This Scan is digitally bookmarked for easy navigation in PDF Reader. Downloaded from www.vindhyabachao.org/kanhar

REPORT

In Compliance of

Hon'ble National Green Tribunal, Principal Bench New Delhi

(O.A. No. 521 of 2014 (M.A. No. 902/2014 & R.A. No. 14/2015)

Om Dutt Singh & others Vs State of U.P. & others

Order dated 07.05.2015

Chairman
Committee Appointed by
Hon'ble NGT order dated 07.05.2015 in O.A. No. 521/2014

NATIONAL GREEN TRIBUNAL Principal Bench
TRUE COPY

INDEX

Sl. No.	Particular	Page No.
1	BRIEF HISTORY OF KANHAR PROJECT	1-2
2	HON'BLE NGT ORDERS	3-5
3	MEMBER OF THE COMMITTEE (REPRESENTATIVE)	6-7
4	TIME LINE OF THE COMMITTEE ACTIVITY	8-11
5	MANDATE WISE COMPLIANCE REPORT	12-35
6	Para-1	12-13
7	Para-2	14-19
8	Para-3	20
9	Para-4	21
10	Para-5	22-23
11	Para-6	24-26
12	Para-7	27
13	Para-8	28
14	Para-9	29
15	Para-10	30
16	Para-11	31
17	Para-12	32
18	Para-13	33
19	Para-14	34
20	Para-15	35

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

TRUE COPY

INDEX OF ANNEXURE

Sl. No.	Particular	Page No.
21	Site Inspection report of the committee	36-39
22	Photograph of the site	40-46
23	Report of Representative of Expert Appraisal Committee of River Valley and Hydro Power Project MoEF&CC	47-51
24	Report of Representative of Central Pollution Board	52-53
25	Report of Representative of MoEF&CC	54-66
26	Report of Representative of Central Water Commission	67-72

NATIONAL GREEN TRIBUNAL Principal Bench, New Delhi

TRUE COPY

BRIEF HISTORY OF KANHAR PROJECT

Kanhar Irrigation Project is proposed to provide irrigation facilities in most backward tribal and drought prone area of Duddhi and Robertsganj Tahsil of Sonebhadra District of Uttar Pradesh. The Project is located downstream from the confluence of River Kanhar and Pagan near village-Sugwaman in Tehsil Duddhi of District Sonebhadra. The River Kanhar is a tributary of river Sone, which originates in Chhattisgarh State and traverses through the States of Jharkhand and Uttar Pradesh before it confluences with river Sone in district Sonebhadra of Uttar Pradesh. Apart from irrigation it will also provide drinking water facility in this area.

The project envisages construction of 39.90 meter high dam having total length of 3.240 Km. Out of this, 1.50 Km earthen embankment is on the left flank and 1.24 Km is on the right flank. Apart from this there is 311.75 m long concrete spillway and 288.25 m long composite section will be on Kanhar River near Amwar village, in Duddhi Tehsil. The irrigation facility shall be provided through Right Kanhar Canal (head discharge 18 cubic meter per second i.e. cumecs) and Left Kanhar Canal (head discharge 4.8 cumecs). Main canal is having a length of 110.20 Km with distribution system of 190 Km. The project envisages an annual increase of about 2917100 quintals in food grain production

Kanhar Irrigation Project, Uttar Pradesh was initially approved by Central Water Commission in 1976 for an estimated cost of Rs. 27.75 crores and was technically approved in 1979 with the revised estimate cost of Rs. 69.47 crores. Subsequently, the project was again techno-economically appraised by Central Water Commission and accepted in the 106th meeting of the Advisory Committee of the Ministry of Water Resources, River Development and Ganga Rejuvenation held on 4th October, 2010 at an estimated cost of Rs. 652.58 crores, at the price level of 2008-09. The Revised Cost Estimate of the project is Rs. 2239.40 crores at price level 2013 which has also been techno-economically appraised by Central Water Commission and accepted by the Advisory Committee in its 124th meeting held on 16th October, 2014. The project envisages annual irrigation over 35467 Hectares in addition to the provision of 1.42 Million Cubic Meters of water supply in the drought prone areas of Duddhi and Robertsganj Tehsils of District Sonebhadra (Uttar Pradesh) with a benefit cost ratio of 1.42.

TRUE COPY

Out of 0.25 million acre feet (MAF), the Kanhar Irrigation Project will utilize 0.152 MAF of water.

Despite lying in tropical zone with seasonal rainfall, Sonebhadra district is one of the **drought prone districts** of Uttar Pradesh. Topography in the region is semi-hilly with undulating terrain and drinking water problem becomes acute during the month of April to June. Kanhar Irrigation project will provide assured irrigation in the proposed command area which will optimize agricultural production and improve the socio-economic conditions of inhabitants of this backward region of Uttar Pradesh.

The project envisages construction of the following major components:-

a) 3.240 Km. long dam (earthen dam including spillway and composite section) having maximum height of 39.90 m from deepest bed level,

b) Concrete ogee spillway of 311.75 m long having 16 number of hydraulically operated gates of size 15.5 m x 14.5 m, and 02 under-sluice gate of size 1.50 m x 2.0 m.

c) 31.50 Km. Right Kanhar Main Canal and 53.1 Km. branch canal (Left & Right Pandu basin canal) and 25.6 Km. Left Main Canal.

d) Three lift schemes, two on the Left main canal and one on the Right main canal to irrigate an area of 1100 ha is proposed.

e) 2.66 Km. long irrigation D–Shape tunnel of 5.50 m diameter on Right Kanhar canal for Irrigation.

f) 74 number drainage crossings on right bank canal including Pandu basin canal and 39 number drainage crossing on left bank canal

g) 13 number aqueducts, 2 railway bridges, 7 PWD bridges and 72 VRB's on canal and its distribution system.

A provision of 1.42 MCM has been made for domestic water supply for rural villages. The area becomes extremely dry in summer season and there is drought in every two or three years in this area.

28/10/15

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi
TRUE COPY

Hon'ble NGT Orders

Before the Nation Green Truburnal Principal bench, New Delhi in Original application number 521 of 2014 (M.A. No. 902 of 2014 & R.A. No. 14 of 2015) in the matter of Om Dutt Singh & others Vs State of UP and others, Hon'ble NGT has pronounced their order on May 7, 2015. Operative part of Hon'ble NGT order dated 07.05.2015 is stated bellow:

1- We constitute the following committee which shall submit the report to the Tribunal on the issues stated herein after and in light of this judgment.
   (a) Principle Chief Conservator of Forest (Uttar Pradesh) or his representative.
   (b) Chairman or his nominee of Expert Appraisal Committee of River Valley and Hydro Power Projects of Ministry of Environment, Forest and Climate Change.
   (c) Member Secretary, Central Pollution Control Board.
   (d) Representative of Ministry of Environment, Forest and Climate Change.
   (e) Representative of Central Water Commission.
   (f) Chief Engineer, Department of Irrigation, State of Uttar Pradesh.
   (g) Chief Engineer, Department of Irrigation, State of Chhattisgarh.
   (h) Expert from IIT, Kanpur.

2- The Committee shall specifically report whether the conditions imposed in the consent order dated 14th April, 1980 and 27th February, 1982 of the Forest Department have been strictly complied with or not, in all respects.

3- The Committee while examining the compliance of the conditions, as noticed above, Shall specifically report whether the condition has been complied with in its entirety or not. What is the status thereof and what steps are required to be taken in that regard?

4- Whether there is complete and comprehensive Resettlement and Rehabilitation Policy in place in relation to the project.

5- Modification in execution of the project, if any, required to ensure protection of environment and ecology in the execution of the project in question.

6- The Committee is required to make its general recommendations, measures and the condition that should be imposed upon the project proponent to ensure that further progress of the project does not have any adverse impacts on ecology,

29/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

environment, rivers, hydrology, biodiversity and on all the surrounding forests, villages and tribes.

7- The Committee shall assess and examine the present status of the compensatory afforestation done by the forest department during 1984, 85 and 86 over an area of 666 hectares and 80 kms on the road side. The Committee shall make assessment of the survival percentage and the present status of compensatory plantation through random sampling.

8- The Committee shall examine the proposal of Project Proponent with reference to the forest area already diverted (980.40 Hectare) and the balance area of 441.07 hectares that is required to be diverted in terms of the note prepared by the Administrator of the project while seeking clearance for the project.

9- The Project Proponent shall not take up any new activity on the additional forest area of 441.07 hectares proposed to be acquired unless specific permission under the Forest (Conservation) Act 1980 is taken and the area diverted for non-forest activity by the Competent Authority.

10- The Committee shall study the Impact of loss of 980 hectares of forest area which is comprised of wild life habitats with specific reference to the elephant corridor, rich floral and faunal diversity.

11- Undertaking Social forestry in resettlement colonies of the displaced persons was one of the conditions of EC. The committee shall examine whether social forestry for ameliorative measures against air pollution and adverse impact on local ecology and environment has been taken up and to what extent. The committee shall also suggest measures as to how the resettlement colonies particularly, if located close to the industrial clusters of Sonebhadra, can be protected from the adverse effects of thermal power plants, coal and bauxite mining, aluminium and cement industries, particularly, from the air and water pollution and health Impacts due to Mercury, Arsenic and Fluoride contamination and as a consequence of the presence of large number of industries in the District of Sonebhadra in particular and Singrauli in general.

12- In the light of the fact that the Kanhar River flows through a drought prone area where water is a critical input for the life supports systems, both on land and within the aquatic ecosystem, the Committee should examine maintenance of certain minimum environmental flow downstream of the Dam.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

13- The Committee while preparing the comprehensive report shall take into consideration, if there is any adverse impact of the works already executed, on the environment and ecology or the areas and the remedial steps that should be taken.

14- The Project proponent shall complete the construction or activity that is under way and would not commence any new activity or construction without specific recommendations of the Committee in that behalf.

15- The Committee shall pay specific attention in regard to the condition that should be imposed upon the project proponent for conservation, protection, reforestation, restoration of environmental and ecology wherever any environment damage or degradation has occurred as a result of this project.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench New Delhi *

MEMBERS OF THE COMMITTEE (REPRESENTATIVES)

In compliance of the Judgment pronounced by Hon'ble NGT dated 07.05.2015, Chairperson/Principal Chief Conservator of Forests Office vide letter no. 731/NGT (PA) dated 12.05.2014 requested designated offices to nominate their representatives along with their names and email addresses.

1. Director General of Forest MoEF&CC, New Delhi.
2. Chairman, Central Water Commission, GOI, New Delhi.
3. Chief Engineer, Department of Irrigation, U.P. Lucknow.
4. Member Secretary, Central Pollution Control Board, New Delhi.
5. Chairman, Appraisal Committee of River Valley and Hydro Power Project Ministry of Environment, Forest and Climate Change, GOI, New Delhi.
6. Chief Engineer, Department of Irrigation, State of Chhattisgarh.
7. IIT Kanpur.

In compliance of Chairperson's letter no. 731/NGT (PA) dated 12.05.2014 following members were nominated by the designated officers.

1. Commissioner (SP) of Central Water Commission nominated, Sri Ashish Banarjee Director (monitoring) UGBO vide letter dated 20.05.2015.
2. Legal Registrar IIT Kanpur had nominated Dr. Shivam Tripathi vide letter no. IITK/A-73/LC-49 dt. 22.05.2015.
3. Central Water Commission had nominated Dr. Mukesh Kumar Sinha, Chief Engineer (PAO) vide letter no. 2/139/15-प्रमु(उ)/389-390 dt. 28.05.2015.
4. Ministry of Environment, Forest & Climate Change, GOI (Forest Conservation Division) nominated Conservator of Forests in the Regional Office, Lucknow vide F No. 7-7/2015-FC dt. 29.05.2015.
5. Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, GOI nominated Dr. A.B. Akolkar Member Secretary. Member Secretary, CPCB vide letter no. A-14011/1/2015-Mon dt. 21.10.2015 nominated Shri Vishal Gandhi, Environmental Engineer (Sc. 'C') for inspection of project site and attend the meeting Schedule on 26.10.2015.
6. Chief and HOD, Irrigation Department of Uttar Pradesh vide letter dated 09.06.2015 nominated Shri O.P. Srivastava, Chief Engineer, Kanhar Irrigation Project.

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

7. Engineer in Chief, Irrigation Department, Chhattisgarh vide letter no. memo 22611309/F.C/15/7819 Raipur dt. 18.06.2015 nominated Shri R.N. Divya, Chief Engineer.
8. Ministry of Environment, Forest & Climate Change, GOI (IA Division) vide letter no. L-11011/8/2015-IA-I dt. 03.07.2015 nominated Dr. K.D. Joshi, P.S. & Head, Central Inland Fisheries Research Institute, Allahabad.
9. As per Hon'ble NGT order dated 06.10.2015 Chief Engineer, Department of Irrigation, State of Jharkhand was nominated as a member of committee. But till now Government of Jharkhand has not nominated any officer.

28/10/15

TRUE COPY

TIME LINE

In compliance to Hon'ble NGT order dated 07.05.2015, this committee had carried out following activities. Date wise details are as follows.

Sr.No.	Date	Details
1.	07.05.2015	Judgment pronounced by Hon'ble NGT
2.	12.05.2015	Chairperson vide letter no. 73/NGT (PA) dated 12.05.2014 requested designated offices for nominating their representatives.
3.	22.05.2015	1. Legal Registrar IIT Kanpur nominated Dr. Shivam Tripathi. 2. Commissioner (SP) of Central Water Commission nominated, Sri Ashish Banarjee Director (monitoring) UGBO. 3. Member Secretary, Central Pollution Control Board, GOI, New Delhi send their nomination. 4. Engineer in Chief, Department of Irrigation, U.P., Lucknow send their nomination. 5. Chief Engineer, Raipur, Chhattisgarh send their nomination.
4.	29.05.2015	Engineer in Chief, Water Resource Department, Chhattisgarh send the nominated of Shri R.N. Divya, Chief Engineer
5.	03.06.2015	Reminder for nomination of representative was sent to remaining offices who had not nominated their representative.
6.	04.06.2015	Nomination from Chief Engineer, Department of Irrigation State of Chhattisgarh was communicated.
7.	08.06.2015	Director, Forest Conservation, MoEF&CC, New Delhi communicated their nomination
8.	09.06.2015	Engineer in Chief, U.P. nominated Sri O.P. Srivastava Chief Engineer as member of committee.
9.	11.06.2015	Sri R.M. Bhardwaj Scientist (E) of Central Pollution Control Board, New Delhi communicated nomination
10.	18.06.2015	Letter for first meeting of the committee sent to the committee members by Chairman/PCCF, UP.
11.	29.06.2015	First meeting of the committee was held at Lucknow, mandate of the committee was discussed and minutes of the meeting released. Work distribution amongst the Committee Members was done and as subject matter specialist they were requested to submit their reports to the committee. Details of work distribution are as follows –

28/10/15

TRUE COPY

		1. Chief Engineer, Irrigation, U.P. was given the task of compliance report of para number 2, 3, 4, 8, 9, 14 & 15. 2. CF, MoEF&CC was deputed to address the issues of para number 5, 6, 7. 3. Representative of Central Water Commission was requested to address issues related to para number 5, 6, 12 & 13 4. CPCB member was requested to submit the compliance report with reference to para number 11 5. Chief Wildlife Warden, UP was requested to submit report related to para number 10 i.e. related to wildlife management The objective was that the subject matter specialists prepare reports and then it is circulated amongst remaining members of the Committee for taking a holistic view.
12.	03.07.2015	MoEF&CC, GOI (IA Division) nominated Dr. K.D. Joshi, P.S. and Head, Central Inland Fishes Research Institute, Allahabad as member of the committee.
13.	03.07.2015	Letters of reminder were sent to committee members to submit their report and circulate it amongst remaining members.
14.	08.07.2015	Again the reminder for report submission was sent and next date i.e. 24.07.2015 was fixed for meeting.
15.	24.07.2015	Due to some unavoidable reasons meeting was postponed.
16.	5.08.2015 to 8.08.2015	Field visit by member representing Ministry of Environment, Forests & Climate Change to assess the status of compensatory afforestation. Field staff was also trained to capture the data as per format circulated earlier.
17.	11.08.2015	Letters were sent for fixing meeting date on 20.08.2015 and requesting all members to submit their respective compliance report.
18.	12.08.2015	Reminders send to all committee members to submit their respective report in compliance to NGT order dated 07.05.2015
19.	19.08.2015	Letter was sent to Government of Jharkhand and Government of Chhattisgarh for submitting their response with reference to rehabilitation policy.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

