious that the role of phyllite eroded and visible on the urban stretch of the deposition is minimal in damages caused by the tragedy.

From the logic that deposition occurs on the convex bend, it is definite that even in the absence of the Srinagar project, massive deposition would have occurred on the lower terraces of the Srinagar urban area from the suspended sediments, which was extremely high (38230 ppm) before the flood negotiated the project area. The deposition was accentuated because of buildings obstructing the flow on the convex over land area.

The higher the flood, the larger is the sediment deposition which becomes exponentially higher. Alaknanda experienced 12600 cumecs devastating flood against the highest of 4500 cumecs in the last 50 years and hence the unusual 3.5 meter deposition.

31. A closer scrutiny of Dr. Das conclusion does not rule out the role of eroded muck in the entire occurrence. What Dr. Das wants to say is that 8Km of urban area was impacted by the sediment laden flow which came from suspended sediment mostly from landslides and bank erosion of Mandakini and Alaknanda. However, Dr. Das confirms that the eroded muck got transported along with the high flood. Dr. Das with the aid of the logic that deposition occurs at convex bend concluded

that even in the absence of Srinagar project massive deposition would have occurred on the lower terraces of Srinagar urban area from the suspended sediments. However, a fact remains as to the presence of the muck in the sedimentation and its role in raising of the river bed downstream thereby increasing the speed of the flow in the residential area.

32. Next question that arises is as to the source of the muck that played role in the damage that was caused to the residential area of Srinagar. Obviously, the geo-chemical analysis of the samples of the river bed sedimentation do point out contribution of Phyllite a product generated from digging the tunnel, canal and power house excavation downstream the barrage in question. Reading of this fact in conjunction with the observations made in successive record of inspections done by the various Committees since 2011 will help us to understand the role of the project in entire occurrence. These reports have been placed before us by the respondent no.1- Alaknanda hydroelectric Power co. Ltd. As per the order of Hon'ble High Court of Uttarakhand at Nainital in W.P (PIL) No. constituted a team of the following experts:

1. Dr. B.P. Das, Vice-Chairman, EAC
2. Dr. Nayanjot Lahiri, Professor, Department of History, Delhi University and Member, Delhi Urban Art Commission;
3. Shri Bharat Bhushan, Director (IA);
4. Ms. Sancita Jindal, Member Secretary, EAC

Constituted by the Ministry of Environment and Forest inspected the project in question to review:

- (i) The status of the relocation of the Dhari Devi Temple and its adequacy
- (ii) The Management Plan for muck disposal
- (iii) Compliance to various environmental conditions and
- (iv) Review the EC for the increased capacity

33. The team visited the site on 6th and 7th June, 2011 and gave the report dated 19th June, 2011 making following observations and recommendations as regards the muck disposal:

(ii) The Management Plan for Muck disposal

It was informed by AHPCL that the total quantity of disposal muck is expected to be 66.91 lakh cum. There are 10 sites covering an area of 21.01 ha for muck disposal which were identified by the State Forests Department and approved for non-forestry use. The muck disposal plan was prepared by IIT, Roorkee and approved by the State Forests Department. The total quantity of muck generated till date is 62.55 lakh cum. Detailed section of the river with location of the muck disposal site along with the capacity in volume of each muck disposal site was provided along with the photographs of each site by AHPCL during the presentation. AHPCL stated that they had constructed gabion wall/cement concrete blocks during previous year and the same was washed out during heavy flood last year. The pictures shown by the AHPCL are enclosed at annexure 17. Now the concrete walls are planned and the same are being implemented.

It is observed that-

- (a) Muck disposal is an issue, as with most of the Hydro Projects. The muck management is not sound.
- (b) The environment clearance being of 1985, no specific condition was given for Muck Disposal at that time.
- (c) 70% of the muck is being disposed of at four sites which are near dam (9.38 lakh cum), desilting basin (19.15 lakh cum), power house (9.67) and power channel (8.05).
- (d) Three sites out of these are too close to the river and are of a height of 8 to 10m. In all its possibility, the muck may be running off into the river from these.
- (e) The retaining walls were not of sufficient height to retain the dumped muck and were broken at many places.
- (f) AHPCL should have developed a series of terraces of boulders crate wall and masonry wall, where so ever possible, for the disposal area to protect it from flood water during monsoons, as suggested by IIT, Roorkee.
- (g) Despite visits by three Committees viz. the State Committee under the State Chief Conservator of Forests, a sub-Committee of Forest Advisory Committee of MoEF

and Central Empowered Committee and a plan prepared by IIT, Roorkee, muck disposal needs tremendous improvement.

