

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL PRINCIPAL

BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 538 of 2022

Swaran Singh

Applicant

Versus

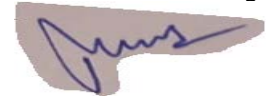
State of Uttarakhand & Ors.

Respondents

I N D E X

S.No.	Particulars	Pages
1.	Action taken report on behalf of the Uttarakhand Pollution Control Board	
2.	Annexure 1 A copy of the CPCB SOP	
3.	Annexure 2 A copy of formula sheets of all violators	

Filed by



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New Delhi

Dated: 27.10.2025

Action Taken Report on behalf of Uttarakhand Pollution Control Board

In matter of

Original Application no. 538 of 2022

Swarn Singh

v.

State of Uttarakhand and Ors.

1. That the above-mentioned matter was listed for hearing on 24.07.2025 wherein the Hon'ble National Green Tribunal was pleased to issue the following directions: -

“.....

5. In the meanwhile, the UKPCB is directed to place on record the full details alongwith supporting material in respect of calculation of the environmental compensation against the Respondents No. 8 to 11. Let the same be filed within four weeks.

.....”

2. That in compliance to the aforementioned order, the instant action taken report is being filed.
3. That in compliance with the order dated 18.10.2023 passed by the Hon'ble Tribunal in O.A no. 538 of 2022, the license holder was given an opportunity to be heard, and the hearing was held on 21.02.2024 and the quantity of illegal mining was decided by the Mining Department, State of Uttarakhand.



4. That the Central Pollution Control Board (CPCB) has developed an SOP for the scale of compensation to deal with the cases of Illegal Sand Mining, which was submitted to the Hon'ble Tribunal on 05.04.2019 in O.A no. 360 of 2015 *National Green Tribunal Bar Association v. Virender Singh*. Further, vide order dated 26.02.2021 in O.A no. 360 of 2015, the Hon'ble Tribunal accepted the above-mentioned report of CPCB and directed the scale of compensation calculated with reference to approach II to be applicable. In this connection, a copy of the CPCB SOP is being marked and filed as **Annexure-1**.

5. That in compliance of the directions of this Hon'ble Tribunal, by following the aforesaid approach II, the environmental compensation has been calculated as under: -

Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied

= NPV (Net Present Value) = PV (Present Value) -D (Market value of illegally mined material)

PV = 29597489.43

D = 14437104.5

NPV= 15160384.93

D	Market Value of Illegal Mined Material	Excess Quantity in MT	Market Value
	Quantity of excess extraction* Market value per MT		
	14437104.5	41248.87	350

AVEV	Annual Value of Forgone Ecological value		
	D*RF (RF is the Risk Factor) taken as 0.5		
	7218552.25		
PV	Present value for Foregone Ecological value at 7% discount rate and over 05 years		
1 st year	6746310.514		
2 nd year	6304963.097		
3 rd year	5892488.876		
4 th year	5506998.949		
5 th year	5146727.99		
PV	29597489.43		
NPV	PV-D		
	15160384.93		

The above-mentioned table pertains to Shri Himmat Singh. The Environmental Compensation has been calculated as per the formula outlined under Approach II. In this connection, the formula sheets of all violators are being marked and filed as **Annexure-2** .

6. That it is pertinent to mention that the Uttarakhand Pollution Control Board (UKPCB) is committed to ensure the compliance of the directions given by this Hon'ble Tribunal.
7. The above report is being presented for the consideration of Hon'ble NGT.


 (Dr. Parag Madhukar Dhakate)
 Member Secretary
 Uttarakhand Pollution Control
 Board



BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

ORIGINAL APPLICATION NO. 360/2015

IN THE MATTER OF:-

NATIONAL GREEN TRIBUNAL BAR ASSOCIATION

APPLICANT(S)

VERSUS

VIRENDRA SINGH (STATE OF GUJARAT)

RESPONDENT(S)

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NAZIMUDDIN
SCIENTIST 'E'

CENTRAL POLLUTION CONTROL BOARD
PARIVESH BHAWAN, EAST ARJUN NAGAR,
DELHI- 110032

PLACE: - DELHI

DATED: - 30.01.2020

**Recommendations on Scale of Compensation
to deal with the cases of illegal sand mining**

Submitted to
**Hon'ble National Green Tribunal,
Principal Bench, New Delhi**

(Submitted by the Committee constituted in the matter of Hon'ble NGT
OA No. 360 of 2015 order dated-05.04.2019)

29th January 2020

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1. Introduction

The mining operation has its consequence on the environment. The sand mining operation has traditionally been carried out manually in river both in-stream and in flood plain, coastal and paleo channels, but with advent of time the method of mining has changed to semi-mechanised and mechanised. The use of machinery in riverbed mining may impact the river environment to great extent depending on the scale of operation.