20.	20.08.2015	Second meeting of the committee was organized at Lucknow. Minutes of the meeting were circulated to all members. Next date for the meeting was fixed for 11.09.2015.
21.	31.08.2015	Letter was sent to Chief Secretary, Jharkhand requesting to direct the concerned Department and officers to give information related to rehabilitation
22.	02.09.2015	Reminder was again sent to all committee members to submit their reports by 07th Sept. 2015.
23.	07.09.2015	Reminder was again sent to all committee members to submit their reports immediately.
24.	11.09.2015	Due to unavoidable reasons i.e. presence of Chairperson at NGT, meeting scheduled for this date was cancelled
25.	14.09.2015	Reminder was again sent to all committee members to submit their reports immediately.
26.	16.09.2015	Third meeting of the committee was held at Lucknow. Reports submitted by few members were discussed and deliberated upon. Rest of the members were requested to submit their reports at the earliest possible.
27.	24.09.2015	After Hon'ble NGT order dated 21.09.2015 urgent reminder were sent to all committee members who have not yet submitted their report. Special meeting was summoned to make Power Point Presentation of the final report on 29.09.2015
28.	29.09.2015	Fourth meeting of the committee was held in Lucknow. Chief Engineer Kanhar Project, member of committee was authorized to file the interim compliance report on behalf of the committee.
29.	06.10.2015	Hon'ble NGT passed an order for inclusion of Chief Engineer, Department of Irrigation, State of Jharkhand as member of the committee.
30.	08.10.2015	In compliance of the order of Hon'ble NGT dated 6.10.2015 in the absence of Chairman/PCCF UP, Government of Uttar Pradesh vide order no. 2700/14-2-2015-483G/2015 dated 8.10.2015 nominated Shri Umendra, PCCF (Research & Training) to Chair the Committee constituted for the Kanhar Irrigation Project. The chairman contacted all the members through email/telephone to be part of combined site visit of the committee members from

8/10/15

TRUE COPY

		12.10.2015 to 14.10.2015.
31.	12.10.2015 to 14.10.2015	Site inspection and on the site meeting under the chairmanship of Shri Umendra was carried out. The meeting took place at Amwar Field Hostel of Irrigation Department, in Sonebhadra Uttar Pradesh on 13th October 2015. Minutes of the meeting were circulated.
32.	19.10.2015 to 20.10.2015	Member representing IIT Kanpur inspected the site independently.
33.	24.10.2015 to 25.10.2015	Member representing Central Pollution Control Board (nominated vide letter no.A-14011/1/2015-Mon dated 21st October 2015) inspected the project site independently.
34.	26.10.2015	6th meeting of the committee members was held at Lucknow for deliberating upon the reports submitted by members and finalizing report to be submitted to Hon'ble NGT before 2nd November 2015.
35.	27.10.2015	Deliberation and finalization of the report

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * (Principal Bench) New Delhi *

MANDATE WISE REPORT

After site inspection by all committee members and discussion at length in 6 regular meetings, first draft report was tabled before the committee and was deliberated upon in details. After deliberations, the final report is submitted as follows. Reports submitted by subject matter experts / members of the committee are also annexed.

Report regarding Para (1) at page no. 47 of the order issued by Hon'ble NGT Delhi on Dated 07.05.2015

"We constitute the following committee which shall submit the report to the Tribunal on the issues stated herein after and in light of this judgment.

i. Principle Chief Conservator of Forest (Uttar Pradesh) or his representative.
ii. Chairman or his nominee of Expert Appraisal committee of River Valley and Hydro Power Projects of Ministry of Environment, Forest and Climate Change.
iii. Member Secretary, Central Pollution Control Board.
iv. Representative of Ministry of Environment, forest and Climate Change.
v. Representative of Central Water Commission.
vi. Chief Engineer, Department of Irrigation, State of Uttar Pradesh.
vii. Chief Engineer, Department of Irrigation, State of Chhattisgarh.
viii. Expert from IIT, Kanpur."

As per Hon'ble NGT order dt. 06.10.2015 Chief Engineer, Department of Irrigation, State of Jharkhand also nominated as a member of committee.

In compliance of the Judgment pronounced by Hon'ble NGT dated 07.05.2015, Chairperson/Principal Chief Conservator of Forests Office vide letter no. 731/NGT (PA) dated 12.05.2014 requested designated offices to nominate their representative along with their name and email addresses.

1. Director General of Forest MoEF&CC, New Delhi.
2. Chairman appraisal Committee of River valley and hydro power project ministry of Environment and climate change GOI, New Delhi.
3. Member Secretary, Central Pollution Control Board, New Delhi.
4. Ministry of Environment and climate change GOI, New Delhi.

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

5. Chairman Central Water Commission GOI, New Delhi.
6. Chief Engineer Department of Irrigation U.P. Lucknow.
7. Chief Engineer Department of Irrigation State of Chhattisgarh.
8. IIT Kanpur.

In compliance of Chairperson letter no. 731/NGT (PA) dated 12.05.2014 following members were nominated by the designated officers.

1. Commissioner (SP) of Central Water Commission nominated, Sri Ashish Banarjee Director (monitoring) UGBO, Lucknow dt. 20.05.2015.
2. Legal Registrar IIT Kanpur had nominated Dr. Shivam Tripathi vide letter no. IITK/A-73/LC-49 dt. 22.05.2015.
3. Central Water Commission had nominated Dr. Mukesh Kumar Sinha, Chief Engineer (PAO) vide letter no. 2/139/15–प्रमु(उ)/389-390 dt. 28.05.2015.
4. Ministry of Environment, Forest & Climate Change GOI (Forest Conservation Division) nominated Conservator of Forests in the Regional Office, Lucknow vide F No. 7-7/2015-FC dt. 29.05.2015.
5. Central Pollution Control Board, Ministry of Environment, Forest and Climate Change, GOI nominated Dr. A.B. Akolkar Member Secretary. Member Secretary, CPCB vide letter no. A-14011/1/2015-Mon dt. 21.10.2015 nominated Shri Vishal Gandhi, Environmental Engineer (Sc. 'C') for inspection of project site and attend the meeting Schedule on 26.10.2015.
6. Chief and HOD, Irrigation Department of Uttar Pradesh vide letter no. 102/प्र0अ0/सिं.ज0.सं0./लखनऊ dt. 09.06.2015 nominated Shri O.P. Srivastava, Chief Engineer, Kanhar Irrigation Project.
7. Engineer in Chief, Irrigation Department, Chhattisgarh vide letter no. memo 22611309/F.C/15/7819 Raipur dt. 18.06.2015 nominated Shri R.N. Divya, Chief Engineer.
8. Ministry of Environment Forest & Climate Change GOI (IA Division) vide letter no. L-11011/8/2015-IA-I dt. 03.07.2015 nominated Dr. K.D. Joshi, P.S. & Head, Central Inland Fisheries Research Institute, Allahabad.
9. Till now Government of Jharkhand has not nominated any officer.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench New Delhi *

Report regarding Para (2) at page no. 48 of the order issued by Hon'ble NGT Delhi on Dated 07.05.2015

The Committee shall specifically report whether the conditions imposed in the consent order dated 14th April, 1980 and 27th February, 1982 of the Forest Department have been strictly complied with or not, in all respects.

Order dated 14.04.1980 of Member Secretary of Environmental Appraised Committee New Delhi regarding environmental clearance and Government of UP order dated 27.02.1982 regarding forest land transfer was tabled and compliance report is presented as follows.

Sl. No.	Condition imposed in the order dt 14.04.1980 (related to environment clearance)	Compliance by the Project Proponent
1.	Necessary arrangements may be made by the project authorities to provide fuel wood, free of charge, to the labor force during the construction stage of the Project so that indiscriminate falling of trees in the neighbourhood may be prevented. Since it is unrealistic to expect labourers to buy wood when they can easily procure it from the surrounding forest- adequate provision to meet the cost of providing free firewood should therefore be made in the project estimate (Forest Department may be requested to open fuel depots)	Necessary precaution is being taken by the Project authority to prevent the indiscriminate falling of trees in the neighbourhood of the project area by the labor force during the construction of project. 1-80% of the works are allotted to "AA" class contractor. 2- L.P. Gas based kitchen/canteen provided by the contractor for skilled labor force and employees. 3-Some of the labor needed fuel wood also for cooking for labor and Employees. Sufficient provision has been made in project cost to provide free fuel to labourers if required. 4- As the labor intensive work has started recently, appropriate

TRUE COPY

		authorities have been requested to open fuel wood depot and L.P.G. agency.
2.	Restoration of Land, to the extent possible, in construction areas may be ensured to prevent erosion and removal of scars	Main body of dam in river portion shall be made of Cement concrete and rock fill and remaining of earth. Borrow area is situated in the submergence area of Reservoir. Hence, the restoration to prevent erosion and removal of scars are not required. Other part of land acquired for rest of the work is not much affected.
3.	Adequate arrangements may be made to prevent the incidence of any epidemic health problems due to water/soil-borne diseases.	Adequate arrangements have been made for prevention of any epidemic health problems due to water/soil-borne diseases. One PHC centre has already opened in Amwar near rehabilitation centre and two PHC centres has been planned in rehabilitation colony.
4.	It should be ensured that the construction of colonies for the project involves minimum possible deforestation. Compensatory afforestation and social forestry should be undertaken on a large scale.	Colonies are constructed in almost barren land. Social forestry plantation had been done by the Project authorities on Duddhi- Amwar Road (in patches) and in colonies also. There are more than 240.00 Km. of canal bank, where plantation shall be done in future on both sides. 3000 plants have been planted in planting season 2015 and 70000 plants will be planted by 2018.
5.	The state of the socio-economic profile of the affected (adivasis)	Socio-economic profile of the affected adivasis population was carried out at

TRUE COPY

	population should be prepared to determine the problems likely to be encountered in their rehabilitation. Count of the Mahuwa trees should also be undertaken in the economic profile	the time of preparation of project report. (However socio-economic profile is further needed for the assessment and implementation of R & R package. Preparation of recent state of socio-economic profile of the affected adivasi) population will be done by engaging an institute of repute. Socio-economic profile will also pay adequate attention to number of Mahuwa trees and their role in local economy.) Affected adivasis families are suffering with poverty and poor health. They are less educated. They have no electric facilities as a main source of light. These are the main socio economic profile parameters. The Govt. of U.P. has awarded R&R package for the affected families. According to package awarded by UP. Govt. (Which is being implemented under guidance of Administrator Kanhar Irrigation Project) followings are the main benefits to the affected families- 1-Rs. 7.11 Lacs./Family (Chulha wise) up to 3rd generation. 2-150 Sqm. well-developed plot having facilities of drinking water, 9m. To15m. Wide road with drain, Electricity, School, Hospital, Post office, Park, Place for funeral activities, Bank and shopping area etc.

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

		3-Kaushal vikas kendra established to train the unemployed men/women of submergence area. Inspite of the above, there are 36 number of mature Mahuwa trees existing in colonies. 3000 No. of different trees have already been planted in the rehabilitation area. In the State of Chhattisgarh, socio-economic profiling is in progress. Government sponsored development schemes with specific reference to adivasis are already being implemented. Project specific socio-economic inputs will be provided. In the State of Jharkhand, socio-economic profiling is to commence. Government sponsored development schemes with specific reference to adivasis are already being implemented. Project specific socio-economic inputs will be provided.

Sr. No.	Condition imposed in forest clearance order Dt 27.02.1982	Compliance
1.	Even after the transfer, there shall be no change in the legal position of the land.	Complied with.
2.	The irrigation department shall use the proposed land only for the stated purpose and shall not use otherwise. Moreover, aforesaid department shall not transfer this	The irrigation department is complying with the conditions imposed by forest department.

TRUE COPY
NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

	land or any part thereof to any other department, institution or specific person.	
3.	The aforesaid transferred land shall be continue to remain under the amortization and use of the Irrigation Department, till its requirement for the stated purpose by the aforesaid department and on fulfilment of requirement, it shall itself be returned to the Forest Department without payment of any type of compensation.	The irrigation department is complying with the conditions imposed by forest department
4.	Out of the trees situated on the land, the Irrigation Department shall pay value of 144 trees situated in Villages Amwar and Nagwa to the tune of Rs. 7,779/- to the Forest Department, and the trees standing on the rest of land shall be disposed by the Forest Department in a public auction.	Irrigation department has already paid the amount Rs. 7,7,91 for 144 Standing Trees in Village Amwar and Nagwan to the forest department.
5.	The Forest Department shall use the roads constructed by the Irrigation Department on the aforesaid transfer land, as free of cost and Irrigation Department shall not have any objection therein.	The irrigation department is obeying all the conditions.
6.	The expenses to be accrued on the plantation of 10 times of trees in lieu of the trees cut from the land measuring 2422.593 acres land proposed for the transfer, shall be borne by the Irrigation Department.	The Irrigation department had already paid the amount to the forest department.

TRUE COPY

7.	The value of land and the trees standing thereon, shall be deposited under main sub-title of Receipt Account Title in the income-expenditure account.	Complied with
8.	These order are being issued with the approval of the Finance Department given vide its demi-official letter no. E-8-389/ dus dated 12.12.81.	No action needed

28/10/15

TRUE COPY

Report regarding Para (3) at page no. 48 of the order issued by Hon'ble NGT Delhi on Dated 07.05.2015

The Committee while examining the compliance of the conditions, as noticed above, Shall specifically report whether the condition have been complied with in its entirety or not. What is the status thereof and what steps are required to be taken in that regard?

Conditions have been complied with and project proponent has assured that while executing the remaining works they will keep on complying with the conditions.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Report regarding Para (4) at page no. 48 of the order issued by Hon'ble NGT Delhi on Dated 07.05.2015

Whether there is complete and comprehensive Resettlement and Rehabilitation Policy in place in relation to the project.

COMPREHENSIVE REHABILITATION AND RESETTLEMENT POLICY FOR THE AFFECTED PEOPLE IN -

(A) UTTAR PRADESH

1- 11 villages namely Sundri, Bhishur, Kurchi, Amwar, Sugwaman, Kudri, Barkhohara, Lambi, Gohra, Randahtola, Bagharu have been affected due to construction of Amwar Dam in Kanhar irrigation project.

2- In 1979 there wasn't any rehabilitation and resettlement policy at government level, so U.P. government vide G.O. No 3050/79-23-fla -3-17M/17 Sinchai Anubhag-3, Lucknow dated 19 Nov 1979 issued directives which deal with Land Compensation to Kanhar irrigation project and ex-gratia for the rehabilitated people and distribution of plot without price to the affected family.

3- Considering the demand at local level, government of U.P. has made another rehabilitation and resettlement package for the Kanhar irrigation project vide letter No- 2265/14-27 fla-4-112(w)/14 Sinchai and JalSansadhanAnubhag-4 dated 30th October 2014.

(B) Chhattisgarh

1. All the survey work has been completed. Six villages has been identified affected (Trishuli, Jhara, Kushfar, Semarva, Kameshwarnagar and dhauli)
2. The existing rehabilitation and resettlement policy in Chhattisgarh is ADARSH PUNARWAS ADHINIYAM 2007, but according to the accord made between Chhattisgarh and U.P., the government of Chhattisgarh can adopt either of the two policies which one is better. Engineer in chief of Chhattisgarh has sent the case to the government of Chhattisgarh.