- (h) The recommendations of these Committees were not communicated to AHPCL except a letter from MoEF dated 19.5.2010 based on the monitoring report of the Regional Office of MoEF at Lucknow. After the site inspection, a letter was written by the Regional Office on 22.04.2010 which also mentions only the restoration plans and the letter from MoEF letter only mentions about CAT plan and Green belt development.

We express our concerns over the site selection for the muck disposal which is too near to the river. We also feel that the monitoring by the Regional Office of the Ministry seems not adequate, leading to the present status.

To Mitigate the present situation, we recommended that-

Recommendations:

- (i) The muck slope at the edge of the river has to be adequately protected by a retaining wall of at least 1-2m height to be 1m above HFL corresponding to a flood of 2500 to 3000 m³/sec in the river.
- (ii) The existing slope of the muck disposed off is around 40-45° and need to be flattened to 35°. The walls are constructed partially upto a maximum of 2 m height and need to be completed to the top with surface protection before July, 2011 when the monsoon precipitation becomes intense. This is considered expedient to prevent sloughing, sliding of the critically steep muck slope and to arrest flow of the muck into the river. The wall may be constructed over a length of almost 1 km stretch at three major site i.e. the dam, desilting basin and power house. This would lead to adequate environmental protection.
- (iii) Muck should be compacted and Terraces may be formed, where so ever possible.
- (iv) Appropriate protection by plantation and gabions should be put only after slopes are flattened to 35°, protected by retaining walls of desired height. Thereafter, appropriate soil cover of 1m has to be provided to raise plantation for slop protection.
- (v) Site wise restoration plan with time targets may be submitted immediately to the MoEF.
- (vi) Progress on implementation on these should be strictly by a team.

34. The Ministry of Environment and Forest had issued directions under Section 5 of Environment (Protection) Act, 1986 to M/s Alaknanda Hydro Power co. Ltd on 30th June, 2011. AHPCL was

directed not to undertake any further construction work other than safety and electricity works up to 200MW and the components related to muck disposal, quarry restoration etc. On receipt of complaints regarding violation of the said directions the Ministry constituted a team comprising of the following members:

- (i) Dr. J.K. Sharma, Professor & Dean, School of Environment & Natural Resources, Doon University, Dehradun and Member EAC (RV & HP).
- (ii) Shri G.L. Bansal, Director, Central Water Commission, New Delhi and Member EAC (RV & HP).
- (iii) Ms. Sanchita Jindal, IA Division, MoEF.

to visit the project site and carry out local investigation. Accordingly, the team visited the project site on 17th June, 2012 and made certain observations of relevance to the present case in respect of muck dumping sites as follows:

(V) Muck Dumping Sites:

On route to various project components, the team had seen the Muck Dumping sites no. 7 and 9 as complained by the Gang Avhan. It was observed that both the sites have been improved with slops reduced and terracing done wherever possible, and toe walls (Gabbion and concrete) have been constructed as per the Directions issued by the Ministry. However, the plantation carried out on these sites needs further improvements. A few plants were seen growing on Muck Dumping site 9. On one of the sites, pieces of Net Tarpaulin with which the site was covered during last monsoon were seen. The team felt that instead of plastic tarpaulin, coir may be used which will act as binding material and manure too and help growing the plantation. Plantation activities need to be expedited urgently as these are now ready to rehabilitate sites. However, AHPCL stated that the soil from Site No. 9 has to be taken back to various project components for backfilling behind walls which can be done only after revoking the

restrictions under Section 5 after which the plantation can be done on full scale.

35. The MoEF further constituted a team comprising of the following members:

(i) Shri B. P. Das, Vice Chairman, EAC for Hydro Projects of MoEF.