It is estimated that more than 35 million people are employed in sand business, and economic valuation is well over \$126 billion per annum (Ref: NGT order dated 05.04.2019 in O.A. 360/2015). The illegal sand mining has been rampant in different states of the country and the protection of environment from the impacts of unregulated sand mining has been a challenge to regulatory bodies.

The Hon'ble NGT (Principal Bench), New Delhi by order dated-05.04.2019 in O.A. No. 360/2015 (13 clubbed cases) related to illegal sand mining from riverbeds in different states, constituted a Committee comprising of representatives of Ministry of Environment, Forest and Climate Change, Government of India (MoEF&CC), Central Pollution Control Board (CPCB), Indian Institute of Forest Management - Bhopal (IIFM), Institute of Economic Growth - New Delhi (IEG) and Madras School of Economics (MSE) *"to prepare a scale of compensation, after including the components mentioned in the order, which can then be adopted in whole of country. The nodal agency for compliance and coordination is CPCB. The committee may also take professional service of an expert / institution in the matter if it so desires."*

In view of Hon'ble NGT (PB) order dated 05.04.2019 in O.A. No. 360/2015 (13 clubbed cases), this report has been prepared to suggest a scale of compensation to deal with cases of illegal sand mining in whole of country.

2. Constitution of Committee

In compliance of the above order, the Nodal Agency (CPCB) issued office order dated 22.05.2019 regarding constitution of the committee of the members based on the nominations received from the concerned organisations as follows:

1. Dr Purnamita Dasgupta, Professor, IEG, Delhi
2. Dr K.S. Kavi kumar, Professor, MSE, Chennai
3. Dr. Yogesh Dubey, Associate Professor, IIFM, Bhopal
4. Shri Sundeep, Director, MoEF&CC, Delhi
5. Shri A. Sudhakar, Additional Director, CPCB, Delhi

Meetings of the committee were convened on 31.05.2019, 20.06.2019, 24.07.2019, 16.09.2019 and 11.12.2019 to arrive at a scale of compensation based on inputs of subject experts and available resource to deal with the matter of illegal mining. The minutes of the meetings are annexed at **Annexure I**. Inputs received from experts are annexed at **Annexure II to IV**.

3. Impacts due to Illegal Sand Mining

3.1 Framework for a Compensation Scale

A framework for assessing the value of ecological damage due to illegal sand mining is developed taking into consideration the following dimensions:

- **Extent of Illegal Mining:** It must be recognised that in any given geographic area the ecological impacts will be felt from all mining that takes place in the relevant region (or that within which the water body concerned is located). Hence, ideally, a landscape has to be considered for estimating the ecological damages in their entirety. However, this may practically pose several data and information challenges. Sometimes the ecological processes are also uncertain. Therefore, the objective in the current context would be to establish a practical approach of estimating the extent of 'illegal' mining, assuming that the legally permitted mining takes into account the sustainable ecological limits within which such mining should be restricted. For present purposes, to fix individual liability, this may be done by making an assessment of the total extraction through sand mining being carried out and netting out the amount for which environmental clearance has been given.
- **Restoration of ecology:** It is acknowledged at the outset that in practise, full restoration of nature in its pristine form is next to impossible. However, the reality of ongoing economic activities causing ecological damages implies that the adoption of the polluter pays principle can be a way ahead for raising the resources for undertaking restoration activity to the maximum extent possible. At the same time, some of the foregone ecosystem services (and hence values associated with these) will improve gradually over the years as the riverine ecosystem gets restored.
- **Ecological damages associated with mining** -Ideally, each river or water body which is affected by such mining should have an independent assessment of the extent of ecological damages which would be specific to its context.

- Interim approach - In the absence of such information, or in the interim till such studies are carried out, two alternative ways of operationalizing a compensation scale to cover the ecological costs associated with illegal sand mining are developed. One approach uses a deterrence factor as a proxy for capturing non-linearities associated with ecological damages, the other uses a simplified Net Present Value approach. A comparison of the two is provided with an illustration.
- Rationale for scale of compensation: In both approaches, the damage assessment is based on the material cost of the illegal sand, interacting it with the ecological risks associated with it. The underlying assumption is that the feasible limits within which sand mining can be allowed without destabilising the ecological conditions have been taken into account while setting the legally permitted quantity for extraction. Mining beyond this is illegal and causes trade-offs between this particular provisioning service of the river (sand flow) and its supporting and regulating (and other provisioning) services which thereby get affected, constituting ecological damages. The compensation would comprise of the material cost of the illegally mined sand and foregone ecological values, while keeping in mind the objective of restoration.
- Finally, it is noted that the concerned authority shall take appropriate action under the provision of applicable Acts/ Rules, whenever any illegal or non-complying mining activities is observed. The proposed environmental compensation suggested in this recommendation will be in addition to the requirement of any such action.