(C) Jharkhand

1. Survey work has been started. It will take at least one month to complete the work. Issues related to adoption of R&R Policy are yet to be decided.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench

Report regarding Para (5) at page 48 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"Modifications in execution of the project, if any, required to ensure protection of environment and ecology in the execution of the project in question."

This issue was dealt by the member representing Central Water Commission who has inspected the site from 12th to 14th October 2015 and provided following observations.

Such planning has been done to optimize the utilization of available water resources to meet various demands giving due consideration to topography and geology. Through conservation of water and equitable distribution, the project would not only facilitate drinking water supply and irrigation, but also improve environment through reduced flood magnitude, increased availability of water for eco-system particularly during dry summer months, reduced pressure on environment through general uplift of the local population by increased productivity and better living conditions, etc.

The project was conceived and planned in 1970s when the concepts of environmental flows and equitable distribution through regulated releases were not fully developed. The Committee takes this opportunity to suggest following measures for betterment of the environment;

(1) Continuous operation of under-sluices to ensure release of environmental flows –

Maintaining environmental flows downstream of the dam is necessary. The National Water Policy (2012), adopted by the National Water Resources Council headed by Hon'ble Prime Minister with related Union Ministers and Chief Ministers of all States as Members, clearly stipulates that

"3.3 Ecological needs of the river should be determined, through scientific study, recognizing that the natural river flows are characterized by low or no flows, small floods (freshets), large floods, etc., and should accommodate developmental needs. A portion of river flows should be kept aside to meet ecological needs ensuring that the low and high flow releases

TRUE COPY

are proportional to the natural flow regime, including base flow contribution in the low flow season through regulated ground water use."

The Ministry of Water Resources, River Development and Ganga Rejuvenation has already set up a Committee to determine the quantum of e-flow (environmental flow). However, the report of the Committee has not been finalized yet. Pending finalization of the report and decision of the Government, Ministry of Environment, Forests and Climate Change, has been prescribing 30% of flows during monsoon period, 25% during non-monsoon and non-lean periods and 20% during lean period towards environmental flows while granting environmental clearances. The same may be adopted for Kanhar Irrigation Project, Uttar Pradesh.

Just about 1 km downstream of the Kanhar dam, the river is joined by Goitha river. Further downstream Tehma, Phulma, Lulwa and Maliya rivers join Kanhar river before Kanhar joins Sone River. Thus, even though there are network of rivers in the downstream region, it is considered necessary to ensure release of environmental flows. The Project Authority agreed for the same and assured to re-workout reservoir operation and to continuously operate under sluice(s) to ensure release of environmental flow as per the norm.

(2) Regulation of canal releases to ensure equitable distribution –

Often head reaches in a canal irrigation system use more water, which leads to wastage of water resulting into adverse environmental impacts like water logging, increased salinity, etc., in the head reaches, besides depriving tail end users from much needed water even for the ecosystem needs. Thus, there is a need to have regulated canal releases on the basis of volumetric measurements to ensure equitable distribution of water amongst various reaches. The Committee suggests installation of discharge measurement devices at key locations in canal system and evolution of a rotational irrigation system to achieve the same. The Project Authority is also advised to promote cropping pattern compatible with the soil health and efficient irrigation system, such as micro-irrigation and System of Rice Intensification, in the command area.

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench, New Delhi *

Report regarding Para (6) at page 49 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The Committee is required to make its general recommendations, measures and the condition that should be imposed upon the project proponent to ensure that further progress of the project does not have any adverse impacts on ecology, environment, rivers, hydrology, biodiversity and on all the surrounding forests, villages and tribe."

Representative from CWC submitted that while planning and implementation of a water resources project it is generally done to optimize the utilization of available water resources to meet various demands while giving due consideration to topography and geology. Through conservation of water and equitable distribution, the project not only facilitates drinking water supply and irrigation, but also improves environment through reduced flood magnitude, increased availability of water for eco-system particularly during dry summer months, reduced pressure on environment through general uplift of the local population by increased productivity and better living conditions, etc. It may be prudent to clarify that the hydrology, per se, does not get adversely impacted by the irrigation project. During flood times, flood magnitudes get moderated due to storage in reservoir and during lean time, environmental flows sustain the ecosystem. Thus, in both the cases, there will not be any adverse impacts on the hydrology due to project progress.

Representative from River Valley Project EAC, MoEF&CC stated that there is no published information available about the fish diversity and fishery of the river Kanhar, since the river Kanhar is a tributary of the river Sone. It was observed during the recent visit on the river site that like the river Sone, Kanhar also hold considerable fish diversity. Ministry of Water Resources, River Development and Ganga Rejuvenation has already set up a Committee to determine the quantum of e-flow (environmental flow). However, the report of the Committee has not been finalized yet. Pending finalization of the report and decision of the Government, Ministry of Environment, Forests and Climate Change, has been prescribing 30% of flows during monsoon period, 25% during non-monsoon and non-lean periods and

TRUE COPY

NATIONAL GREEN TRIBUNAL * (Principal Bench) New Delhi

20% during lean period towards environmental flows while granting environmental clearances. The same may be adopted for Kanhar Irrigation Project, Uttar Pradesh. It was further stated that-

1. A fish hatchery with sufficient infrastructure may be established near the reservoir area for livelihood support of the affected fishermen in the catchments.
2. Eco-tourism such as angling, or recreational fishing, may be promoted as a means of improving livelihood of local people.
3. During construction phase adequate efforts must be taken by the project proponent to protect the fish communities from killing by destructive methods like poisoning and use of dynamite in the diverted river channel and pool regions and also to take necessary measures for protection of habitats.
4. A well-designed Catchment Area Treatment (CAT) plan is essential to ameliorate the adverse effects of soil erosion.
5. The muck management must be undertaken by the proponent to protect the land, river, terrestrial and aquatic environment and biota.

Representative from MoEF&CC proposed that as per the present Forest (Conservation) Act 1980 guide lines, compensation of the loss of forest land should be either equivalent non forest land acquired by the project proponents and provided to the Department of Forests for afforestation or double the degraded forest land earmarked for afforestation. Therefore to fully compensate 980.40 ha of forest land, on an area of 1,295 ha degraded forest land a "Vindhyan Biodiversity Park" may be created on the basis of eco restoration model and eco-restoration may be taken up in consultation with the forest department. The representative of Irrigation department is of the opinion that the conditions imposed at the initial forest clearance have been already complied and new conditions are not justified when the project has not created negative impact on forest resource and they will incur additional burden on the project. Eco-restoration and biodiversity park being a novel idea may be funded on other ongoing different projects in the area.

Further, Representative from MoEF&CC proposed that Geographical Information System (GIS) based study may be carried out to study changes in ecological parameters. Representative from Irrigation Department told that

TRUE COPY

project proponents have already carried out a study in March 1980 through an expert agency i.e. Botanical Survey of India which concluded that no rare or endangered species of plants were found in the project locality at that point of time. Nevertheless endemic plants having medicinal values may be surveyed, listed, conserved and their ethno botanical importance studied.

Further, though the socio-economic profile of the affected adivasis population was carried out at the time of preparation of project report, however socio-economic profile is further needed for the assessment and implementation of R & R package. Preparation of recent socio-economic profile of the affected adivasi population has been proposed by engaging an institute of repute. Socio-economic profile will also pay adequate attention to number of Mahuwa trees and their role in local economy. Furthermore, health issues due to the heavy metal contamination and its associated problems have been adequately highlighted in the case of the Rihand Dam. Therefore, the project proponents will ensure that at all cost heavy metal contamination of the Kanhar river water in reservoir shall not take place.

After detailed discussion and deliberations it was decided that project proponents should abide by all the conditions imposed earlier while granting environment and forestry clearance, will ensure minimum ecological flow of Kanhar river and implement the recommendations of socio-economic studies proposed to be carried out.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

Report regarding point (7) at page 48 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

> "The Committee shall asses and examine the present status of the compensatory afforestation done by the forest department during 1984, 85 and 86 over an area of 666 hectares and 80 kms on the road side. The committee shall make assessment of the survival percentage and the present status of compensatory plantation through random sampling."

As per the first meeting of the "High Power Committee" held on 29th June 2015 the work of assessment of compensatory afforestation was assigned to the Conservator of Forests (Central), Regional Office Lucknow who represents Ministry of Environment, Forests & Climate Change in the Committee and submitted his report to the committee members. The methodology was discussed, deliberated and finalised in first meeting dated 29.06.2015 of the committee. It was also decided that Chief Conservator of Forests, Mirzapur and subordinate officials of Renukoot Forest Division will provide details of field plantations from the record and assist the committee member in assessment and examination work.

Assessment of the compensatory afforestation in lieu of transfer of forest land of the extent 980.40 ha (2422.593 acres) was carried out by the designated team. The afforestation works were carried out in 1984, 85 and 86. The criteria of assessment as per the direction of the Hon'ble Tribunal were survival percentage and its present status.

Data for all 34 plantation site were collected, on which plantation were carried out in year 1984, 1985 & 1986. On the basis of analysis of the data both statistically as well as on GIS platform with inspection of record of the Renukoot Forest Division following conclusions are drawn:

a) The compensatory afforestation works was carried out in the year 1984, 85 and 86 to the extent of 666 ha in forest blocks and 80 km of linear patch.
b) The survival percentage of the compensatory afforestation work after 30 years of planting on the basis of weighted average is 12.68%.
c) Reasons for such survival current percentage can be attributed to anthropogenic and edaphic factors and completion of rotation period of some of the planted species.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench New Delhi *

Report regarding point (8) at page 49 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The Committee shall examine the proposal of the project proponent with reference to the forest area already diverted 980.40 hectare and the balance area of 441.07 hectare that is required to be diverted in terms of the note prepared by the administrator of the project while seeking clearance for the project"

The assessment of balance forest land required for completion of the project is provided in tabular form below:

State	Forest Area (in ha) Initially Assessed	Forest Area (in ha) Final Assessed	Remarks
Uttar Pradesh	228.75	126.826	Assessment complete
Chhattisgarh	121.00	156.295	Assessment complete
Jharkhand	91.32	91.32 (tentative)	Assessment is in progress
Total	441.07	374.441 (tentative)	

The issues like coordination, different pace of assessment in different State Governments has created a slowdown effect on implementation of the project.

In view of this Hon'ble National Green Tribunal may kindly grant permission for the proposal for forest land diversion of three States may be allowed to be dealt separately by the forest clearance according authority. It is further prayed that taking of the new activity on additional forest area may be permitted accordingly.

28/10/15

TRUE COPY

Report regarding point (9) at page 49 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The project proponent shall not take up any new activity on additional forest area of 441.07 hectare proposed to be acquired unless specific conditions under the Forest (Conservation) Act 1980 is taken and the area diverted for non-forest activities by competent authority."

One of the member of the committee is Chief Engineer, Irrigation Department, Uttar Pradesh and he has assured on behalf of project proponent that project proponent will not take up any new activity on additional forest area of 441.07 hectare proposed to be acquired unless specific conditions / clearance under the Forest (Conservation) Act 1980 is taken and the area diverted for non-forest activities by competent authority."

29/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench, New Delhi *

Report regarding Para (10) at page 49 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The Committee shall study the impact of loss of 980 hectares of forest area which is comprised of wildlife habitat with specific reference to elephant corridor, rich floral and faunal diversity."

The Committee studied the report presented by Chief Conservator Forest West Zone, Kanpur on behalf of Chief Wild Life Warden UP the impact of loss of 980 ha of forest area which is said to be comprised of wildlife habitats with specific reference to the elephant corridor, rich floral and faunal diversity. The summery of study report is as follows -

Though the animals listed in the area of the project have their habitat and place for grazing, foraging, roosting, nesting etc., but none of the animals are endemic to the project area. The area of the project is neither harboring any elephants nor is the migratory corridor for the elephants. The total forest area of the project is about 0.11 percent of the total forest area of the district Sonbhadra, thus the loss of forest is negligible. The habitat represented in the project area is similar to the habitat of the adjoining forest areas. Thus if there is any loss of habitat due to the construction of reservoir, this will not unduly affect the animals residing in the project area. These animals can find alternate home in the vicinity of the project area itself without having to migrate to far off distance. Thus construction of the reservoir does not in any way become a threat to the existence of these animals of the area and neither becomes a threat to the survival of any species in particular.

A wildlife / eco-development plan aimed at capacity building of nearby eco-development committees (EDCs) and / or joint forest management committees (JFMCs) and creating alternate livelihood opportunities will suffice the need of the local people. Uttar Pradesh Forest Department will prepare a plan which will be duly funded by the project proponent and dovetailed with other development schemes. An outlay of Rs. 1.00 crores spread over a period of 5 years can be earmarked for this purpose.

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Report regarding Para (11) at page 49 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"Undertaking social forestry in resettlement colonies of the displaced persons was one of the conditions of EC. The committee shall examine whether social forestry for ameliorative measures against air pollution and adverse impact on local ecology and environment and to what extent. The Committee shall also suggest measure as to how the resettlement colonies particularly if located close to the industrial clusters of Sonebhadra can be protected from the adverse effects of thermal power plants, coal and bauxite mining, aluminium and cement industries, particularly from the air and water pollution and health impacts due Mercury, Arsenic and Fluoride contamination and as a consequence of the presence of large number of industries in the district of Sonebhadra in particular and Singrauli in general."

The committee visited the Amwar Resettlement Colony on 13th October 2015 and inspected this issue in detail. Area has been identified and infrastructure is being created. The project proponents will also provide basic facilities like electricity, water supply, drainage system, park, community centre, school etc. However, it was observed that no sewage treatment facility was provided. Till date shifting of families has not taken place except one. The issue of social forestry plantation is now being initiated by way of planting 3,000 trees including Mahua and other species in the colony. Additional plantation will redress the issue of air pollution. The Rehabilitation and Resettlement colony is nearly 30 kms from Renukoot and 55 kms from power projects (Singrauli) (aerial distance); this spatial isolation will dilute the deleterious impact of air pollutants. Though Kanhar River is tributary of Sone but the project is located upstream is free from industrial waste.

The project proponents are creating resettlement colony infrastructure in such a manner that the existing trees are not being disturbed.

It was estimated that 1 MLD (approximately) of sewage will be generated in resettlement colony. This 1 MLD of untreated sewage will find its way to Kanhar River and deteriorates the water quality on downstream. So, there is need to build proper sanitation facility or sewage treatment plant.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Report regarding Para (12) at page 50 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

" In the light of the fact that the Kanhar River flows through a drought prone area where water is a critical input for the life support systems, both on land and within the aquatic ecosystem, the committee should examine maintenance of certain minimum environmental flow downstream of the dam."

Ministry of Water Resources, River Development and Ganga Rejuvenation has already set up a Committee to determine the quantum of e-flow (environmental flow). However, the report of the Committee has not been finalized yet. Pending finalization of the report and decision of the Government, Ministry of Environment, Forests and Climate Change, has been prescribing 30% of flows during monsoon period, 25% during non-monsoon and non-lean periods and 20% during lean period towards environmental flows while granting environmental clearances. The same may be adopted for Kanhar Irrigation Project, Uttar Pradesh.

Just about 1 km downstream of the Kanhar dam, the river is joined by Goitha River. Further downstream Thema, Phulma, Lauwa and Maliya rivers join Kanhar River before Kanhar joins Sone River. Thus, even though there are network of rivers in the downstream region, it is considered necessary to ensure release of environmental flows. The Project Authority should re-workout reservoir operation and to continuously operates under sluice(s) to ensure release of environmental flow as per the norm.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Report regarding Para (13) at page 50 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The Committee while preparing the comprehensive report shall take into consideration, if there is any adverse impact of the works already executed, on the environment and ecology of the areas and the remedial steps that should be taken."