(ii) Shri Raja Rao, Technical Expert.

(iii) Shri B B Barman, IA, Division, MoEF.

in order to verify the compliance of the conditions stipulated vide directions dated 30th June, 2011 and the conditions of environmental clearance accorded in May, 1985 in pursuant to the order dated 27th July, 2012 passed by the Hon'ble Supreme Court in SLP No. 362 and 5849 of 2012 in W.P No. 68/2008 (PIL) and the order dated 7th August, 2012 passed by this Tribunal in M.A. No. 103/2012 in Appeal No. 29/2011. The team visited the project site on 29th and 30th August, 2012. During the visit the project proponent- AHPCL made detailed presentation delineating compliance on each of the issue stipulated both vide direction dated 30th June, 2011 and EC dated May, 1985. We reproduce herein below the relevant observations made by the said team as regards muck disposal and management.

3.2 Compliance of conditions communicated under Section 5 of EP (Act) 1986 vide letter dated 30.06.2011.

.....

3 to 7	(iii) The Muck slope at the edge of the river shall be adequately protected by a retaining wall of at least 1-2m height to be 1m above HFL corresponding to a flood of 2500 to 3000m ³ /sec in the river.	There are 10 approved muck disposal/dumping sites. • Muck has been removed from location nos. 1, 2 and 5. • Location no. 3 is on higher elevation. Muck has been deposited at this location to develop a platform for
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<p>(iv)The existing slope of the muck disposed off is around 40-45° and shall be flattened to 35°. The walls shall be constructed partially upto a maximum of 2m height and need to be completed to the top with surface protection before July, 2011 when monsoon precipitation becomes intense. This is considered expedient to prevent sloughing, sliding of the critically steep muck slope and to arrest flow of the muck into the river. The wall shall be constructed over a length of almost 1 Km stretch at three major sites i.e. the dam, desilting basin and power house. This would lead to adequate environmental protection.</p> <p>(v)Muck shall be compacted and Terraces shall be formed, where so ever possible.</p> <p>(vi)Appropriate protection by plantation and gabions should be put only after slopes are flattened to 35°, protected by retaining walls of desired height. Thereafter, appropriate soil cover of 1m shall be provided to raise plantation for slope protection.</p> <p>(vii)Muck disposal site wise restoration plan with the targets shall be submitted immediately to the MoEF.</p>	<p>infra structural facilities such as work shop shed etc. This muck is well above the water level and is not in direct contact with the river water.</p> <ul style="list-style-type: none"> •Toe wall and slope dressing works completed at location no. 4. • Soil/muck is proposed to be removed from location nos. 6, 7 and 10 for backfilling purposes after completion of project related civil works which is to recommence after revocation of Section 5. As per the plan, restoration work will take six months from the resumption of works. •Slope dressing, Terracing, Toe walls are completed in reference of location nos. 8 and 9 in these two locations of neither additional disposal of muck nor their retrieval is proposed. •AHPCL informed that an earthen cofferdam constructed to facilitate dry condition for construction of power house was earlier wrongly perceived to be amuck disposal site. This was observed during the visit and found that a toe wall was built along the cofferdam as a protective measure to prevent its damage. This entails regular repair as it gets damaged particularly during monsoon. Muck disposal site no. 10 near Power house is behind this cofferdam and thus, is insulated from direct contact of the river. A portion of muck from this site no. 10 is also proposed to be reused in backfilling. Eventually, after the power house construction is over, the cofferdam will be dismantled and soil would be utilized in backfilling of various structures. •All slopes of disposed areas (angle of repose) are reported within the limits prescribed by IIT, Roorkee, in the muck disposal plan prepared in its November, 2008 report for this project. •Total constructed length of toe protection wall is reported to be 1682 PM excluding protection works for coffer dam at power house. •Total quantum of muck disposal is reported to be 65.41 lac cubic meters (save cofferdam and power house) at all ten approved muck disposal locations out of which
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		<p>16.79 lac cubic meters is already reportedly removed and reutilized for backfilling of various structures before imposition of Section 5. The project proponent is proposing to further utilize 12.5 lac cubic meters of soil from location no. 6, 7, 10 and power house cofferdam. The project proponent has prepared an action plan to partly, remove and reutilize the soil for various structures within a period of six months from the date of revocation of Section 5 notice.</p>
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The team upon presentation made to them and the observations made by them vis-à-vis the compliance of the conditions communicated vide direction dated 30th June, 2011 recorded that the works pertaining to remaining restoration work of muck disposal sites and supana quarry, restoration etc. would be completed within six months from the resumption of the works.