3.2 Determination of Net Present Value (NPV)

Computation of the NPV requires both scientific and socio-economic data and application of state-of-the-art methodology. The most appropriate valuation will be context specific for both scientific and socio-economic considerations. Some of the physical and environmental factors include the following: (morphological changes, changes in settlement and habitation patterns, river bank slope, tidal activity, etc.). Hence, the actual compensation will vary across riverine systems. Therefore, each state and river and related development authority should make efforts to estimate the NPV applicable over the next 5 years.

Various definitions of NPV have been used in the context of the environment (United Nations, 2000, Chopra et al 2006, US EPA 2014, etc.). As per the Chopra Committee in the context of forests, the NPV refers to "the discounted sum of rupee values of eco-system goods and services that would flow from a forest over a period of time net of costs incurred." It is thus not meant to capture the value of the forest wealth as such, but only the flow of goods and services from it. In the context of the diversion of forest land to non forestry use, NPV is interpreted by the committee as the loss of value of the forest resources to the stakeholders as at the time of the diversion for non-forest use. It excludes any values that may accrue or get created by the user agency who uses it for non-forest purposes (See, Page 9 of Chopra, Kadekodi, & Eswaran, 2006). The range of services considered in such a case can include timber, carbon storage value, fuel wood and fodder, non-timber forest products, watershed services, and so on. Actual estimates of such NPV have also been worked out for specific forest circles and levied by state departments*

The benefits from avoiding the ecological damages to riverine ecosystems could range from recreation activities, aesthetics, wildlife viewing, fishing, boating, swimming, supporting and regulating services such as climate moderation, flood moderation, groundwater recharge, sediment trapping, soil retention, nutrient cycling, biodiversity, genetic library, water filtration, soil fertilization, species preservation, and many other non-use and intangible values. However, it is difficult to conceptualize current or future benefits to the ecology from mining activity since

the pristine condition of the river basin (or affected ecosystem) would be considered to be the most desirable condition from the assessment's point of view. However, estimating the true value of all these benefit components which may be harmed by mining activity is not possible at this stage due to a variety of reasons, such as lack of data or information on such aspects, the non-market functions and complexities of the science involved. In particular, these values are extremely contextual in nature and therefore, we assume that the current condition has been reflected accurately in the legally permitted level of mining. Using this as a basic premise, a compensation formula is proposed as described in Section 4, to capture the NPV.

In the context of the assessment of ecological damages arising from sand mining, the NPV is thus considered to be the present value of the current and future stream of net costs of such activity. The rationale lies in recognizing that there may be negative externalities or ecological damages that result from excessive mining which manifests itself in a loss of the ecosystem services of rivers, and creates a loss of well being for both current and future generations. The extent of damage and the scope for restoration will vary from site to site, and will depend on a variety of biophysical and man-made characteristics.

Till such time as site specific assessments of the river systems are carried out, a compensation scale maybe proposed as suggested in Section 4 below.

*References:

Verma, M., Negandhi, D., Wahal, A., Kumar, R., Kinhal, G., & Kumar, A. (2014). Revision of rates of NPV applicable for different class/category of forests. Bhopal: Indian Institute of Forest Management. Retrieved from http://iifm.ac.in/wp-content/uploads/2016/06/IIFM_NPV_07NOV.pdf

Chopra, K., Kadekodi, G., & Eswaran, V. (2006). Report of the Expert Committee on Net Present Value .submitted to the Honourable Supreme Court of India. Retrieved from <http://www.fedmin.com/fedmin/npvk.pdf>

Chopra, K., & Dasgupta, P. (2008). Assessing the economic and ecosystem services contribution of forests: issues in modelling, and an illustration. *The International Forestry Review*, 10(2), 376-386. Retrieved from <https://www.jstor.org/stable/43740351>

CEC (Central Empowered Committee). (2007). Supplementary report in IA No.826 in IA No.566 regarding calculation of Net Present Value(NPV) payable on use of forest land of different types for non-forest purposes. Retrieved from https://www.prsindia.org/sites/default/files/bill_files/bill185_20080723185_Central_Empowered_Committee_Guidelines.pdf

4. Recommendations on Scale of Compensation

As discussed earlier, the full economic value for compensation should be as per the Net Present Value. As legal and illegal mining proceeds usually either in conjunction or in sequential manner, the ecological impacts of mining will take place irrespective of whether it is legal or illegal. The attribution to illegal mining, of a specific impact at the landscape level, will require careful evaluation. Till such information becomes available, two alternative approaches for compensation are proposed keeping in mind the various dimensions of the TOR for this committee.