The Committee visited the Project site and found apparently there is no adverse impact of the works already executed. It was observed that barbed wire fencing has been done around the blasting area for restricting movement of animal and human beings. The air was also found clean without particulate matter and river water was clear and clean. Thus, no remedial steps are considered necessary other than the environment safeguard measures already proposed.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Report regarding Para (14) at page 50 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The project proponent shall complete the construction activity that is underway and would not commence any new activity or construction without specific recommendation of the committee in that behalf."

One of the member of the committee is Chief Engineer, Irrigation Department, Uttar Pradesh and he has assured on behalf of project proponent that the project proponent will complete the construction activity that is underway and will not commence any new activity or construction without specific recommendation of the committee in that behalf.

28/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench New Delhi *

Report regarding Para (15) at page 50 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The committee shall pay specific attention in regard to the conditions that should be imposed upon the project proponent for conservation, protection, reforestation, restoration of environment and ecology wherever any environmental damage or degradation has occurred as a result of this project."

After site inspection and deliberations this Committee suggests following conditions, in addition to conditions imposed earlier while granting environment and forestry clearance, to be imposed on project proponent –

1. In lieu of 980.40 ha of forest land, 666 ha of block plantation + 80 km roadside plantation has been accounted for. Either the balance compensatory afforestation should be accounted for jointly by Forest Department and Irrigation Department or it should be carried out with next one year.
2. Project proponents should ensure minimum ecological flow of Kanhar river
3. Project proponents should implement the recommendations of socio-economic studies proposed to be carried out.
4. Project proponents should ensure that heavy metal contamination of the Kanhar river water in reservoir does not take place.
5. A wildlife / eco-development plan aimed at capacity building of nearby eco-development committees (EDCs) and / or joint forest management committees (JFMCs) and creating alternate livelihood opportunities will suffice the need of the local people. Uttar Pradesh Forest Department will prepare a plan which will be duly funded by the project proponent and dovetailed with other development schemes. An outlay of Rs. 1.00 crores spread over a period of 5 years can be earmarked for this purpose.
6. It was estimated that 1 MLD (approximately) of sewage will be generated in resettlement colony. This 1 MLD of untreated sewage will find its way to Kanhar River and deteriorates the water quality on downstream. So, there is need to build proper sanitation facility or sewage treatment plant.

The detailed reports of the committee members are annexed herewith.

Encl. as above

TRUE COPY

28/10/15

(Umendra)
Principal Chief Conservator of Forests,
UP, Lucknow
Chairman, Committee Appointed by Hon'ble NGT
Order in O.A. No. 521/2014

ANNEXURE

NATIONAL GREEN TRIBUNAL
सत्यमेव जयते
(Principal Bench) New Delhi
TRUE COPY

Visit of Committee Constituted by the Hon'ble National Green Tribunal for Kanhar Irrigation Project under OA no. 521 dated 7th May 2015

DATE: 13th October 2015

- The committee on 13th October 2015 visited the project site. The list of members is appended at Annexure I
- The assembly of members started from 12th October 2015 evening in Renukoot.
- The members reached at around 10AM at the project site office located at Amwar in Dudhi Tehsil of Sonebhadra District.
- The committee visited spillway section of the project and observed following:
    - Due to the over topping of water at few places in coffer dam spillway area silted up to some extent but considerable foundation has been cleared and the structure beneath was intact.
    - Channel for diverting the kanhar river found functional.
    - Project proponent told that the project has both side earthen embankment having length 0 to 1.5km in left side and 2.1 to 3.24 km on right side with about 87% physical progress and the same is intact.
    - It was told at the site by the project proponent that the total length of Dam is 3.24 km with a the maximum depth of 39.9m from the deepest bed level. Out of 3240 m length of dam, spillway is only 312 m. Excavation of foundation of spillway quantity about 7.82 lac m^3 (which is almost 100%) has been completed which is critical in the spillway work. Mass concreting with its dental treatment in foundation of quantity 0.28 lac m^3 has been done and the same was found intact.
    - The reservoir consists of overflow (Spillway) and non over flow (Earthen Dam composite section). As the height is same at the present time and as the project formulated initially so there is no change in submergence area.
- On visual inspection it was observed by the all committee members that air was clean, without particulate matter, and river water was also clean and clear.
- The next place of visit was resettlement and rehabilitation colony developed in Amwar village which is about one km from the Dam site. About 3500 families likely to be displaced due to submergence by the construction of Dam in U.P. The project proponent are providing 150sqm of plot for each displaced family with 15 m width main road and other road having 9m to 12m with facilities like electricity, water supply

16/10/15

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

drainage, park, community centre school etc. Committee observed that sewage facility and fencing all around the colony shopping complex has not been provided.

- In the rehabilitation colony a primary school is functional.
- Plantation of local species has been carried out by the project proponent to provide similar village like ambience.
- A market has also been developed about 1km apart from colony area to meet the requirements of local public.

- Next place of visit was left kanhar canal. It was told that it is designed for a length of 25.6Km and head discharge 4.8 cubic meter per second. The proponents briefed that 88% of the earthwork is complete with cross drainage works. Committee has visited some place in canal and found that earthwork has been completed at some places and at some place earth works are in progress. A considerable number of pucca work are completed and remaining is in progress.

- Next place of visit was around 25 km away from the spillway section which is a Mallia Aquaduct cum Viaduct. It was told that the foundation pillars having 80 in nos are complete and casting of trough has started. 63% earthwork of the right kanhar canal has been completed and considerable progress in Pacca works has been made.

- The committee visited a village which is a part of submergence in U.P. named Bhisur. Committee interacted with few members likely to be displaced due to submergence. People are aware of R&R package for kanhar project but some of them expressed there displeasure in delay in R&R package. Committee also found that there is no dense forest in this village.

- Complete closure with barbed wire fencing has been done around the blasting area for restricting movement of animal and human.

- After the field visit the Chairman / PCCF, UP convened a meeting on the site to finalise the future course of action of the committee.

16/10/15

(Umendra)

Chairman/PCCF, UP

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Fifth meeting regarding Implementation of Judgment and order dated 07.05.2015 of Hon'ble National Green Tribunal, Principal Bench, New Delhi in O.A. No. 521 of 2014 (M.A. No. 902 of 2014 & M.A. No. 14 of 2015) Om Dutt Singh & others Vs State of U.P. & others Under the Chairmanship of Shri Umendra Sharma, PCCF, Training & Research/ UP, Lucknow

Venue- Amwar Village
Kanhar Project Site Office
Field visit

Date- 13.Oct.2015

Sl no	Nominated Organization	Participating officer name /Designation	Mob Number & Email Id.	Signat
1	Chairman Expert appraisal committee of River valley and Hydro power project	DR. K.D. JOSHI, P.S. & HEAD CIFRI, Allahabad, UP	9480600726 Kdjoshi.cifri@gmail.	
2	Member Secretary, central pollution control board			
3	Representative of Ministry of environment forest and climate change	B. SWAROOP IFS CF (CENTRAL) Regional Office, MoEFCC	9434167208 brijendra96macf@gmail.com	
4	Representative of central water commission	Dr. M.K. Sinha, CE, CWC	8826007291 ssmsinha@gmail.com	
5	Chief Engineer Irrigation, UP	O.P. Srivastava C.E. (Kanhar Long. Project)	9453005736	
6	Chief Engineer Irrigation Chhattisgarh	S.K. PATNAK (C.E. Member Gauge Bar on Hardik Apart)	9827110407 CEhyb@gmail.com	
7	Expert from IIT Kanpur	(1) (2) wrdsurveyb KP@gmail.com		

Special Invitees

Sl no	Organization	Participating officer name /Designation	Mob Number & Email Id.	Signatu
1	Chief Conservator of forests/Nodal Officer, UP FC Act-1980	Dr. Rajiv Kumar Garg	9717466448 ccfnodeluf@gmail.com	
2	Chief Conservator of forests, Mirzapur			
3	Dy. Conservator of forests, Nodal Office	V.K. Singh	9415361367	

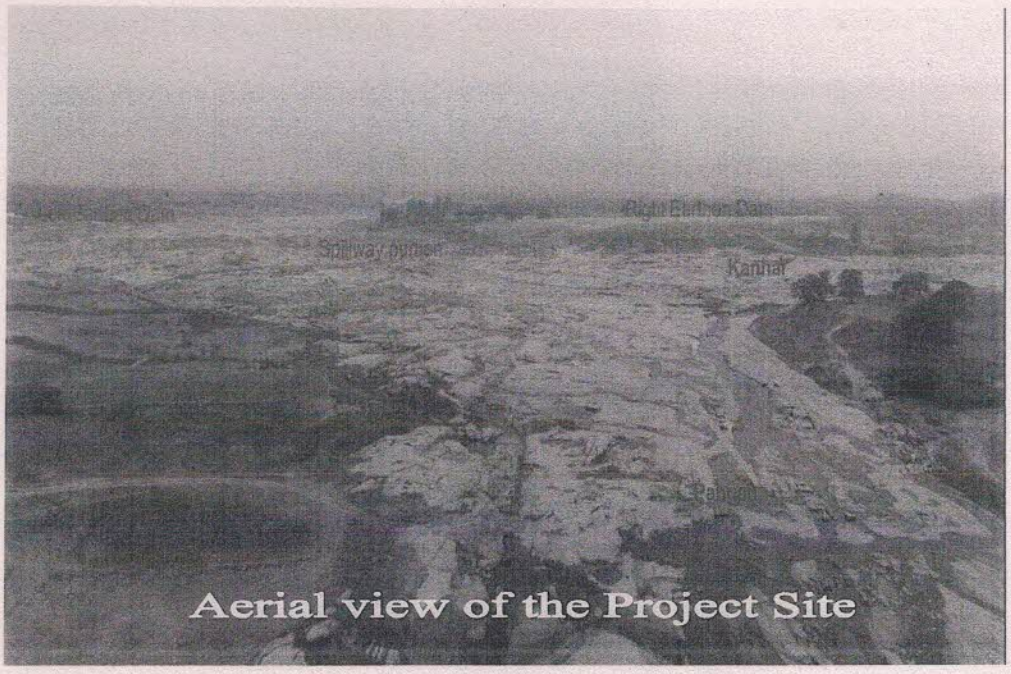
TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

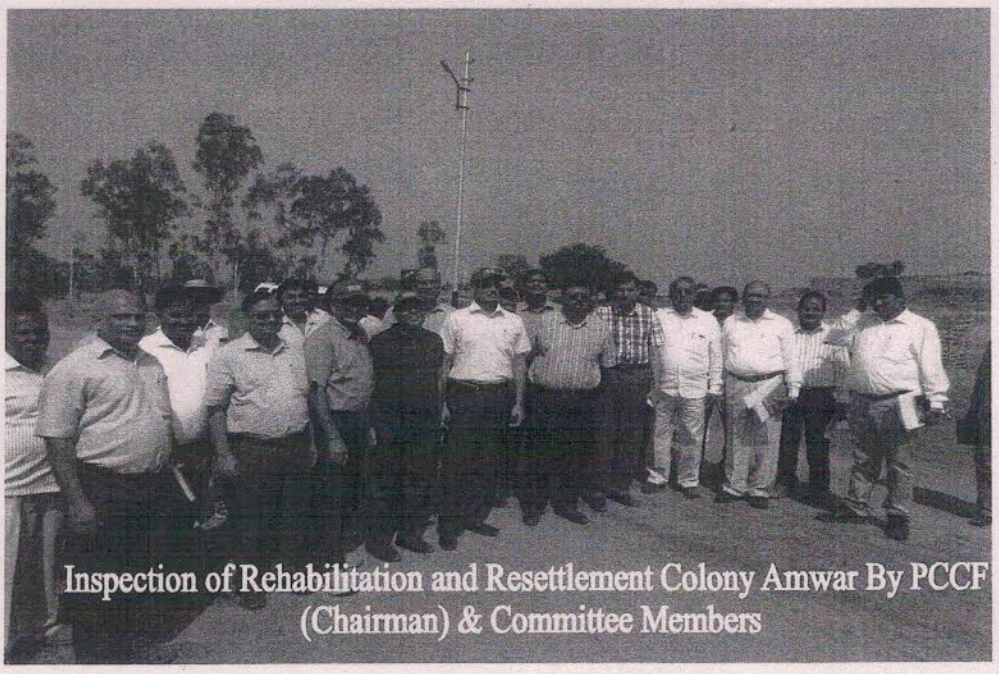
Sl no.	Organization	Participating officer name /Designation	Mob Number & Email Id.	Signati
4.	U.P. Irrigation Dept	K.P. Pandey Executive Engineer	08874470711	
5	Chattisgarh water Resources Department	U.S. Rao Executive Engineer	94252-55395 9753107457,	
6	U.P Irrigation Dept	SMP Singh	9415448581	
7	U.P. Irrigation Dept. Shahdara	Dinakar Shukla S.E.	9450400732	
8	U.P. Irrigation Deptt.	BIJAY. KUMAR EE	9415190495	
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi



Aerial view of the Project Site

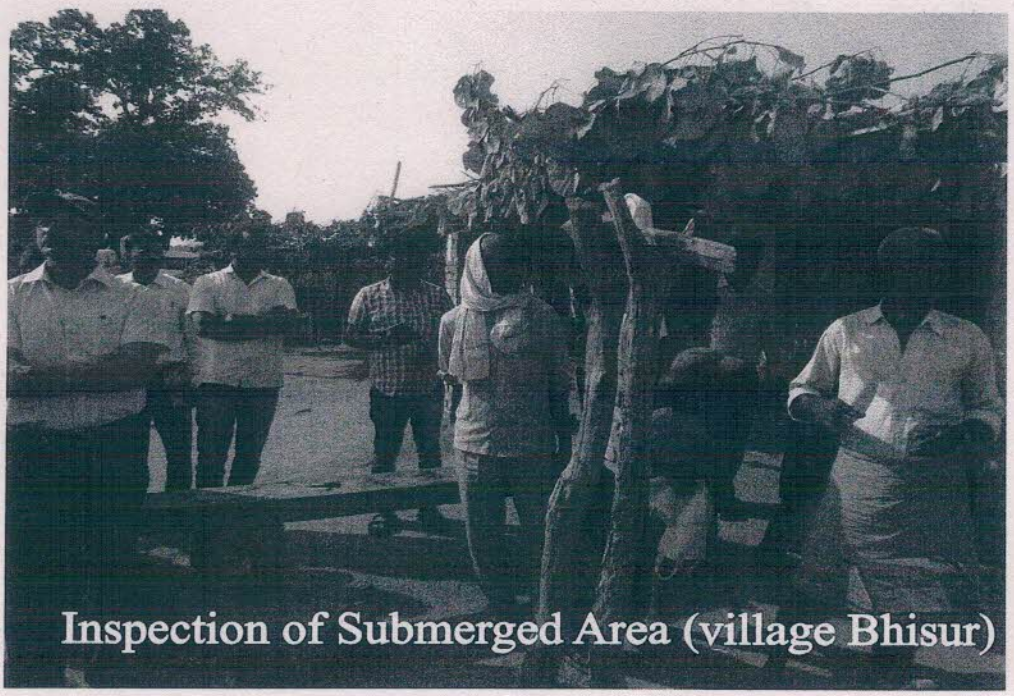


Inspection of Rehabilitation and Resettlement Colony Amwar By PCCF (Chairman) & Committee Members