36. Observations made by Mr. A.D.N. Rao, Court Commissioner, appointed by us vide order dated 5th December, 2012 in M.A. No. 180/2012 in Appeal no. 9/2011 to assess the nature of the compliance made so far pertaining to catchment area or treatment plan, afforestation and muck disposal, particularly, as regards muck dumping sites no. 6 and 9 throw light on the ground situation relevant in the present case and as such the said observations are reproduced herein below:

14. First, I visited a Muck Dumping Site which was described as Location no. 9 by the company officials. At the said location we were joined by number of people claiming to be member of “Srinagar Chaurash Jal Vidyut, Pariyojana Prabhavit Sangarsh Samiti” represented by their Secretary Sh. Ravinder Singh Silwal.

.....

16. That at the said site, I could not locate any retaining wall to prevent the Muck from flowing into the river. On enquiry the petitioner Company officials informed me that they had in the year 2008 constructed a retaining wall and

in support of the same submitted a photograph indicating the existence of a retaining wall.

A true copy of the said photograph is being filed herewith marked as annexure P5/1.

That the said retaining wall was also washed away in the flooded in the year 2010 and that thereafter they had not only repaired/restored a retaining wall but also constructed concrete wall but the same also got washed away in the floods of August, 2012.

.....

18. A close movement to the point where the Muck is likely to enter into river shows the existence of a retaining wall being existing at one point of time thereby substantiating the stand of the company that they had constructed a retaining wall which stood washed away in the flooded during the year 2010 and thereafter in 2012.

19. That at said site it was also seen that the company had carried out certain plantation. But due to non-maintenance of the same withered away.

.....

22. I must state here that of all the locations visited by me, this is one of the area which require immediate attention and erection of a retention wall in order to prevent the Muck flowing into river.

.....

28. In so far as the Location No. 6 it is seen that at places a retaining wall has been washed away when enquired. I was informed that in the recent flood in August 2012 some of the portion has been washed away and that they are taking steps to repair and restore the same.

.....

41. From the Location no. 8 we moved on to Location no. 4 muck disposal site. It is seen that the muck is being utilized. That though river an adjacent to the site there is no retaining wall. It is once again represent that wall was constructed and that the same has been washed away and certain remnants of the wall were shown. Looking at the location of the said site it is advisable that a retaining wall be constructed immediately in order to prevent muck flowing into the river.

37. In pursuant to the order dated 25th April, 2013 of the Hon'ble Supreme Court in SLP nos. 362 and 5849 of 2012 in W.P No. 68/2008 (PIL) a joint Committee of MoEF and Government of Uttarakhand visited the project site including muck disposal sites on May 1st and 2nd, 2013. The team measured the angle of the muck disposal sites 4, 6, 7,8 and 9 and found that the slopes

measured and reported by AHPCL appeared to be in order i.e. flatted up to 35°. Direction under section 5 of the EP Act issued by the MoEF on 30th June, 2011 required protection of the muck slope at the edge of the river by retaining walls of 1-2m height to be 1m above HFL corresponding to a flood of 2500 to 3000m³/sec in the river. Direction also required construction of walls partially up to maximum of 2m height and to be completed to the top with surface protection before July, 2011 when monsoon precipitation becomes intense. Construction of such wall was to extent almost up to 1 km stretch at three major sites i.e. dam, desilting basin and power house. This was considered expedient to prevent sloughing, sliding of the critically steep muck slope and to arrest flow of the muck into the river. Compaction of the muck and formation of the terrace was also directed. Appropriate slope protection was to be secured by plantations and gabions protected by retaining wall was also expected to be done as a part of the muck management vide direction issued under Section 5 of the EP Act dated 30th June, 2011. The Committee found satisfaction in expressing hope that slope dressing, terracing, toe walls covering the top soil plantations, particularly, at a permanent muck disposal sites no. 8 and 9 would be carried out at the earliest. Pertinently, the committee recommended that the project being in close proximity to the inhabitation having several national and state institution/organisation the ongoing construction activity may be completed at the earliest. The committee had noted that in view of the NGT order dated 7th

August, 2012 in M.A. No. 103/2012 in Appeal No. 9/2011. APHCL were continuing the construction work.