4.1 Approach 1: Direct Compensation based on the market value of extraction, adjusted for ecological damages

A scale for calculation of the compensation to be charged has been worked out as provided in the Table No. 01. The compensation to be charged is based on three distinct criteria:

Exceedance Factor (EF): This criteria captures the extent of illegal mining that has taken place. It is introduced in order to bring in a notion of balance that the amount of penalty that is charged to any party is in proportion to the extent of illegal extraction of material at the first stage.

Risk Factor (RF): This criteria reflects the severity of the ecological damages at the field site in question. It is an attempt to capture the fact that there is likely to be substantial variation in the ecological conditions and resultant damages across sites where illegal mining takes place. It is reasonable therefore to introduce a risk factor that accounts for the extent of severity of damages using a four-point scale of mild, moderate, significant and severe risk. Till the time that detailed basin level studies are carried out, this risk factor can be judged on the basis of the state department's assessment of the ecological fragility of the river basin concerned based on a priori knowledge of the circumstances.

Deterrence Factor (DF): This criteria is an attempt to capture the fact that ecological damages tend to display non-linearities and can increase in unexpected ways. Thus, the greater the extent of extraction (as reflected in the relative magnitude of the illegally extracted amount), the greater is the likelihood that this may have cumulative impact over time, which may not be observable at the time of assessment (as reflected in the RF). Given that the scale should also have a deterrence effect, this criteria is introduced to proxy for these non-linear aspects till such time that more site specific data becomes available to carry out a comprehensive NPV.

Table No. 01: Approach 1				
Permitted Quantity (in MT or m ³)	Total Extraction (in MT or m ³)	Excess Extraction (in MT or m ³)	Exceedance in Extraction:	Compensation Charge (in Rs.)
X	Y	Z = Y-X	Z/X	D * (1+RF + DF) Where D = Z x Market Value-of-the-material-per-MT-or-m ³
				DF = 0.3 if Z/X = 0.11 to 0.40 DF = 0.6 if Z/X = 0.41 to 0.70 DF = 1 if Z/X >= 0.71
				RF = 0.25, 0.50, 0.75, 1.00 (as per table 2)

Note:

- The inspecting team will consider the error in measurement of quantity of material (maximum 10% for up to 5 Ha. sites but should be less for large sites) and accordingly decide/recommend whether any particular case is fit for imposing compensation for damages or not.
- Market Value of the material per (MT or m³) will be based on applicable market price of the mined material.
- Risk Factor (RF)** to take value as per the Risk Level of the illegal mining case, as below:

Table No. 02				
Risk Level	1	2	3	4
Risk Factor	0.25	0.50	0.75	1

- d) **Risk Level** to take value as per the severity of the impacts of illegal mining case, as below:

Severity of Impact	Mild	Moderate	Significant	Severe
Risk Level	1	2	3	4

- e) **Severity of impact** of illegal mining case to be categorised as Mild or Moderate or Significant or Severe for various components of the river and highest value to be used:

S. No.	River Component	Impacts	Impacts (Sub -category)	Severity of impact/ Risk Factor
1.	Morphology	Instability of Channel geometry	Bed degradation	
			Channel adjustment	
			Bank Erosion	
2.	Hydrology	Ground Water level	Change of ground water table in adjacent areas	
		Change in river flow	Variation in flow energy	
3.	Ecology	Loss of local Ecological community	Disturbance to flora	
			Disturbance to fauna	
4.	River Structures	Instability to Hydraulic Structure	Damage to Hydraulic Structure and its surrounding	
5.	Any Other			

Deriving the Risk Factor (RF): Some criteria can be considered by states for judging the risk factor applicable at various sites. Accordingly, States may develop a subjective scale for severity of impact (Risk Factor-RF) for purposes of implementing the interim compensation scale based on any 3 of the 4 heads listed in TableNo.04 through expert consultation over the period of next 3 months. Till such criterion/guidelines is prepared by states the inspections team may decide RF based on its own assessment.

4.2 Approach 2: Computing a Simplified NPV for ecological damages

Till such time as data and information for a comprehensive NPV is worked out in a site specific manner to account for all (or atleast the major) ecological damages, a simplified NPV, proxied on the market value of the illegally extracted amount maybe computed. In this case the NPV approach would imply that **the total benefits from the activity of sand mining (as represented by the market value of the extracted amount) be deducted from the total ecological costs** imposed by the activity. In the absence of data on benefits and costs separately, we recommend a modification of the formula as shown below.