TRUE COPY

NATIONAL GREEN TRIBUNAL
Principal Bench New Delhi

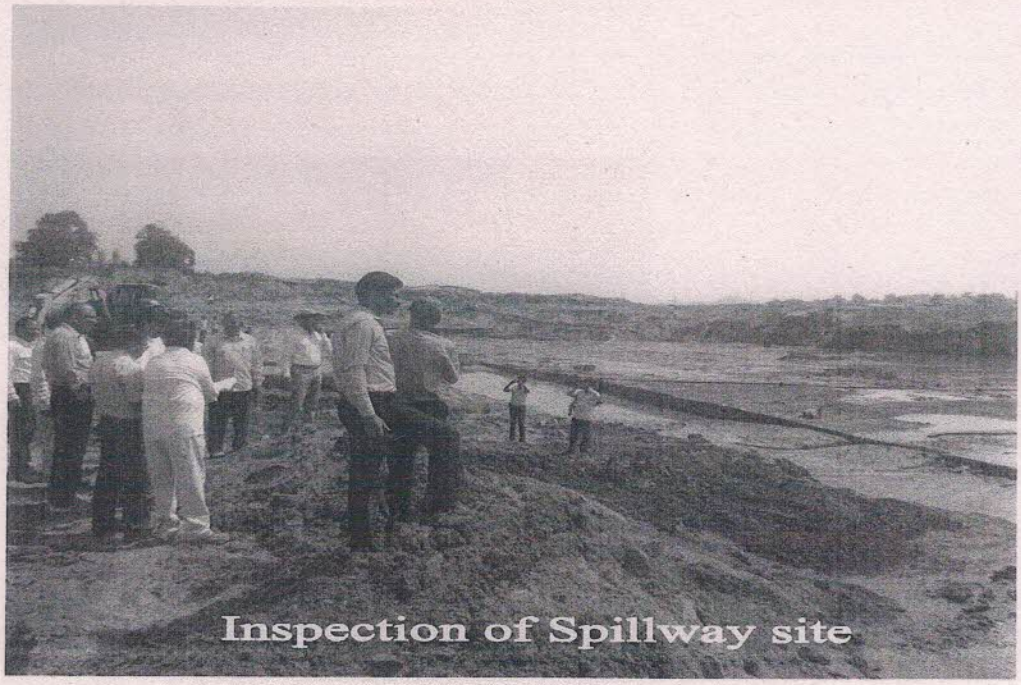
Inspection of Construction site of Mallya Aquaduct



Inspection of Submerged Area (village Bhisur)

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

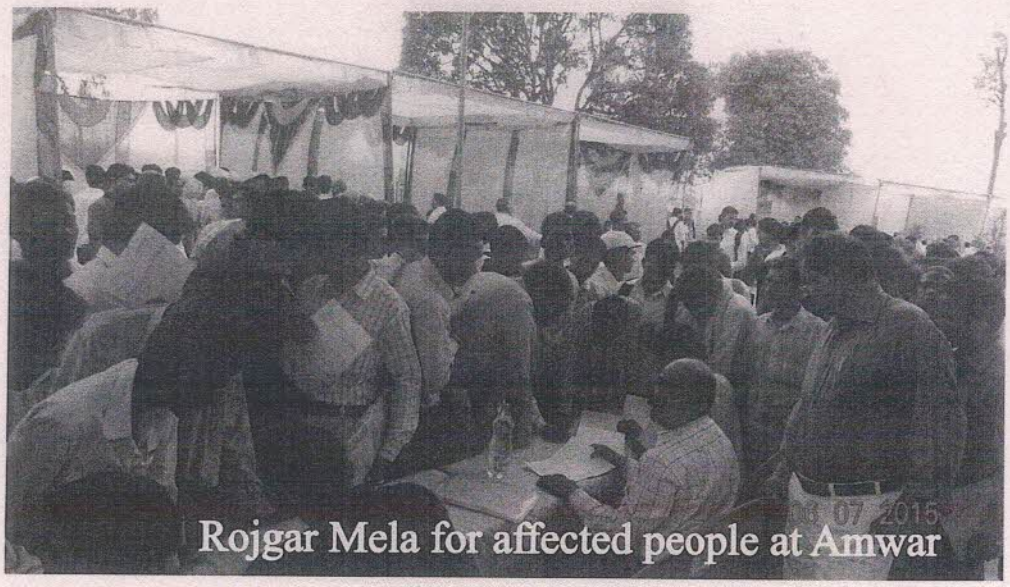


Inspection of Spillway site

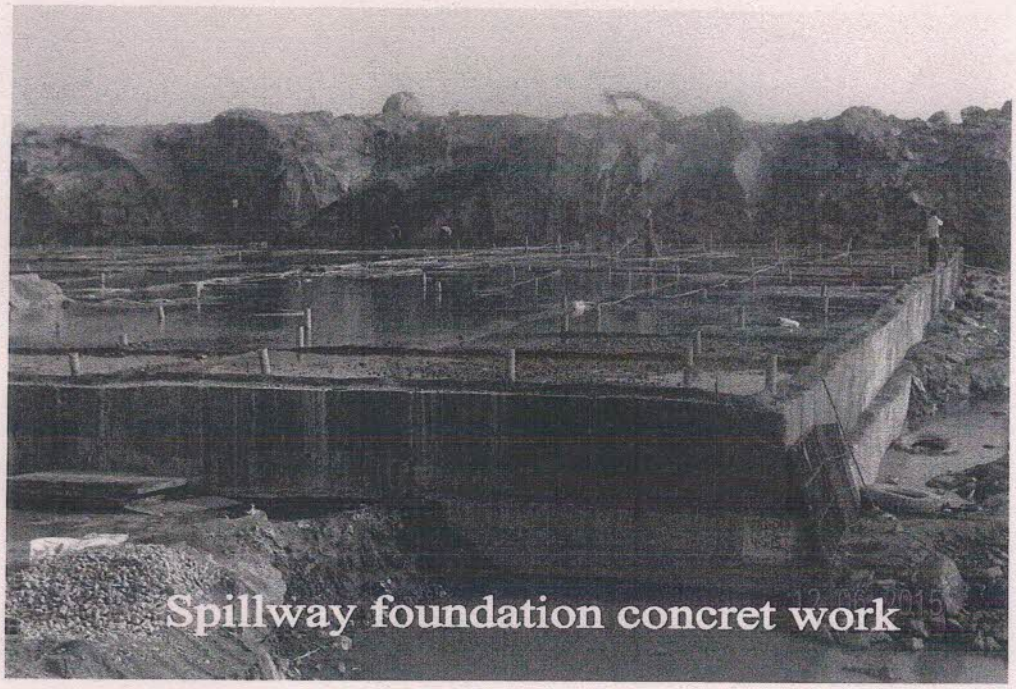
Meeting by PCCF (Chairman) & Committee members at Site

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi



Rojgar Mela for affected people at Amwar



Spillway foundation concret work

TRUE COPY

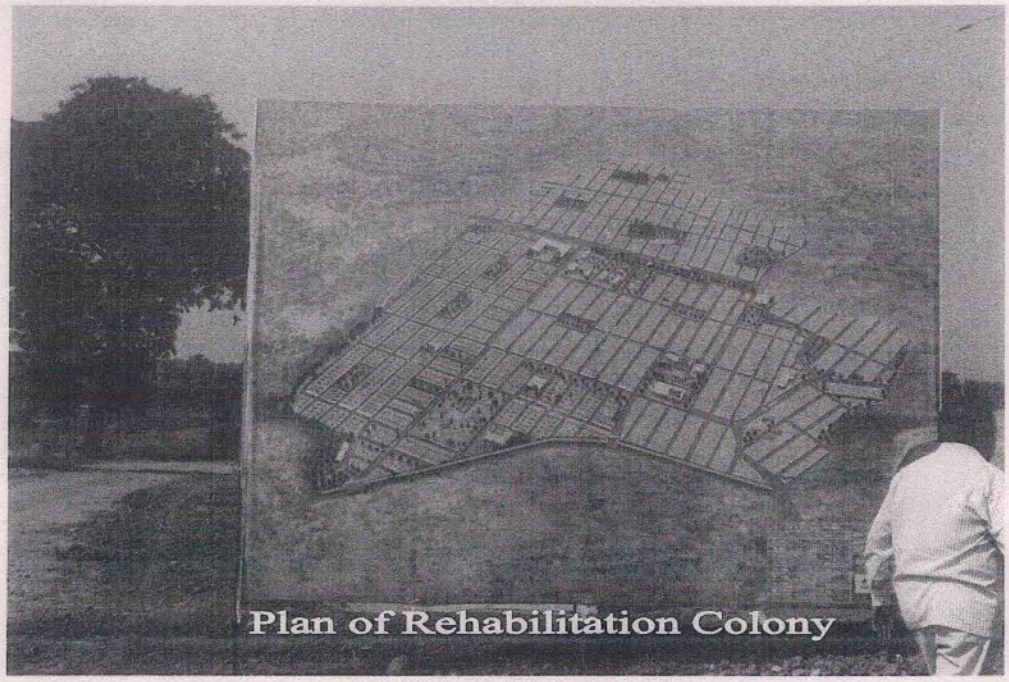
NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

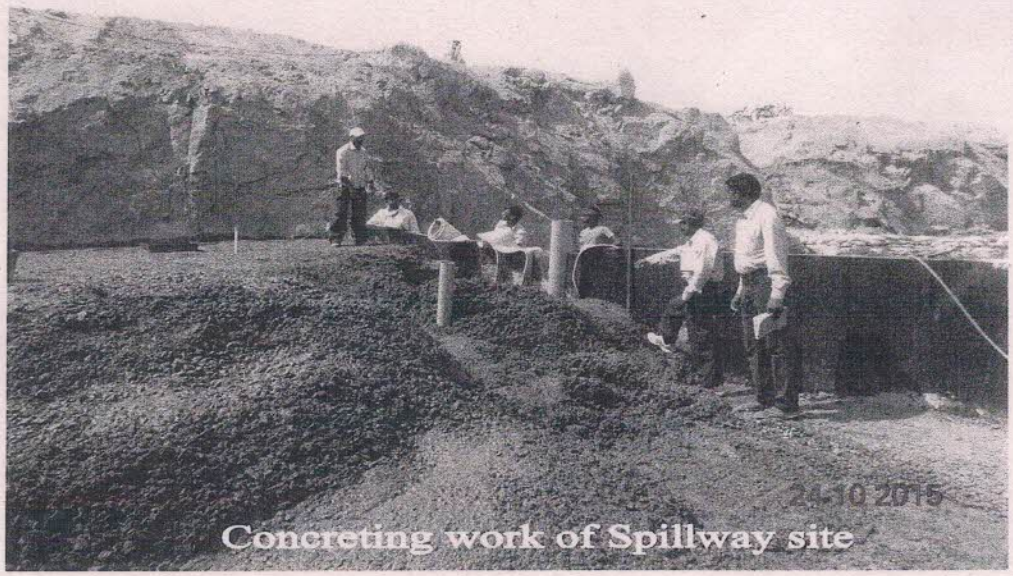
Plantation by DM Soil Conservation Rehabilitation Colony, Anwar

Inspection of Spillway site

TRUE COPY

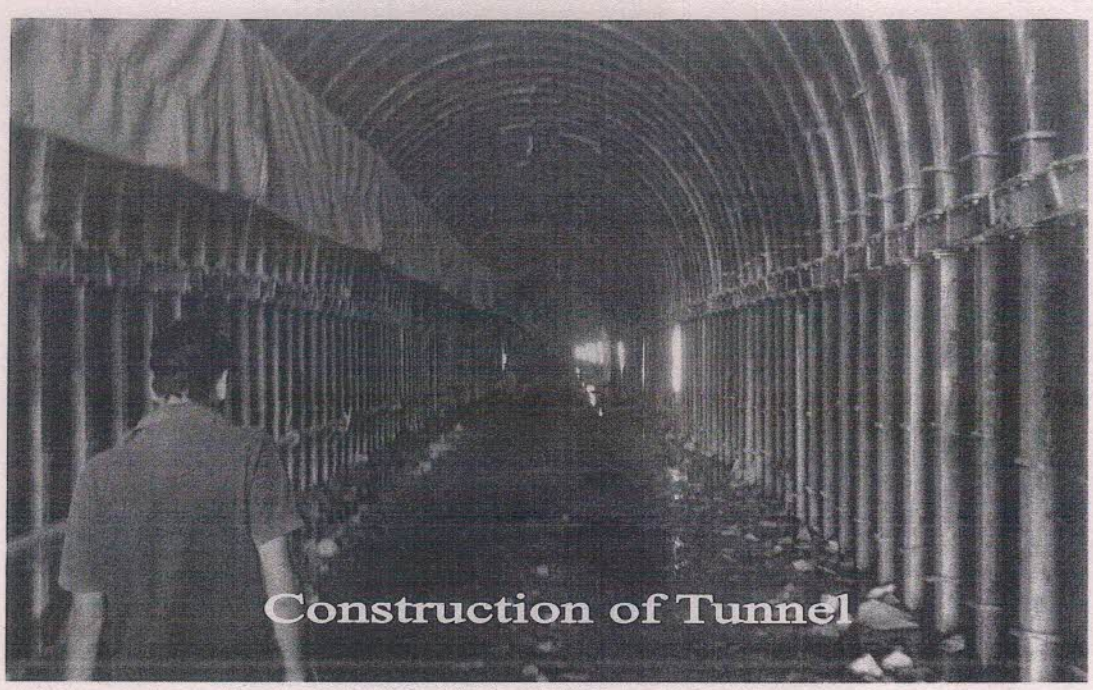
NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi



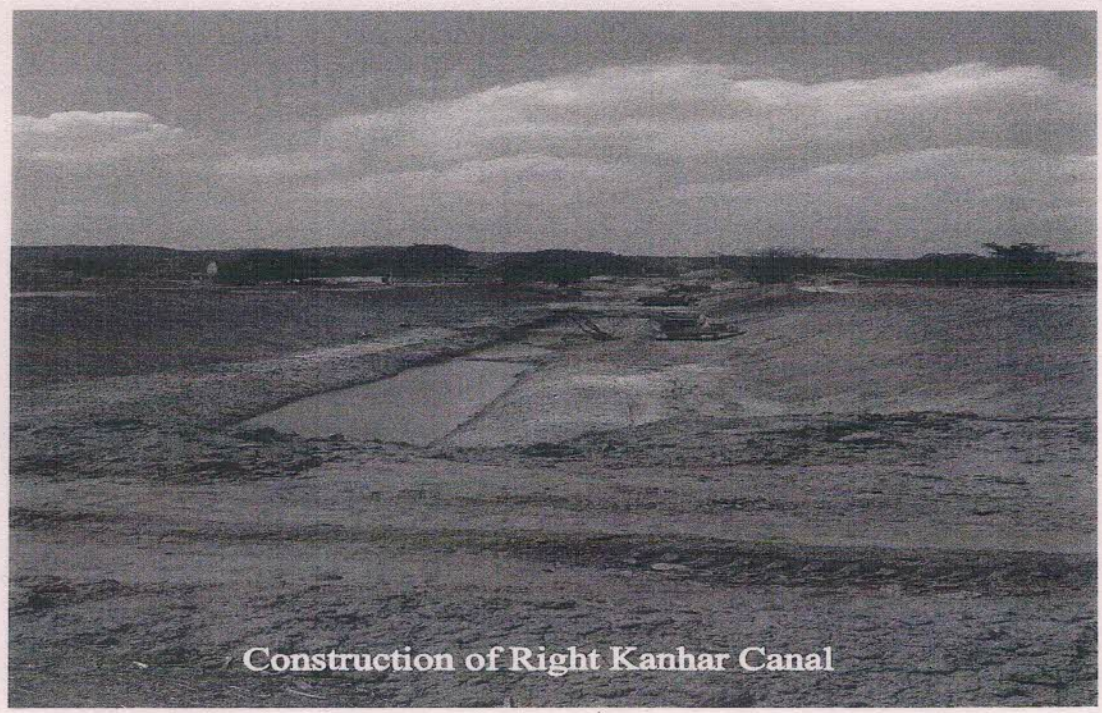


TRUE COPY

NATIONAL GREEN TRIBUNAL
Principal Bench, New Delhi



Construction of Tunnel



Construction of Right Kanhar Canal

TRUE COPY

NATIONAL GREEN TRIBUNAL
(Principal Bench) New Delhi

Point No. 6. A report having general recommendations, measures and conditions that should be imposed upon the project proponent to ensure that further progress does not have any adverse impact on ecology and environment, biodiversity and on surrounding forest, villages and tribes.