38. On this backdrop learned Counsel appearing on behalf of the respondent no. 1- Alaknanda Hydro Power co. Ltd submits that the floods of June, 2013 were flash floods unleashed by unforeseen forces of nature like sudden cloud burst and the consequences (16th June, 2013 500cm³/sec and 17th June, 2013 1200cm³/sec flood of water) were irresistible beyond human control or capacity and as such can be regarded as “Act of God-*vis-major*”. To enrich our understanding, he invited our attention to the meaning of the phrase “Act of God” given in 3rd Edition of P. Ramanatha Aiyar’s Advanced Law Lexicon and to its exposition in Divisional Controller KSRTC’s Case (2003) 7 SCC 197 Divisional Controller, KSRTC vs. Mahadeva Shetty and ors. P. Ramanatha Aiyar in his 3rd edition gives a panoramic view of how the refinement came to the understating of phrase “Act of God” through various judicial pronouncements. We will like to advert to some of them for our benefit as under:

Act of God (Vis Major). An overwhelming unpreventable event caused exclusively by forces of nature, such as an earthquake, flood, or tornado. The definition has been statutorily broadened to include all natural phenomena that are exceptional, inevitable, and irresistible, the effects of which could not be prevented or avoided by the exercise of due care or foresight. 42 USCA 9601 (1).- Also termed act of nature; act of providence. (Black, 7th Edn. 1999)

.....

It may be defined to be any accident, due directly and exclusively to natural causes without human intervention, which by no amount of foresight, pains or care, reasonably to have been expected, could have been prevented. The general characteristics of such perils are very intelligible. LR 1 CPD 423; Province of Madras v. I.S. and G. Machado, AIR 1955 Mad 519, 524, 525.

The term “Act of God” cannot be given a wide connotation so as to include every inexplicable human error or other unexplained incidents and must be confined to acts caused by natural elements such as storms, floods, lightning, earthquake and such other acts of nature which a man is unable to foresee and prevent. *Union of India v. Kothari Trading Co.* AIR 1969 Ass 84 (88).

‘Act of God’ will be an extraordinary occurrence due to natural causes, which is not the result of any human intervention and which could not be avoided by any amount of foresight and care. An accidental fire though it might have resulted from any act of or omission of the common carrier, cannot be said to be an Act of God. *P.K. Kalasami Nadar v. K. Ponnuswami Mudaliar*, AIR 1962 Mad 44 as cited in *Patel Roadways Ltd. v. Birla Yamaha Ltd.*, (200) 4 SCC 91, 103: AIR 2000 SC 1461.

The expression ‘Act of God’ signifies the operation of natural forces free from human intervention, such as lightning, storm etc. It may include such unexpected occurrence of nature as severe gale, snowstorms, hurricanes, cyclones, tidal waves and the like. *Divisional Controller, KSRTC v. Mahadeva Shetty*, (2003) 7 SCC 197, 2011.

39. To elaborate further we quote the words of the Hon’ble Apex Court at para 9 of the Judgment in *Divisional Controller, KSRTC’s* case (Supra) hereunder:

9. The expression “Act of God” signifies the operation of natural forces free from human intervention, such as lightning, storm etc. It may include such unexpected occurrences of nature as severe gale, snowstorms, hurricanes, cyclones, tidal waves and the like. But every unexpected wind and storm does not operate as an excuse from liability, if there is a reasonable possibility of anticipating their happening. An act of God provides no excuse unless it is so unexpected that no reasonable human foresight could be presumed to anticipate the occurrence, having regard to the conditions of time and place known to be prevailing. For instance, where by experience of a number of years, preventive action can be taken, Lord Westbury defined the act of God (*dammum fatale* in Scotch Laws) as an occurrence which no human foresight can provide against and of which human prudence is not the true meaning of an act of God. This appears to be nearest approach to the true meaning of an act of God. Lord Blancaburgh spoke of it as “an irresistible and unsearchable providence nullifying our human effort”.