Total Benefits (B) = Market Value of illegal extraction : D (refer Table 1)

Total Ecological Costs (C) = Market Value adjusted for risk factor: D * RF (refer Table 1).

For present purposes, it is assumed that the Benefits would accrue only in the first year (in which the extraction of the illegally mined material takes place), while the ecological costs would continue to be felt over a period of time. NPV is to be calculated for a period of 5 years on the net value, $\sum(C-B)$, at a discount rate ranging from 8%-5%, varying in inverse with the risk factor. Thus, where the highest risk factor (say 1) is applicable, the discount rate applicable would be the lowest (say 5% in this case).

Thus, it is recommended that the annual net present value (NPV) of the amount arrived at after taking the difference between the costs and the benefits through the use of the above approach, maybe calculated for a period of 5 years at a discount rate of 5% for mining which is in a severe ecological damage risk zone. The rationale for levying this NPV is based on expert opinion that reversal and/or restoration of the ecological damages is usually not possible within a short period of time and rarely is it feasible to achieve 100% restoration, even if the sand deposition in the river basin is restored through flooding in subsequent years. The negative externalities of the mining activity are therefore to be accounted for in this manner. Ideally, the worth of all such damages, including costs of those which can be restored should be charged. However, till data on site-specific assessments becomes available, this approach maybe adopted in the interim. In situations where the risk categorisation

charged. However, till data on site-specific assessments becomes available, this approach maybe adopted in the interim. In situations where the risk categorisation is unavailable or pending calculation, the following Discount Rates may be considered:

Severity	Mild	Moderate	Significant	Severe
Risk Level	1	2	3	4
Risk Factor	0.25	0.50	0.75	1.0
Discount Rate	8%	7%	6%	5%

Basis of recommending 5 % Discount Rate

It is to be noted that the choice of a discount rate varies widely across countries and further, by the type of project or purpose. The rate used in developing countries in general is usually found to be higher, with social discount rates varying from 8 to 15% (Jhuang et al 2007, Murty et al 2018). The Government of India has issued guidelines for parameters (discount rates) and processes for project appraisal periodically. The national parameters for project appraisal in operation since 1994, for instance stipulated that projects had to yield a minimum of 12% financial and economic internal rate of return for the purpose of investment approval. Recently these were re-examined in a study, and in keeping with the growth of income in the economy an estimate of 8 per cent for the rate of discount for investment project appraisal in India was suggested (Murty et al 2018). In India, The Kanchan Chopra committee report on NPV recommends a 5% discount rate. The specific sentence from this report is that - "Considering the fact that forest resources provide long term goods and services and ecosystem benefits and, interest rates in India are going down, the Committee recommends a 5% social discount rate for forest resources." Several other studies in India and abroad for projects with implications for forests, water utilities, health and sanitation, and other such social, environmental or public sector projects, have used similar rates of discount ranging from 5 to 8% (Puroshothaman et al 2000, Dasgupta et al 2019, Chopra and Dasgupta 2008, Simpson 2008). Further, it is recommended that rates of interest should ideally decline and be lower, where there are uncertainties about the future, and/or in case of climate mitigation and environmental management projects where the benefits are likely to accrue over a longer time period (Weitzman 2001, Gollier 2012). For India, the suggested rate was between 8%-5% for such environment related projects. Thus, the suggested rate of discount in this report draws upon these studies. Lower "discount rate" means that compensation amount will be more.

References:

1. Chopra K, Kadekodi G, Eswaran V (2006) Report of the Expert Committee on Net Present Value submitted to the Honourable Supreme Court of India. Retrieved from <http://www.fedmin.com/fedmin/npvk.pdf>
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8. Markandya, A. and M.N. Murty (2000), *Cleaning Up Ganges: The Cost Benefit Analysis*, Oxford University Press, New Delhi.
9. Gollier, Christian. 2012. *Pricing the planet's future: The economics of discounting in an uncertain world*. Princeton, NJ: Princeton University Press.
10. Purnamita Dasgupta, et al (2019) Cost effective adaptation to flood: sanitation interventions in the Gandak river basin, India, *Climate and Development*, DOI: 10.1080/17565529.2019.1682490. Published online 09 November 2019. (Open access) <https://www.tandfonline.com/doi/full/10.1080/17565529.2019.1682490>

Examples

For ease of understanding the calculation of compensation, possible scenario of illegal mining are given below.