(Action: CF, MOEFCC, Regional Centre Lucknow; Representative EAC hydro Power; Chief Engineer, CWC)

Draft Report from Dr. K.D. Joshi :Ecology and Biodiversity

P.S. & Head, ICAR-CIFRI, Allahabad & Representative EAC hydro Power, MOEF&CC)

Aquatic ecology and fish diversity of the river Kanhar

The river Kanhar originates at Gidha-Dhodha on the Khudia plateau in Jashpur district of Chhattisgarh and debouches into the river Sone near north-east of Kota village after traversing about 230 km through diverse catchments. The river catchment is spread over 4584 km^2 area. As per the project report total impounding area of reservoir will be around 4,131.5 hectare.The river initially flows north forming the boundary with Garhwa district in Palamu division of Jharkhand (Wikipedia). Thereafter, it flows for about 100 kilometres through Surguja district of Chhattisgarh. Subsequently, it runs parallel to the Son in Garhwa district and turns north-west and flowing through Sonbhadra district in Mirzapur division of Uttar Pradesh. It has a rocky bed almost throughout its course. A rapid mountain torrent, flowing through forested areas, it is a dangerous stream particularly during monsoon. The tributaries of the Kanhar are: Theme, Lanva, Pandu, Goita, Hathinala, Suria, Chana, Sendur, Kursa, Galphulla, Semarkhar, Riger and the Cherna nallah. A number of waterfalls are located along the track of the river. Pavai Falls near Kothali village (Balrampur) is of about 61 metres, Gur-Sindhu Falls is located in Chinia Community block, (40 kilometres from Garhwa), 30 m high Sukhdari Falls is located near the meeting point of the borders of Chhattisgarh, Jharkhand and Uttar Pradesh (Wikipedia).

The river appears in almost pristine condition due to absence of industrial and municipal/domestic activities in the upstream catchments.The information on aquatic ecology including water quality, under water biota, fish diversity, composition, fish breeding

TRUE COPY
NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

activities and RET species of the river need detailed study. There is no published information available about the fish diversity and fishery of the river Kanhar, sincethe river Kanhar is a tributary of the river Sone, which had been thoroughly studied by Central Inland Fisheries Research Institute (Joshi, K. D.*et al.* 2014. Environmental Flow requirements of river Sone: Impacts of low discharge on fisheries. *Current Science*, 107 (3): 478-488) and documented 89 fish species belonging to 63 genera 25 families and 10 orders. As per IUCN red list, among the total 89 species recorded from the river, 8 species are listed as Threatened in which 7 are near threatened and one vulnerable. Joshi *et al* (2014) observed that due to massive water abstraction from the river Sone during last few decades, 20 sensitive native species reported in earlier study were disappeared from the river, while 13 new fish species were encountered for the first time including some hardy exotic species. This study conducted on the river Sone indicates presence of rich fish diversity in the river system, of which Kanhar is a tributary.

It was observed during the recent visit on the river site that like the river Sone, Kanhar also hold considerable fish diversity. The altitudinal and geographical variations, varied catchments, vegetation cover and influx of numerous tributaries form varying substratum and micro-habitats in the river Kanhar. Due to these variations, river seems suitable for assemblage of rich fish diversity. Some of the fishermen operating in the river reported that about 30-35 fish species including prized Indian major carps (*Labeo rohita, Catla catla, Cirrhinus mrigala*), catfishes (*Wallago attu, Silonia silondia, Bagarius bagarius, Rita rita, Ailia coilia*) and some other species (of the genera *Mastacembelus, Barilius, Puntius, Channa* etc) are available in the river. Since the river debouches with the river Sone at about 15 km downstream of the project site, hence there is possibility of movement of some of the good sized fishes from Sone to Kanhar particularly during monsoon floods. This is reportedly evidenced by availability of bigger sized fishes (IMC weighing 4-5 kg) during post-monsoon period from the river Kanhar. Though the river habitats (river traverses through hilly tract covering rapids, pools and falls) seems congenial for deep bodied mahseer (*Tor tor*), but there was no evidence of availability of mahseer in the river.

The river conditions particularly the presence of deep pools with gravel, sand, silt and clay substratum at some sites indicate availability of suitable areas for breeding of prized IMC and catfishes in the river. The fish yield from the river seems moderate to low during the most of the months however, it was reported by some locals that the river fisheries is a source

TRUE COPY
NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

of sustenance for few fishermen residing along the river banks. The river stretches traversing through Gram Sabha's are being leased by the respective Gram Sabha to fishermen for fishing.

Conditions that should be imposed to ensure to protect ecology, environment and biodiversity

(i) To ensure the water requirements of the downstream biota and other stakeholders, flow from the barrage (Environmental flow) must be released as per the recommendations of MOEF &CC.The environmental flow should be 20% of average of four consecutive lean months of 90% (or 75 % because of non-perennial nature of the river) dependable year, 30% of the average monsoon flow. The flow for remaining months will be in between 20-30%. The flow released to downstream must mimic the natural flow pattern of the pristine river conditions.

(ii) A fish hatchery with sufficient infrastructure for nursery and brooders rearing must be established near the reservoir area for breeding, nursery rearing and stocking of Indian major carps seed in the reservoir for development of reservoir fisheries, which is required for livelihood support of the affected fishermen in the catchments. Required funds for this activity should be arranged by the proponent and state fisheries department Sonbhadra should be involved for development of hatchery complex and seed production.

(iii) In order to assess the availability of migratory mahseer (*Tor tor*) and other important fish species in the river Kanhar a specific survey need be carried out at the cost of user agency.

(iv) If availability of mahseer is confirmed, another mahseer hatchery(flow-through) with required infra-structure should also be constructed at upstream of the reservoir exclusively for mahseerat the cost of user agency, besides the carp hatchery mentioned in abovepoint ii.

(v) Eco-tourism is a sustainable model of resource use, which contributes to environmental conservation, while providing accrued socio-economic benefits to the people through the non-consumptive uses and indirect values of the natural biological resources. Angling, or recreational fishing, is one of

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

the most popular outdoor activities throughout the world. Besides providing good sport, angling is an excellent measure for conservation. The project area and the reservoir under formation can be developed as an excellent tourist site for promotion of fishery based eco-tourism. Apart from existing carnivorous fishes, the renowned sport fish, *Tor tor* can be stocked in the reservoir for promotion of angling activities.

(vi) The construction of the Kanhar Irrigation project (particularly construction of spillways) would involve large scale extraction of different types of construction material from the river bed including boulders, stone , gravel, sand etc. Extraction of gravel and sand cause considerable damage to fish stock and other aquatic life by destabilizing the substratum, increase the turbidity of water, silting of the channel bottom and modifying the flow which in turn may result in erosion of the river channel. These activities are detrimental for fish food organisms, benthic fauna, assemblage of fish diversity, and fish breeding. Further the creation of a reservoir will bring about a number of alterations in abiotic and biotic parameters of upstream and downstream sections of the barrage. During construction phase adequate efforts must be taken by the project proponent to protect the fish communities from killing by destructive methods like poisoning and use of dynamite in the diverted river channel and pool regions and also to take necessary measures for protection of habitats. Awareness camps should be organized along the river banks and barrage site to educate the working labours,other staff members of the construction activities and the people residing in the area.

(vii) The reservoirs formed on the rivers are subjected to sedimentation and the sequential process is erosion, entrainment, transportation, decomposition and compaction. The steady erosion and sediment in reservoir reduces its capacity. Therefore a well-designed Catchment Area Treatment (CAT) plan is essential to ameliorate the adverse effects of soil erosion. Under this programme activities like afforestation, pasture development and social forestry need be undertaken at selected suitable sites.

(viii) The Kanhar irrigation project area compromises vast areas of forests, hilly regions and undulating plains. The land management consists three main parts- catchment area, command area, reservoirs and its surroundings. A dam structure measuring 3.24 km in length and 39.9 m in height, with spillway of 3.12 m is under construction.

TRUE COPY

Besides, this construction of left (25.6 km) and right Kanhar canals, aquaduct, tunnel, some other structures and related excavation would generate considerable quantity of muck. Improper dumping of generated muck would lead to land degradation and loss of biomass. The muck management must be undertaken by the proponent to protect the land, river, terrestrial and aquatic environment and biota. The developer must ensure protection of the muck beyond the flood level of the river.

(ix) The issues related to management of the proposed command area for control of salinity & existing and proposed cropping patterns due to submergence and canal systems need be looked by the proponent.

(x) The project would need 980 ha of forest land under submergence or for other related uses. Forest Conservation Act 1980 laid down the following norms for compensatory afforestation:

a. Where non-forest lands are available, compensatory afforestation be raised over equivalent area of forest land, that needs to be diverted

b. Where non-forest lands are not available, compensatory afforestation be raised over degraded forests twice in extent to the area to be diverted.

c. Where non-forest land available is less in extent to the forest land being diverted, in addition to compensatory afforestation on available non-forest land, plantation be raised in degraded forest twice in extent to the difference between forest land being diverted and available non forest land.

(xi) The dam and reservoir site on the river Kanhar, river catchment, command areas require special attention with reference to conservation and management of the flora and fauna. The submergence site is home for number of plant and animal species. As a result of submergence, all terrestrial organisms will get severely affected. The animals shall be forced to migrate and the migration may pose threats including predation and territorial confrontation. Hence the fauna and flora of the submergence area require special attention. The impacts of the project on the rest of the components like catchments, command area will be negligible. Control on poaching activities and awareness campaigns for disseminating message of habitat protection in general and wild life in particular should be arranged by the developer.

*****

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

केन्द्रीय प्रदूषण नियंत्रण बोर्ड
CENTRAL POLLUTION CONTROL BOARD
पर्यावरण, वन एवं जलवायु परिवर्तन मंत्रालय भारत सरकार
MINISTRY OF ENVIRONMENT, FOREST &.CLIMATE CHANGE GOVT. OF INDIA

No. A-14011/1/2015-Mon

21th October, 2015

To

The Chief Conservator of Forests/Nodal Officer,
Forest Department,
17-Rana Pratap Marg,
UP, Lucknow

Sub:-**Implementation of Judgment and order dated 07.05.2015 passed by Hon'ble National Green Tribunal, Principal Bench, New Delhi in O.A. No.521 of 2014 (M.A.No.902 of 2014 & M.A. No.14 of 2015) Om Dutt & Others Vs. State of U.P. & Others.**

Sir,

This has reference to letter No. 731/NGT(PA)Lucknow dated May 12, 2015 regarding the constitution of Committee on the Kanhar Irrigation project and related aspects.

As a follow up of the telephonic conversation with Shri Vijay Kumar, Executive Engineer, U.P Irrigation Deptt., CPCB shall be conducting the inspection of project site in association with U.P. Irrigation Deptt. during October 24-25, 2015.

Shri Vishal Gandhi, Environmental Engineer (Sc. 'C') is deputed for the inspection of Project site and to attend the meeting schedule on 26/10/2015 in Lucknow. I hereby authorize Shri Vishal Gandhi to sign and submit the report on behalf of CPCB.

Yours faithfully,

(A.B. Akolkar) 21.10
Member Secretary

TRUE COPY

NATIONAL GREEN TRIBUNAL * Principal Bench New Delhi *

'परिवेश भवन' पूर्वी अर्जुन नगर, दिल्ली-110032
Parivesh Bhawan, East Arjun Nagar, Delhi-110032

Inspection Report on Kanhar Irrigation Project in the matter of O.A No. 521 filed before the Hon'ble National Green Tribunal (NGT)

Hon'ble NGT has constituted the committee in the matter of O.A No. 521 to submit the report which includes all aspects of impacts on ecology and environment of Kanhar irrigation project. The Hon'ble tribunal also directed to suggest measures for protecting resettlement colonies particularly close to the industrial clusters of Sonbhadra which will have adverse health impacts.

The team comprising officials of Central Pollution Control Board (CPCB) and Uttar Pradesh Irrigation Department has visited the site of Kanhar Irrigation project on 25/10/2015. Based on the field inspection, following observations are made:

1. As informed by Project Proponent that project has earthen embankment on both side having length 0 to 1.5km in left side and 2.1 to 3.24 Km on right side.
2. The resettlement and rehabilitation colony developed in Amwar village. The colony is about 1 km distance from Dam site. It was estimated that 3700 families likely to be displaced due to submergence by the construction of Dam. The project proponent was providing 150 sqm of plot for each displaced family with 15m width main road and other road having 9m to 12m. The project proponents will also provide basic facilities like electricity, water supply, drainage system, park, community centre, school etc. However, it was observed that no sewage treatment facility was provided.
3. It was estimated that 1 MLD (approximately) of sewage will be generated in resettlement colony. This 1 MLD of untreated sewage will find its way toKanharriver and deteriorates the water quality on downstream. So, there is need to builtproper sanitation facility or sewage treatment plant.
4. As stated earlier, the resettlement colony was developed about 1 km distance of dam site. As of now, no industrial activity was observed in 30 km radius of resettlement colony and does not have adverse impact on air and water quality.According to the project proponent, proper safe guard regarding air and water pollution are being provided.
5. There is also need to maintain the minimal ecological flow in river to maintain the water quality of Kanharriver after construction of dam.

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

25/10/15
(Vishal Gandhi)
Scientist C, CPCB

Report regarding point (7) at page 48 of the order issued by Hon'ble National Green Tribunal on 7th May 2015

"The Committee shall asses and examine the present status of the compensatory afforestation done by the forest department during 1984, 85 and 86 over an area of 666 hectares and 80 kms on the road side. The committee shall make assessment of the survival percentage and the present status of compensatory plantation through random sampling."

As per the first meeting of the "High Power Committee" held on 29th June 2015 the work of assessment of compensatory afforestation was assigned to the Conservator of Forests (Central), Regional Office Lucknow who represents Ministry of Environment, Forests & Climate Change in the Committee and submit its report to the committee members. The committee members will finalise the draft report and submit it for the consideration of the Hon'ble National Green Tribunal. The methodology was discussed, deliberated and finalised in the meeting. It was also decided that Chief Conservator of Forests, Mirzapur and subordinate officials of Renukoot Forest Division will provide details of field plantations from the record and assist the committee member in assessment and examination work.

Monitoring of compensatory afforestation/plantation site Hathinalla by the Committee member along with officials of Forest Division Renukoot (First fortnight of August 2015)

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

1. **Assessment Criteria:**

Assessment of the compensatory afforestation carried out in lieu of transfer of forest land of the extent 980.40 ha (2422.593 acres). The afforestation works were carried out in 1984, 85 and 86. The criteria of assessment as per the direction of the Hon'ble Tribunal were survival percentage and its present status.

2. **Assessment Methodology:**

Assessmentof compensatory afforestation works was carried out on following basis/principles:

i. Total enumeration of all the patches through field work and available official record.
ii. Random Sampling of few compensatory afforestation patches.
iii. Geographical Information System(GIS) based analysis of the acquired GPS (Geographical Positioning System) data on Google Earth platform

It was decided that random sampling for assessment of the compensatory afforestation works will be carried out. In order to assess compensatory afforestation works of 1984, 85 and 86 the field data was requisitioned from the concerned forest division. The sampling of plantation/afforestation site was carried out in such a manner so that appropriate weightage is accorded to both types of plantations i.e. linear patches and block plantation sites. In order to have a holistic, true and rapid assessment of the afforestation total enumeration of all the patches was carried out to provide a real and true picture of the situation existing in the field.