40. It is undisputed that June, 2013 floods were due to cloud burst in upper reaches of River Alaknanda near Kedarnath unlike floods in 1894 and 1970, 'vide note on-Geological analysis' in the Main Report- part II of April, 2014 titled "Assessment of environment degradation and impact of hydroelectric projects during June 2013 disaster in Uttarakhand" published by MoEF. However, it was within the knowledge of the respondent no.1-Alaknanda Hydro Power Co. Ltd that the project is situated in Geologically Sensitive area of Himalaya, where cloud burst is not a rare phenomena and though the EC did not mandate plan for muck disposal the MoEF has sounded an alarm as regards the muck disposal vide direction dated 30th June, 2011. Having regard to these known conditions, human foresight could have reasonably anticipated that laxity in taking timely protective measures such as slope dressing, terracing, toe walls covering the top soil at the permanent muck disposal sites would prove disastrous to the environment, particularly, to the human beings who are the components of environment. Material before us points out the laxity on the part of the respondent no. 1-Alaknada Hydro Power Co. Ltd in relation to taking adequate safety measures for muck disposal sites. The Hon'ble Apex Court in its order dated 13th August, 2013 passed in Alaknanda hydro Power's Case (Supra) and the directions following thereto reiterated the needs for compliance of the said recommendations as under:-

38. CAT is required to be carried out by the project developer along with R & R and greenbelt activities, primarily to mitigate the adverse environmental impact created by the project construction. CAT is also resorted to reduce the inflow of silt and prevent sedimentation of reservoirs. CAT management involves steps to arrest soil erosion, rehabilitation of degraded forest areas through afforestation, controlling landslide and rock falls through civil engineering measures and long-time maintenance of afforestation areas. Silt inflows in river water not only result in reduction in storage capacity of dams, but lead to increased wear and tear of turbines. Therefore, CAT plan has been prepared by the Uttarakhand Forest Department and the project proponent has paid the estimated amount of Rs. 22.30 crores to the State Forest Department towards implementation of CAT Plan.

39. We may, in this connection, refer to the brief note submitted by the AHPCL wherein they have referred to landslide which occurred in the catchment area of dam Manari Bhali Stage-I in August 1978 blockading the Bhagirathi River with a dam of muck, about 40KM upstream of dam. This dam of muck breached on its over after 12 hours and the monsoon water accumulated during this period gushed out in form of a wall of water about 20 meter high. The flood receded after a few hours, but the dam did not suffer any damage. It was pointed that during this flash flood period boulders up to 250 tonnes in weight had hit and rolled over the dam. The discharge in the river had risen to 4500 cumm per Section Further it was also pointed out that in August 2012, partly constructed Srinagar Dam also faced similar type of flood. This time due to cloud bursts and breaching of coffer dams in the project upstream, the water level at the Dam rose by 17 meters, but after the flood receded, no damage to the dam was noticed. The discharge in the river had risen to 6500 cum per Section AHPCL, therefore, maintains the stand that the structure of the dam is strong enough to bear the pressure not less than 6500 cum per sec of water discharge.

40. The Principal Secretary of Forest Department Government of Uttarakhand submitted in a short affidavit dated 10.05.2013, explaining the steps they have taken. The primary responsibility is on the Forest Department to carry out effectively the CAT plan. Proper steps would be taken by the concerned authorities, if not already taken. MoEF, State Government and all other authorities will see the same is fully implemented at the earliest, so also the recommendations made by the Joint Team with regard to CAT.