Example 01: Violation with respect to Area

A case of non-compliance in terms of excess area was reported. The inspection team carried out an assessment of mining site and observed severity of impacts on river components as *Severe*, then the computation of Compensation Charge will be as follow:

Compensation Charged (Scenario I - no explicit accounting of NPV)

Violation reported as follow:

Total Permitted Quantity in Environmental Clearance (X)	=30000 m ³
Total Area of mined out mineral	=15000 m ²
Total Permitted Area in Environmental Clearance	=10000 m ²
Excess Mined out area	=5000 m ²
Total Depth permitted as in Environmental Clearance	=3 m
Excess extraction (Z)	=5000 x 3 = 15000 m ³
Exceedance Factor (Z/X)	=15000/30000=0.5

Methodology:

Market Value of Illegally Mined Material (D) (assuming Market Value of the material as Rs. 400/- per m ³)	D = 15000 x 400 = 6000000/-
Risk Factor (RF)	Severity <i>Severe</i> Risk Level 4 Risk Factor (RF) 1
Deterrence Factor (DF)	DF = 0.6 (for Z/X in 0.41 to 0.70 range)
Compensation	=D x (1+RF+DF)
Total (in Rs.)	=6000000/- x (1+1+0.6) =Rs.1,56,00,000/-

Compensation Charge (Scenario II - explicit accounting of NPV)

Market Value of Illegally Mined Material (D) $5000 \times 400 = 6000000/-$

Annual Value of Foregone Ecological Values $D \times RF = 6000000/-$

- **Present Value of Foregone Ecological Values (@ 5% discount rate and over 5 years)**

$$\begin{aligned}
 PV &= \sum_{t=1}^5 \frac{(D \times RF)}{(1+r)^t} \\
 &= \sum \frac{(6000000)}{(1+0.05)^1} + \frac{(6000000)}{(1+0.05)^2} + \frac{(6000000)}{(1+0.05)^3} + \frac{(6000000)}{(1+0.05)^4} + \frac{(6000000)}{(1+0.05)^5} \\
 &= \text{Rs. } 2,59,76,860/-
 \end{aligned}$$

- Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied

$$= \text{NPV} = \text{PV} - D$$

$$= \text{Rs. } 1,99,76,860/-$$

Compensation Charge in above case:

Approach 1 (no explicit accounting of NPV)	Approach 2 (explicit accounting of NPV)
$D \times (1 + RF + DF)$	@ 5% discount rate and over 5 years
Rs. 1,56,00,000/-	Rs. 1,99,76,860/-

Example 02: Violation with respect to Depth

A case of non-compliance in terms of excess depth was reported. The inspection team carried out an assessment of mining site and observed severity of impacts on river components as *Severe*, then the computation of Compensation Charge will be as follow:

Compensation Charge (Scenario I - no explicit accounting of NPV)

Violation reported as follow:

Total Permitted Quantity in Environmental Clearance (X)	=30000 m ³
Total Permitted Area in Environmental Clearance	=10000 m ²
Total Depth of mined out material	=4 m
Total Permitted Depth in Environmental Clearance	=3 m
Total Violation in Depth	=1 m
Excess Extraction (Z)	=10000x 1 =10000 m ³
Exceedance Factor (Z/X)	=10000/30000=0.33

Methodology:

Market Value of Illegally Mined Material (D) (assuming Market Value of the material as Rs. 400/- per m ³)	D = 10000 × 400 = 4000000/-
Risk Factor (RF)	Severity <i>Severe</i> Risk Level 4 Risk Factor (RF) 1
Deterrence Factor (DF)	DF = 0.3 (for Z/X in 0.11 to 0.40 range)
Compensation	=D × (1+RF+DF)
Total (in Rs.)	=4000000/- × (1+1+0.3) =Rs 92,00,000/-

Compensation Charge (Scenario II - explicit accounting of NPV)

Market Value of Illegally Mined Material (D) 10000*400 = 4000000/-

Annual Value of Foregone Ecological Values D*RF = 4000000/-

- **Present Value of Foregone Ecological Values (@ 5% discount rate and over 5 years)**

$$\begin{aligned}
 PV &= \sum_{t=1}^5 \frac{(D*RF)}{(1+r)^t} \\
 &= \sum \frac{(4000000)}{(1+0.05)^1} + \frac{(4000000)}{(1+0.05)^2} + \frac{(4000000)}{(1+0.05)^3} + \frac{(4000000)}{(1+0.05)^4} + \frac{(4000000)}{(1+0.05)^5} \\
 &= \text{Rs. } 1,73,17,907/-
 \end{aligned}$$

- Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied

$$= NPV = PV - D$$

$$= \text{Rs. } 1,33,17,907/-$$

Compensation Charge in above case:

Approach 1 (no explicit accounting of NPV)	Approach 2 (explicit accounting of NPV)
D*(1+RF+DF)	@ 5% discount rate and over 5 years
Rs. 92,00,000/-	Rs. 1,33,17,907/-