The detailed list of plantation of the extent of 666 ha and 80 km of row plantation was provided by the concerned field officials in the month of July 2015.

On the basis of field details and lack of availability of plantation journals for most of the afforestation patches (reason provided by the field officials was weeding of old records); a format to record the data in uniform and objective manner wasdesigned and circulated to the field officials. The format for submission of patch wise compensatory afforestation data is placed at annexure 'A'.

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

3. Field Work :

First field visit was carried out from 5th August 2015 to 8th August 2015. During the visit officials of Forest Division Renukoot were trained regarding how to fill up data sheet and carry out the detailed enumeration.

During this visit random compensatory afforestation sites were also visited. The details of site visited during field trip are Hathinala compartment no. 9 in Pipri Range (20 ha patch planted in year 1985), Bagharu ropwani in Bagharu Range (10 ha patch planted in year 1985), Hathinala Dudhi Road in Dudhi Range (linear patch of 30 row km planted in 1985) and Dudhi Amwar Road (linear patch of 8 row km planted in 1984 and 1985).

All the key points describing boundary of the afforestation patch; latitude and longitude in form of GPS (Geographical Positioning System) data was also acquired.The GPS data was acquired to carry out GIS (Geographical Information System) based assessment of the afforestation on open maps provided on Google Earth Platform.

The data set was generated by total enumeration and GPS based survey carried out by the field staff and the same was submitted for compilation, collation and analysis in the last week of September 2015.

A patch of plantation visited during field trip

4. Details of Compensatory Afforestation Patches

As pert the details submitted from Forest Division Renukoot total 37 patches (32 block plantation sites and 5 linear patch sites) have been taken

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi
TRUE COPY

up for the compensatory afforestation works in 1984, 85 and 86. Block afforestation patches vary from 6 ha to 50 ha in size. Three linear afforestation patches are on roadside and rest of the two have been developed on the berms of protection trench forming boundary of afforestation site.

5. Compilation, Collation and Analysis of Data:

A. Statistical Analysis of the Compensatory Afforestation Enumeration Data:

The raw data was rationalised and brought on Ms Excel sheet for subsequent analysis. On the basis of data provided simple and weighted mean of survival percentage was calculated to provide holistic assessment of compensatory afforestation works.

DETAILS OF COMPENSATORY AFFORESTATION CARRIED OUT IN LIEU OF DIVERSION OF FOREST LAND FOR KANHAR IRRIGATION PROJECT BY FOREST DEPARTMENT, UTTAR PRADESH

Sr No.	Location	Year of Plantation	Linear Patch in km	Area in ha	No. of plants planted	No. of Plants survived as per enumeration list	Survival %	Weighted Area	Remarks
1	Patti Compartment No. 15 and 16	1985		20.0	22,000	9,380	42.64	852.8	Block Plantation
2	Murdhawa Block Compartment No. 2	1985		10.0	11,000	947	8.61	86.1	Block Plantation
3	Hatthinala Compartment No. 9	1985		20.0	22,000	7,827	35.58	711.6	Block Plantation
4	Mahuariya Ropawani	1985		30.0	33,000	3,863	11.71	351.3	Block Plantation
5	Bagharu Compartment No.1	1985		10.0	11,000	1,107	10.06	100.6	Block Plantation
6	Bagharu Ropawani	1985		10.0	11,000	1,686	15.33	153.3	Block Plantation
7	Salenaag	1985		20.0	22,000	367	1.67	33.4	Block Plantation
8	Salenaag	1986		25.0	30,000	1,091	3.64	91	Block Plantation
9	Pokhara	1984		20.0	22,000	499	2.27	45.4	Block Plantation
10	Chainpur	1985		20.0	22,000	121	0.55	11	Block Plantation

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) NEW DELHI

11	Chainpur 1st	1986		50.0	59,550	1,053	1.77	88.5	Block Plantation
12	Hatthinala Dudhi Road Plantation	1985	30		35,000	1,085	3.1	0	Roadside plantation
13	Maldeva Forest Block	1986		5.0	16,100	1,950	12.11	60.55	Block Plantation
14	Bairpan Forest Block Compartment No. 5	1984		10.0	11,000	1,575	14.32	143.2	Block Plantation
15	Mahuli Mahuariya Road Plantation	1986	20		25,000	699	2.8	0	Roadside plantation
16	Dhartidand	1985		20.0	20,000	6,983	34.92	698.4	Block Plantation
17	Jarha Bijpur Road	1984	15		6,000	651	10.85	0	Roadside plantation
18	Nawatola	1985		20.0	21,000	5,265	25.07	501.4	Block Plantation
19	Dhartidand	1984		20.0	20,000	7,220	36.1	722	Block Plantation
20	Wyndhamganj C.N. 1 (Ghivahi Ropawani)	1984		6.0	3,766	228	6.05	36.3	Block Plantation
21	Sukhada Ropawani	1985		20.0	23,000	104	0.45	9	Block Plantation
22	Suichattan C.N. 2	1985		20.0	21,605	138	0.64	12.8	Block Plantation
23	Gadiya C.N. 3	1984		20.0	23,300	660	2.83	56.6	Block Plantation
24	Dhubha C.N. 2	1986		40.0	51,500	4,534	8.8	352	Block Plantation
25	Gadiya C.N. 6	1984		10.0	14,000	486	3.47	34.7	Block Plantation
26	Jammpani	1985		50.0	70,000	6,004	8.58	429	Block Plantation
27	Gadiya	1985		40.0	56,000	720	1.29	51.6	Block Plantation
28	Dibulganj Pahadi	1984		10.0	11,000	221	2.01	20.1	Block Plantation
29	Khajura C.N. 2	1984		10.0	11,000	1,003	9.12	91.2	Block Plantation
30	Cheri	1986		40.0	50,000	8,858	17.72	708.8	Block Plantation
31	Bairpaan C.N. 2	1985		20.0	25,790	2,520	9.77	195.4	Block Plantation
32	Khajura C.N. 4	1985		20.0	28,000	2,900	10.36	207.2	Block Plantation
33	Chainpur 2nd	1986		10.0	11,000	1,278	11.62	116.2	Block Plantation
34	Devpura	1985		20.0	22,000	4,681	21.28	425.6	Block Plantation
35	Bagharu Range (Protection Trench)	1985	13		4,300	554	12.88	0	Along protection trench plantation
36	Baheradol	1985		20.0	20,000	10,456	52.28	1045.6	Block Plantation
37	Garderwa Forest Block & Baheradol East C.N. 10	1985	2		667	632	94.75	0	Along protection trench plantation
		TOTAL	**80**	**666**	**8,66,578**	**99,346**	**11.46**	8442.65	

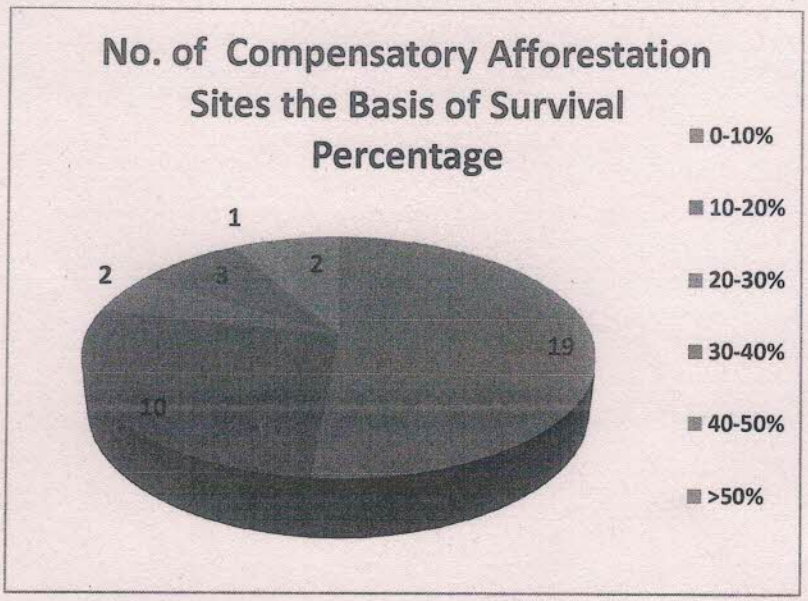
Survival Percentage (simple mean)=11.46%

Survival Percentage (weighted mean)=12.68%

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

The survival percentage data was further classified in class interval from 0-10% onwards with number sites in each class as frequency and pie chart is drawn to show relationship between number of sites and survival percentage.



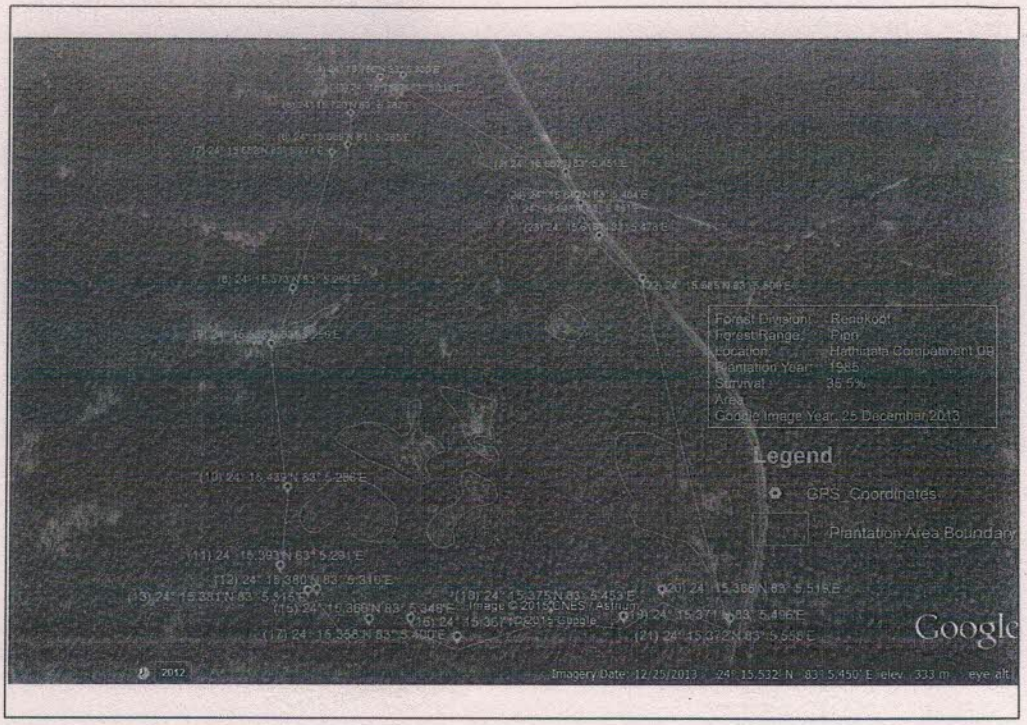
B. Geographical Information System (GIS) based analysis of the field data of the Compensatory Afforestation sites:

The plantation location and area was marked on the basis GPS coordinates provided by the officials of Renukoot Forest Division. In preparation of .shp files both spatial and attribute data was used. The GIS based files (.shp) were converted into KML/KMZ files which are supported on Google Earth (Satellite Data). The KML/KMZ files were over laid on Google earth data.

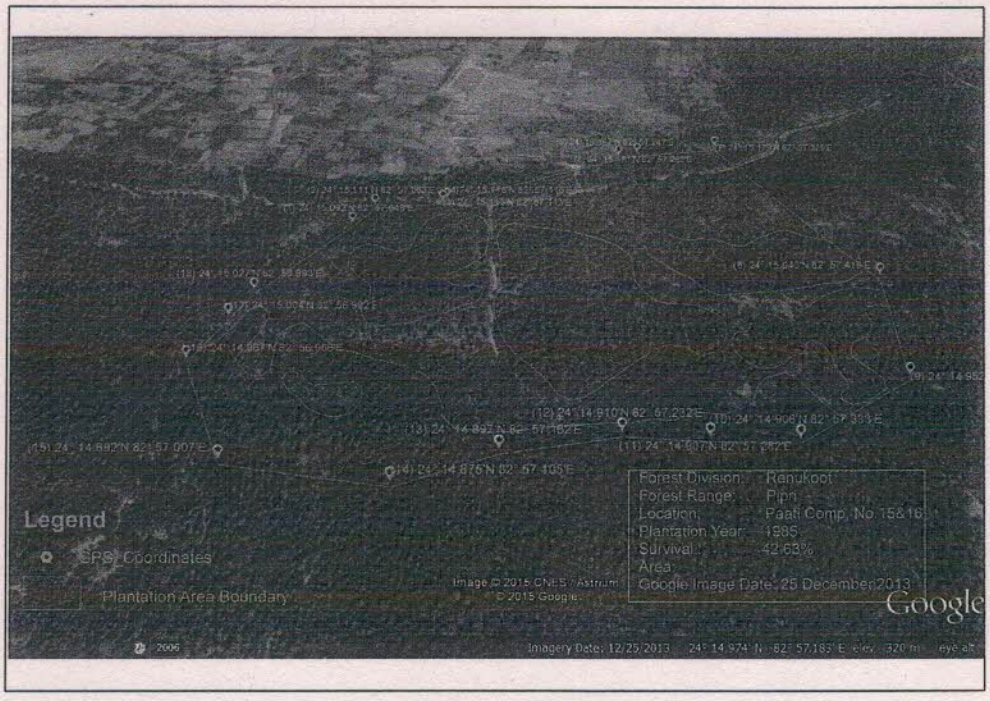
Each plantation site has been further classified into good survival and bad survival patches on the basis of visual interpretation. This process was carried out on five plantation sites for showcasing the issue. The Google map prepared for three compensatory afforestation sites are provided below:

TRUE COPY

NATIONAL GREEN TRIBUNAL
Principal Bench New Delhi



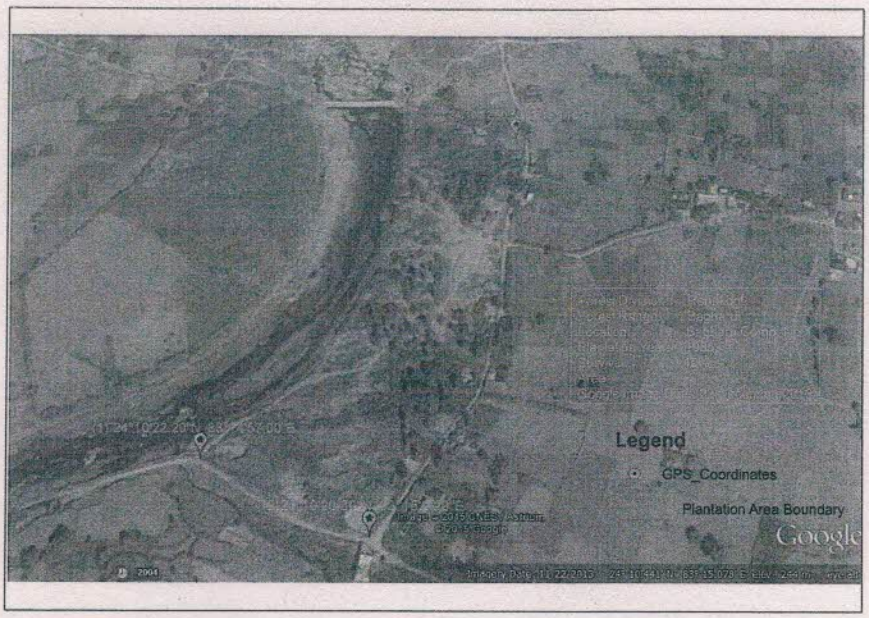
Hathinala Compartment No.9 having 20 hectare area



Patti Compartment No. 15 and 16 having area of 20 hectare

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi



Bagharu Compartment No. 1 having area of 10 hectare

6. Inferences:

On the basis of analysis of the data both statistically as well as on GIS platform with inspection of record of the Renukoot Forest Division following conclusions can be drawn:

a) The compensatory afforestation works was carried out in the year 1984, 85 and 86 to the extent of 666 ha and 80 km of linear patch.

b) The survival percentage of the compensatory afforestation work after 30 years of planting on the basis of weighted average is 12.68%.Reasons for such survival percentage can be attributed to anthropogenic and edaphic factors.