Green belt Development

41. AHPCL, it is seen, has deposited first year budget of Rs. 203.6 lakhs to the State Forest Department for green belt

rim of the reservoir in August 2012. Although green belt area is earmarked the technical documents based on the maximum flood level in the reservoir, the rim of the reservoir, could only be determined and developed after reservoir is impounded. Proper steps would be taken by the Forest Department of Uttarakhand to carry out the green belt development area in question. The MoEF, the State Government etc, would see that the proper steps would be taken by all the authorities including the AHPCL to give effect to the directions given by the Joint Team.

42. Going through the reports of Das Committee, Chaturvedi Committee as well as the Joint Team and after perusing the affidavits filed by the parties, we find no reason to hold up the project which is almost nearing completion. MoEF, AHPCL, Government of Uttarakhand, Forest Department would take immediate steps to comply with all the recommendations made by Joint Team in the report dated 03.05.2013 and also oversee whether APHCL is complying with those directions as well.

43. Under such circumstances, the Appeal in SLP (c) No. 362/2012 would stand allowed and the Judgment of the High Court stands set aside. Consequently, the SLP (c) Nos. 5849-5850 of 2012 would stand dismissed. All the transferred matters from NGT are also disposed of as above.

41. We, therefore, reject the plea of the respondent no. 1 that the damage caused to the residential area was the result of "Act of God-Vis. Major".

42. Even if it was an "Act of God" a question remains to be examined as to whether the Principle of "No Fault Liability" as given under Section 17 (3) of the NGT Act, 2010 can be invoked in the present case. Section 17 of the NGT Act, 2010 reads as under:

17. Liability to pay relief or compensation in certain cases.- (1) where death of, or injury to, any person (other than a workman) or damage to any property or environment has resulted from an accident or the adverse impact of an activity or operation or process, under any enactment specified in Schedule I, the person responsible shall be liable to pay such relief or compensation for such death, injury or damage, under all or any of the heads specified in Schedule II, as may be determined by the Tribunal.

(2) If the death, injury or damage caused by an accident or the adverse impact of an activity or operation or process under any enactment specified in Schedule I cannot be attributed to any single activity or operation or process but is the combined or resultant effect of several such activities, operations and processes, the Tribunal may, apportion the liability for relief compensation amongst those responsible for such activities, operations and process on an equitable basis.

(3) The Tribunal shall, in case of an accident, apply the principle of no fault.

43. It is correct that muck is not *per se* a hazardous substance as defined under Section 2 (e) of the Environment (Protection) Act, 1986 which reads as under:

2 (e) “hazardous substance” means any substance or preparation which, by reason of its chemical or physico-chemical properties or handling, is liable to cause harm to human beings, other living creatures, plants, micro-organism, property or the environment.

It is not the case of anyone that the muck as such has chemical or physico-chemical properties which would *per se* or by handling would cause harm to human beings, other living creatures, micro-organisms, property or the environment. However, it will be necessary to examine whether the hydro electricity power project of the respondent no.1- Alaknanda Hydro Power Co. Ltd. can be regarded as a “plant” in order to call fortuitous or sudden or unintended occurrence of the floods of 2013 and the injury caused by it as the one caused by an accident within the meaning of Section 2 (a) of the NGT Act, 2010.

44. Oxford Dictionary of English 3rd Edition gives meaning of the word ‘plant’ as follows:-Plant- place where an industrial or manufacturing process takes place. This dictionary further gives meaning of the word ‘process’ as follows:- Process- a series of actions or steps taken in order to achieve a particular end. In the

present case the respondent no. 1- Alaknanda Hydro Power Co. Ltd. has undertaken the construction and commenced of the project of manufacturing Hydro Electric Power following the environmental clearance granted for carrying out construction development and commencement of such project in May, 1985.

45. Perusal of this EC letter dated 3rd May, 1985 reveals that the execution of the said project including its development and commencement was subject with certain safeguards with a freedom to suggest additional safeguards; and the project was approved subject to implementation of the conditions prescribing the safeguards concurrently with execution of the work. Thus, the safeguards prescribed from time to time for execution of the said project were inseparable constituents of the series of action or steps taken in order to achieve the commencement of the said project i.e. the safeguards so merged with the process of manufacturing of the power that they become integral part of the process of manufacturing power and as such the safeguards prescribed for muck disposal are part and parcel of the manufacturing process of electricity/power undertaken by the respondent no.1, particularly when power is produced by harnessing and in process handling kinetic force of water-element of nature which at times has propensity to unleash floods. Entire place of the project therefor and the activities have to be regarded as a “Plant” as understood in simple language.