Example 03: Violation with respect to Depth and Area

A case of non-compliance in terms of excess depth and area was reported. The inspection team carried out an assessment of mining site and observed severity of impacts on river components as *Severe*, then the computation of Compensation Charge will be as follow:

Compensation Charge (Scenario I - no explicit accounting of NPV)

Violation reported as follow:

Total Permitted Quantity in Environmental Clearance (X)	=30000 m ³
Total Permitted Area in Environmental Clearance	=10000 m ²
Total Permitted Depth in Environmental Clearance	=3 m
Total Area of mined out material	=12000 m ²
Total Depth of mined out material	=4 m
Total Volume of mined out material m ³	=12000 m ² x 4 m =48000

(The example can be applied to a case of totally illegal mining without EC also where illegal mining of 18000 m³ has been done)

Excess Extraction (Z)	=18000 m ³
Exceedance Factor (Z/X)	=18000/30000=0.6

Methodology:

Market Value of Illegally Mined Material (D) (assuming Market Value of the material as Rs. 400/- per m ³)	D = 18000 x 400 = 7200000/-
Risk Factor (RF)	Severity <i>Severe</i> Risk Level 4 Risk Factor (RF) 1
Deterrence Factor (DF)	DF = 0.6 (for Z/X in 0.41 to 0.70 range)
Compensation	=D x (1+RF+DF)
Total (in Rs.)	=7200000/- x (1+1+0.6) =Rs 1,87,20,000/-

Compensation Charge (Scenario II - explicit accounting of NPV)

Market Value of Illegally Mined Material (D) 18000*400 = 7200000/-

Annual Value of Foregone Ecological Values D*RF = 7200000/-

- **Present Value of Foregone Ecological Values (@ 5% discount rate and over 5 years)**

$$\begin{aligned}
 PV &= \sum_{t=1}^5 \frac{(D*RF)}{(1+r)^t} \\
 &= \sum \frac{(7200000)}{(1+0.05)^1} + \frac{(7200000)}{(1+0.05)^2} + \frac{(7200000)}{(1+0.05)^3} + \frac{(7200000)}{(1+0.05)^4} + \frac{(7200000)}{(1+0.05)^5} \\
 &= \text{Rs. } 3,11,72,232/-
 \end{aligned}$$

- Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied

$$= NPV = PV - D$$

$$= \text{Rs. } 2,39,72,232/-$$

Compensation Charge in above case:

Approach 1 (no explicit accounting of NPV)	Approach 2 (explicit accounting of NPV)
D*(1+RF+DF)	@ 5% discount rate and over 5 years
Rs. 1,87,20,000/-	Rs. 2,39,72,232/-

Example 04: Violation with respect to Quantity / Production

A case of non-compliance in terms of excess quantity/production was reported. The inspection team carried out an assessment of mining site and observed severity of impacts on river components as *Severe*, then the computation of Compensation Charge will be as follow:

Compensation Charge (Scenario I - no explicit accounting of NPV)

Violation reported as follow:

Total Volume of mined out material	=35000 m ³
Total Permitted Quantity in Environmental Clearance (X)	=30000 m ³
Excess Extraction (Z)	=5000 m ³
Exceedance Factor (Z/X)	=5000/30000 = 0.16

Methodology:

Market Value of Illegally Mined Material(D) (assuming Market Value of the material as Rs. 400/- per m ³)	D = 5000 × 400 = 20,00,000/-
Risk Factor (RF)	Severity <i>Severe</i> Risk Level 4 Risk Factor (RF) 1
Deterrence Factor (DF)	DF = 0.3 (for Z/X in 0.11 to 0.40 range)
Compensation	=D × (1+RF+DF)
Total (in Rs.)	=2000000/- × (1+1+0.3) =Rs. 46,00,000/-

Compensation Charge (Scenario II - explicit accounting of NPV)

Market Value of Illegally Mined Material (D) $5000 \times 400 = 2000000/-$

Annual Value of Foregone Ecological Values $D \times RF = 2000000/-$

- **Present Value of Foregone Ecological Values (@ 5% discount rate and over 5 years)**

$$\begin{aligned}
 PV &= \sum_{t=1}^5 \frac{(D \times RF)}{(1+r)^t} \\
 &= \sum \frac{(2000000)}{(1+0.05)^1} + \frac{(2000000)}{(1+0.05)^2} + \frac{(2000000)}{(1+0.05)^3} + \frac{(2000000)}{(1+0.05)^4} + \frac{(2000000)}{(1+0.05)^5} \\
 &= \text{Rs. } 86,58,953/-
 \end{aligned}$$