7. Recommendations and further scope:

i. The balance of compensatory afforestation as per Forest (Conservation) Act 1980 is either equivalent non-forest land acquired by the project proponents and provided to the Department of Forests for afforestation or double the degraded forest land earmarked for afforestation. As the previous 666 ha of compensatory of afforestation has been carried out on degraded forest land therefore, the balance of compensatory afforestation in lieu of 980.40 ha of forest land acquired

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi
TRUE COPY

is {(980.40x2) - 666} =1,294.80 ha say 1,295 ha on degraded forest land.

ii. Geographical Information System (GIS) based study is essential to understand the changes in the land use, vegetation cover, vegetation type and other ecological parameters of the project and surrounding area. The change analysis will further focus on understanding the impact of project on ecology of the area in a comprehensive and holistic manner. This short of analysis has future scope in understanding causative factors and ameliorative measures.

Annexure 'A'

Performa for monitoring of Plantation/Afforestation patch

Part –I

BASIC INFORAMTION OF PLANTATION PATCH

Sr No.	Particulars	Details	
1	Location		
2	Range		
3	District &forest division		
4	Area of plantation (in ha.)		
5	Year of planting		
6	Species wise number of saplings/seedlings planted	Species	Number
7	Survival percentage of plantation		
8	Existing ground flora		
9	Details of record maintained regarding this plantation (Xerox copy of relevant record is to be annexed)	Plantation Journal	Yes/No
		Previous monitoring report	Yes/No
10	Average Height of the Plants (in mts)	Species	Avg height (in mts)

TRUE COPY

Part- II

SKETCH OF PLANTATION AREA WITH GPS COORDINATES

Table showing GPS Coordinates of key points			Map Prepared by	
Points	Latitude (in deg, min, sec)	Longitude (in deg, min, sec)	Signature	
1			Name	
2			Designation	
3			Date	
4			Seal	
5				
6				
7				

TRUE COPY

NATIONAL GREEN TRIBUNAL

Part- III

ABSTRACT OF ENUMERATION

(Girth at breast height level 5'2")

Sr. No.	Species	Girth Class in cm						Total
		0-30 cm	30-60 cm	60-90 cm	90-120 cm	120-150 cm	>150cm	
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
Total								

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Part IV

DETATILS OF ENUMERATION

(Attach extra sheets wherever it's required)

Sr No	Species	GBH (in cm)	Remarks
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Information submitted by:

Range	Signature	
	Name	
	Designation	
	Seal	
Sub Division	Signature	
	Name	
	Designation	
	Seal	
Division	Signature	
	Name	
	Designation	
	Seal	

TRUE COPY

NATIONAL GREEN TRIBUNAL (Principal Bench) New Delhi

Government of India
Central Water Commission

Room No. 510(S), SewaBhawan,
R.K. Puram, New Delhi – 110066

No. CWC/PAO/Kanhar/2015 Dated 23rdOctober, 2015

To

ShriUmendra,
Principal Chief Conservator of Forests,
17, RanaPratapMarg, Lucknow
(Email: pccfup@yahoo.com)

Subject: **Kanhar Irrigation Project – Implementation of Judgement and Order dated 07.05.2015 of Hon'ble National Green Tribunal – reg.**

Sir,

Please find herewith draft compliance report on the directions nos. 5, 6 (river and hydrology aspects), 12and 13 of Hon'ble National Green Tribunal as discussed during the site visit and meeting of the Expert Committee held on 13th October, 2015 for further necessary actions, please.

Thanking you,

Yours faithfully,

(Dr. M.K. Sinha)
Chief Engineer (PAO)
Tel. 011 26103561
+91 8826007291

Encl: As above

Copy for kind information and necessary actions to all Members of the Expert Committee

TRUE COPY

NATIONAL GREEN TRIBUNAL
Principal Bench New Delhi

Annexure

COMPLIANCE REPORT ON DIRECTIONS NOS. 5, 6 (RIVER AND HYDROLOGY ASPECTS), 12 AND 13CONTAINED IN JUDGEMENT AND ORDER DATED 07.05.2015 OF HON'BLE NATIONAL GREEN TRIBUNALREGARDING KANHAR IRRIGATION PROJECT BY DR. MUKESH KUMAR SINHA, CHIEF ENGINEER (PAO), CENTRAL WATER COMMISSION

1. INTRODUCTION

Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi, while disposing off OA No. 521 of 2014 and M.A. Nos. 902 of 2014 & 14 of 2015 (Shri Om Dutt Singh &Ors. Vs. State of Uttar Pradesh &Ors.), passed judgement and order dated 07.05.2015 (hereinafter referred to as the said NGT Order) *inter-alia* constituting a Committee under the convenorship of Principal Chief Conservator of Forests, Uttar Pradesh to submit a Report to the Tribunal on fifteen directions. The said Committee inter-alia included Dr. Mukesh Kumar Sinha, Chief Engineer (Project Appraisal Organisation (PAO)) as a representative from Central Water Commission (CWC).

During deliberations in the meetings of the Expert Committee, Chief Engineer (PAO), CWC was asked to prepare compliance report on direction nos. 5, 6 (River and Hydrology aspects) and 13 of the said NGT Order. In pursuance, the Chief Engineer (PAO), CWC asked for status of construction and other information regarding Kanhar Irrigation Project. Irrigation Department, UP has provided information by email on 28th September, 2015 and during site visit held on 13th October, 2015.

Kanhar Irrigation Project, Uttar Pradesh was initially approved by Central Water Commission in 1976 for an estimated cost of Rs. 27.75 crores and was technically approved in 1979 with the revised estimate cost of Rs. 69.47 crores. Subsequently, the project was again techno-economically appraised by Central Water Commission and accepted in the 106thmeeting of the Advisory Committee of the Ministry of Water Resources, River Development and Ganga Rejuvenation held on 4thOctober, 2010 at an estimated cost of Rs. 652.58crores, at the price level of 2008-09. The Revised Cost Estimate of the project of Rs. 2252.29 crores at price level 2013 has also been techno-economically appraised by Central Water Commission and accepted by the Advisory Committee in its 124th meeting held on 16th October, 2014. The project envisages annual irrigation of 35467 Hectares in addition to the provision of 1.42 Million Cubic Meters in the drought prone areas of Duddhi and Robertsganj Tehsils of District Sonebhadra (Uttar Pradesh) with a benefit cost ratio of 1.42.

2. DRAFT COMPLIANCE REPORT ON DIRECTIONS OF HON'BLE NGT

2.1 DIRECTION NO. (5)

Modifications in execution of the project, if any, required to ensure protection of environment and ecology in the execution of the project in question.

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench New Delhi

COMPLIANCE:

Kanhar Irrigation Project, Uttar Pradesh envisages construction of the following major components;

a) 2.928 km long earthen dam having maximum height of 39.90m from deepest bed level,
b) Concrete ogee spillway of 311.75 m length, having 16nos. of hydraulically operatedgates of size 15.5 x 14.5 m., and 2 nos. of under sluice gates of size 1.5 x 2.0 m.
c) 31.50 km Right Kanhar Main Canal, 53.1 km branch canal (left and right Pandu Basin canals) and 25.6 km Left Kanhar Main Canal,
d) Three Lift Schemes, two on the Left Kanhar Main Canal and one on the Right Kanhar Main Canal to irrigate an area of 1100 Hectares,
e) 2.66 km long irrigation tunnel of 5.50 m diameter on Right Kanhar Main canal,
f) 74nos. drainage crossings on Right Kanhar Main canal including Pandu basin canals and 39nos. drainage crossings on Left Kanhar Main canal, and
g) 13nos. aqueducts (including 1.775 km long Maliya viaduct), 2 nos. railway bridges, 7 nos. PWD bridges and 72 Village Road Bridges on canal and its distribution system.

Such planning has been done to optimize the utilization of available water resources to meet various demands giving due consideration to topography and geology. Through conservation of water and equitable distribution, the project would not only facilitate drinking water supply and irrigation, but also improve environment through reduced flood magnitude, increased availability of water for eco-system particularly during dry summer months, reduced pressure on environment through general uplift of the local population by increased productivity and better living conditions, etc.

The project was conceived and planned in 1970s when the concepts of environmental flows and equitable distribution through regulated releases were not fully developed. The Committee takes this opportunity to suggest following measures for betterment of the environment;

(1) Continuous operation of under-sluices to ensure release of environmental flows–

Maintaining environmental flows downstream of the dam is necessary. The National Water Policy (2012), adopted by the National Water Resources Council headed by Hon'ble Prime Minister with related Union Ministers and Chief Ministers of all States as Members, clearly stipulates that

"3.3 Ecological needs of the river should be determined, through scientific study, recognizing that the natural river flows are characterized by low or no flows, small floods (freshets), large floods, etc., and should accommodate developmental needs. A portion of river flows should be kept aside to meet ecological needs ensuring that the low and high flow releases are proportional to the natural flow regime, including base flow contribution in the low flow season through regulated ground water use."

TRUE COPY

The Ministry of Water Resources, River Development and Ganga Rejuvenation has already set up a Committee to determine the quantum of e-flow (environmental flow). However, the report of the Committee has not been finalized yet. Pending finalization of the report and decision of the Government, Ministry of Environment, Forests and Climate Change, has been prescribing 30% of flows during monsoon period, 25% during non-monsoon and non-lean periods and 20% during lean period towards environmental flows while granting environmental clearances. The same may be adopted for Kanhar Irrigation Project, Uttar Pradesh.

Just about 1 km downstream of the Kanhar dam, the river is joined by Goithariver. Further downstream Tehma, Phulma, Lulwa and Maliya rivers join Kanhar river before Kanhar joins Sone River. Thus, even though there are network of rivers in the downstream region, it is considered necessary to ensure release of environmental flows. The Project Authority agreed for the same and assured to re-workout reservoir operation and to continuously operate under sluice(s) to ensure release of environmental flow as per the norm.

(2) Regulation of canal releases to ensure equitable distribution –

Often head reaches in a canal irrigation system uses more water, which leads to wastage of water resulting into adverse environmental impacts like water logging, increased salinity, etc., in the head reaches, besides depriving tail end users from much needed water even for the ecosystem needs. Thus, there is a need to have regulated canal releases on the basis of volumetric measurements to ensure equitable distribution of water amongst various reaches. The Committee suggests installation of discharge measurement devices at key locations in canal system and evolution of a rotational irrigation system to achieve the same. The Project Authority is also advised to promote cropping pattern compatible with the soil health and efficient irrigation system, such as micro-irrigation and System of Rice Intensification, in the command area.

2.2 DIRECTION NO. (6)

The Committee is required to make its general recommendations, measures and the conditions that should be imposed upon the project proponent to ensure that further progress of the project does not have any adverse impacts on ecology, environment, rivers, hydrology, bio-diversity and on all the surrounding forests, villages and tribes.

COMPLIANCE:

As submitted in compliance to direction (5) of the Hon'ble NGT, planning and implementation of a water resources project is generally done to optimize the utilization of available water resources to meet various demands giving due consideration to topography and geology. Through conservation of water and equitable distribution, the project not only facilitates drinking water supply and irrigation, but also improves environment through reduced flood magnitude, increased availability of water for eco-system particularly during dry summer months, reduced pressure on environment

TRUE COPY

through general uplift of the local population by increased productivity and better living conditions, etc.

The Kanhar Irrigation Project has been techno-economically appraised by Central Water Commission and accepted by the Advisory Committee. Other than ensuring release of environmental flow and regulation of canal releases on the basis of volumetric measurements, as already suggested in compliance to direction (5), no other measures and conditions are considered necessary that should be imposed upon the project proponent to ensure that further progress of the project does not have any adverse impacts on ecology, environment, rivers, hydrology, bio-diversity and on all the surrounding forests, villages and tribes.

In this context, the order dated 18.10.2000 of the Hon'ble Supreme Court in W.P. No. 319/1994 Narmada BachaoAndolan vs. Union of India&ors. (2000(10) SCC 664) may kindly be referred to by which the Hon'ble Supreme Court has directed that;

> "280. While issuing directions and disposing of this case, two conditions have to be kept in mind, (i) the completion of project at the earliest and (ii) ensuring compliance with conditions on which clearance of the project was given including completion of relief and rehabilitation work and taking of ameliorative and compensatory measures for environmental protection in compliance with the scheme framed by the government thereby protecting the rights under Article 21 of the Constitution."

Hon'ble NGT had also observed in the instant case that;

> "23.... We are not inclined to accept the contentions of the applicant and grant prayer that the project work should be stopped and it should not be permitted to continue till the Project Proponent seeks fresh Environmental Clearance.In our considered opinion, it would neither serve the interest of the environment or ecology nor would it serve public purpose. Huge amounts have been spent on this project. The project which was expected to cost the nation 27.75 Crores, is now costing the country 2252.29 Crores at 2013 47 price level. Stoppage of work would further enhance the cost of construction and would be unnecessary burden on public exchequer."

Therefore, further work progress of the project should continue along with the environment safeguard measures.

It may be prudent to clarify that the hydrology, per se, does not get adversely impacted by the irrigation project. During flood times, flood magnitudes get moderated due to storage in reservoir and during lean time, environmental flows sustain the ecosystem. Thus, in both the cases, there will not be any adverse impacts on the hydrology due to project progress.

2.3 DIRECTION NO. (12)

In the light of the fact that the Kanhar River flows through to a drought prone area where water is a critical input for the life supports systems, both on land and within the aquatic ecosystem, the Committee should examine maintenance of certain minimum environmental flow downstream of the Dam.

TRUE COPY

COMPLIANCE:

The Committee considers maintenance of environmental flow downstream of the dam as necessary. However, it should be realized that environmental flow is not minimum flow, else we would be destroying dry ecosystem, which were in existence prior to construction of the dam. In this regard, the recommendation of the National Water Policy (2012) that a portion of river flows should be kept aside to meet ecological needs ensuring that the low and high flow releases are proportional to the natural flow regime is pertinent and should be adopted. Ministry of Water Resources, River Development and Ganga Rejuvenation has already set up a Committee to determine the quantum of e-flow (environmental flow). However, the report of the Committee has not been finalized yet. Pending finalization of the report and decision of the Government, Ministry of Environment, Forests and Climate Change, has been prescribing 30% of flows during monsoon period, 25% during non-monsoon and non-lean periods and 20% during lean period towards environmental flows while granting environmental clearances. The same may be adopted for Kanhar Irrigation Project, Uttar Pradesh.

Just about 1 km downstream of the Kanhar dam, the river is joined by Goithariver. Further downstream Thema, Phulma, Lauwa and Maliya rivers join Kanhar river before Kanhar joins Sone River. Thus, even though there are network of rivers in the downstream region, it is considered necessary to ensure release of environmental flows. The Project Authority agreed for the same and assured to re-workout reservoir operation and to continuously operate under sluice(s) to ensure release of environmental flow as per the norm.

2.4 DIRECTION NO. (13)

The Committee while preparing the comprehensive report shall take into consideration, if there is any adverse impact of the works already executed, on the environment and ecology of the areas and the remedial steps that should be taken.

COMPLIANCE:

The Committee visited the Project site on 13th October, 2015 and found apparently no adverse impact of the works already executed. It was observed that barbed wire fencing has been done around the blasting area for restricting movement of animal and human beings. The air was also found clean without particulate matter and river water was clear and clean. Thus, no remedial steps are considered necessary other than the environment safeguard measures already proposed in the compliances to the various directions of the Hon'ble NGT.

TRUE COPY

NATIONAL GREEN TRIBUNAL Principal Bench