Section 2 (a) of the NGT Act reads as under:

2(a) “accident” means an accident involving a fortuitous or sudden or unintended occurrence while handling

any hazardous substance or equipment, or plant, or vehicle resulting in continuous or intermittent or repeated exposure to death, of, or, injury to, any person or damage to any property or environment but does not include an accident by reason only of war or civil disturbance.

46. Even assuming the disaster of June, 2013 as the one involving fortuitous or sudden or unintended occurrence the injury that has resulted from such occurrence, to the human habitation needs to be regarded as the one resulted while handling the said plant or the process leading to manufacturing of power and, therefore, it is an “accident” within the meaning of said definition under Section 2 (a) of the NGT Act, 2010. In the given facts and circumstances, therefore, the principle of No Fault Liability under Section 17(3) of the NGT Act, 2010 makes the respondent no.1- Alaknanda Hydro Power Co. Ltd. liable to pay compensation for the injury caused to the human habitation.

47. The applicant have claimed an amount of Rs. 9,26,42,795/- as a compensation for the injury sustained by the members of applicant no.1 and the residents of Srinagar city as per list annexed to the Application at A-5. Respondent no. 1 has merely dismissed the claim as a fallacious one without placing any cogent material in rebuttal before us. As observed above the human habitation was affected due to the silt and the muck. Going by the Geochemical analysis the muck that was found was about 30 percent. This certainly is a footprint of the involvement of the respondent no. 1 in the occurrence resulting in damage caused as aforesaid. However, we also cannot turn a blind eye to the fact that the applicants did not specifically deny that the

structure affected were located below the flood levels- para 14-C of the reply of respondent no.1. On the other hand there is material to suggest that the Government of Uttarakhand has yet to define the flood plain zone as per the provision of Uttarakhand Flood Plain Zoning Act, 2012- vide order passed in WP (PIL) No. 25 of 2013: Sanjay Vyas V/s State of Uttarakhand and Ors. by the Hon'ble High Court of Uttarakhand on 29th September, 2013. There is nothing before us to suggest that these structures were affected in floods previously. In such circumstances, there can be no escape from the liability incurred as aforesaid. We, therefore, pass the following order:-

1. Respondent no.1- Alaknanda Hydro Power Co. Ltd. shall deposit an amount of Rs 9,26,42,795/- by way of compensation to the victims of the June, 2013 floods in city of Srinagar with the Environmental Relief Fund Authority established under Section 7 (a) of Public Liability Insurance Act, 1991 within a period of 30 days from the date of this order.
2. Amount of Court fee payable i.e. 1% of the amount of compensation awarded shall be deducted from the said deposited amount and remitted to the Registrar, National Green Tribunal as per Rule 12 of the National Green Tribunal (Practise and Procedure) Rules, 2011.
3. The respondent no. 3- State of Uttarakhand shall issue necessary directions to the District Magistrate of District Pauri to depute any senior Sub-Divisional Magistrate to call for the

claims from the persons as per list annexed as annexure A-5 with necessary proof in support of their claims. The SDM so deputed shall verify the claims made in light of the proofs produced and remit the amount due to such person/s after deduction therefrom the proportionate 1% amount of Court fees payable as per list annexure A-5 on finding the claim to be meritorious. Claims shall be called by publishing a notice, therefor in the office of the District Collector, Srinagar Municipal Corporation and on the website of the State of Uttarakhand. No Claim filed after 90 days of publication of such notice shall be entertained by the District Magistrate. Balance amount remaining in environment relief fund after disbursement of the amount as aforesaid shall be utilised for taking such measures for restoration of the public property affected by the floods.

4. Respondent no.1 shall pay an amount of Rs. 1 lakh each to the applicants as well as the respondent no. 4 as and by way of cost.
5. Original Application no. 3 of 2014 thus stands disposed of.

....., JM
(U.D. Salvi)

....., EM
(A.R. Yousuf)