- Net Present Value (after netting out market value of illegally mined material) - i.e., Total Compensation to be levied

$$= NPV = PV - D$$

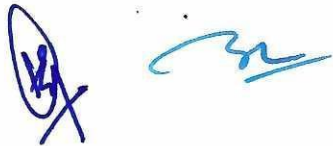
$$= \text{Rs. } 66,58,953/-$$

Compensation Charge in above case:

Approach 1 (no explicit accounting of NPV)	Approach 2 (explicit accounting of NPV)
D*(1+RF+DF)	@ 5% discount rate and over 5 years
Rs. 46,00,000/-	Rs. 66,58,953/-



himat singh

D	Market Value of Illegal Mined Material	Excess Quantiy in MT	Market Vaie
	Quantity of excess extraction * Market Value per MT		
	14437104.5	41248.87	350
AVEV	Annual Value of Forgone Ecological Value D*RF (RF is the Risk Factor) taken as 0.5		
	7218552.25		
PV	Present Value for Foregone Ecological Value at 7% discount rate and over 05 years		
Ist Year	6746310.514		
IIInd Year	6304963.097		
IIIrd Year	5892488.876		
Ivth Year	5506998.949		
Ivth Year	5146727.99		
PV	29597489.43		
NPV	PV-D 15160384.93		





Subhash

D	Market Value of Illegal Mined Material	Excess Quantity in MT	Market Value
	Quantity of excess extraction * Market Value per MT		
	51130800	146088	350
AVEV	Annual Value of Foregone Ecological Value D*RF (RF is the Risk Factor) taken as 0.5		
	25565400		
PV	Present Value for Foregone Ecological Value at 7% discount rate and over 05 years		
Ist Year	23892897.2		
IIInd Year	22329810.46		
IIIrd Year	20868981.74		
Ivth Year	19503721.25		
Ivth Year	18227776.87		
PV	104823187.5		
NPV	PV-D 53692387.53		

Kripal Singh

D	Market Value of Illegal Mined Material	Excess Quantiy in MT	Market Value
	Quantity of excess extraction * Market Value per MT		
	48747510	139278.6	350
AVEV	Annual Value of Forgone Ecological Value D*RF (RF is the Risk Factor) taken as 0.5		
	24373755		
PV	Present Value for Foregone Ecological Value at 7% discount rate and over 05 years		
Ist Year	22779210.28		
IIInd Year	21288981.57		
IIIrd Year	19896244.46		
Ivth Year	18594620.99		
Ivth Year	17378150.46		
PV	99937207.76		
NPV	PV-D 51189697.76		

KRAM Singh S/o Kichha Singh

D	Market Value of Illegal Mined Material	Excess Quantiy in MT	Market Value
	Quantity of excess extraction * Market Value per MT		
	19661950	56177	350
AVEV	Annual Value of Forgone Ecological Value D*RF (RF is the Risk Factor) taken as 0.5		
	9830975		
PV	Present Value for Foregone Ecological Value at 7% discount rate and over 05 years		
Ist Year	9187827.103		
IIInd Year	8586754.302		
IIIrd Year	8025004.02		
Ivth Year	7500003.757		
Ivth Year	7009349.306		
PV	40308938.49		
NPV	PV-D 20646988.49		



Application Details

[print](#)

Industry Name : KS Hotel
Address : Khatoni 1426-1431, Khasra No.231/5, 231/4/2, 231/3/1 Vill-Semal Chaur, Tehsil-Kaladhungi,Nainital.
Cap Inv(in Lakh) : 7.0
Consent Type : CTO
AppId/Caf Id : 7301597/14741
Industry Type : Non Industrial

Category Name : GREEN
District Name : Nainital
Net Asset Value(in Lakh): 7.0
Certificate For: reNew
Application Date : 07/03/2025

Date Time: 07-03-2025 03:46 PM
Note By: Group In-charge (Kumaon) (105)

Forwarded To: RO
Activity: Forward

Description:

Date Time: 07-03-2025 03:51 PM
Note By: RO(305)

Forwarded To: Inspecting Officer 1
Activity: Forward

Description:
Activity: Inspection

Description:

Date Time: 11-03-2025 04:19 PM
Note By: Inspecting Officer 1(308)

Forwarded To: RO
Activity: Forward

Description: Sir, following documents/Updates required. 1-copy of land use & layout of hotel from competent authority, 2. Domestic water generation& its treatment. 3- Air Pollution Control measures & solid waste disposal detail, 4- Copy of DTO registration.

Date Time: 11-03-2025 04:50 PM
Note By: RO(305)

Forwarded To: RO
Activity: Forward

Description:
Activity: Return
 1-copy of land use & layout of hotel from competent authority, 2. Domestic water generation& its treatment. 3- Air Pollution Control measures & solid waste disposal detail, 4- Copy of DTO registration 5- detail project report