BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 52 of 2024

Navjot Singh Sidhu & Others ...Applicant(S)

Versus

State of Punjab & Others ...Respondents

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Place: Rupnagar
Date:

(Tushar Goyal)
District Mining Officer,
Rupnagar, Department of Mines
and Geology, Punjab

BEFORE THE HON'BLE NATIONAL GREEN TRIBUNAL

PRINCIPAL BENCH, NEW DELHI

Original Application No. 52 of 2024

IN THE MATTER OF

Navjot Singh Sidhu & Others ...APPLICANT(S)

Versus

State of Punjab & Others ...Respondents

Reply by way of affidavit of Tushar Goyal, District Mining Officer, Rupnagar, Department of Mines and Geology, Punjab on behalf of respondent no, 2 & 5 (in compliance of Order dated 21.05.2024).

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Respectfully Showeth:

I, the above named deponent do hereby solemnly declare and affirm as under :-

Preliminary Submissions:

1. That the above mentioned Original Application is fixed for hearing on 09.09.2024 before this Hon'ble Tribunal.

2. That the present Original application has been filed by the applicants for passing an order directing Respondents to take immediate remedial measures and stop all illegal sand mining in Rupnagar, Punjab. They also prayed for passing an order directing the Respondents to identify erring officials who have allowed illegal mining in Rupnagar and initiate action against such officials after a detailed investigation. They further prayed for directing the Respondents to prepare a revised and accurate District Survey Report as required

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under the Sustainable Sand Mining Management Guidelines (SSMMG), 2016 and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM), 2020 issued by the MoEF which specifically includes a replenishment/scientific study by an institute of national importance, audit of the rivers in the district, an annual environmental audit and action plan to break clusters to allow EIA 2006 compliance. They further prayed for passing an order directing the Respondents to produce a fresh record of illegal mining operations in Rupnagar by way of appropriate Fact-finding Reports which specifically include data on the magnitude of illegal mining within the district, as well as, whether Mine owners, Stone Crushers and others involved in Sand Mining have obtained Environmental Clearances as per the Environmental Impact Notification, 2006 and other Environmental laws. It is also prayed for

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issuance of direction to the Respondents to produce a status report regarding the recovery of compensation to the tune of Rs 700,00,00,000/ (Rupees Seven hundred crore only) from contractors and stone crushers involved in illegal sand mining, as under OA No.767/2018 and OA No. 57/2020. They further prayed for issuance of directions to the Respondent No. 3 to instruct local authorities within the jurisdiction of District Rupnagar to take expeditious action against persons involved in illegal sand mining and found to be in contravention of the MMDR Act and other relevant Environmental laws.

3. That, on 21.05.2024, this Hon'ble Tribunal pleased to take Suo Moto, while hearing this matter issued notice with the directions to file response, the operative part of the order is reproduced herein as below:

"1. In this original application, issue of illegal sand mining in Rupnagar District of Punjab is involved.

2. Applicant has taken the plea that District Survey Report (DSR) for Rupnagar was published in 2023 under the Sustainable Sand Mining Management Guideline-2016 (SSMMG) and Enforcement & Monitoring Guidelines for Sand Mining (EMGSM-2020) but the said report failed to incorporate the basic measures to be undertaken to stop illegal mining.

3. Tribunal on 15.01.2024 had issued notice to the respondents and had directed the applicant to serve the respondents and file affidavit of service. Thereafter, matter was listed on 11.03.2024 but no one had appeared, therefore, original application was adjourned. Till now,

affidavit of service has not been filed by the applicant.

4. Having regard to the serious nature of the issue involved in the matter, we take up the original application as suo moto and direct the office to serve notice upon the respondents.

5. Respondents are directed to file their response atleast one week before the next date of hearing.

6. List on 09.09.2024."

4. That in this regard, it is submitted that the process of preparing the District Survey Report had been initiated after passing of the orders dated 10.11.2021 of the Hon'ble Supreme Court in Civil Appeal No.3661-3662 of 2020 (A photocopy of the order dated 10.11.2021 is being annexed herewith as **ANNEXURE R-1**) and as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM), 2020 and Sustainable Sand Mining Management

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Guidelines (SSMMG), 2016 of the Ministry of Environment, Forests and Climate Change. The preparation of District Survey Report is helpful in scientific and systematic mining. The potential sites in the District Survey Report were identified on the basis of pre and post monsoon surveys conducted by the consultant accredited by the National Accreditation board of Education and Training/Quality Control Council of India in terms of O.M. of MoEF & CC dated 16.03.2010. The District Survey Report of district Rupnagar had been prepared by RSP Green Development and Laboratories Private Limited, which is accredited Environment Impact Assessment (EIA) Consultant with National Accreditation Board for Education and Training with validity up to 02.09.2024. The information downloaded on 29.04.2024 from the online portal of National Accreditation Board for Education and Training regarding the accreditation

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is being annexed as **ANNEXURE R-2**. The sites were duly visited by the Sub-Divisional Committee, which required to decide regarding the suitability of the sites for mining. The draft of the District Survey Report had been prepared by the consultant, which had been uploaded on the website of District Rupnagar on 01.09.2022. It was also informed that the draft DSR had been kept on the public domain for a period of one month as per the Guidelines of MoEF & CC. It was also published in the newspapers that further suggestions or objections regarding the draft DSR could be given to the office of the Executive Engineer, Drainage-cum-Mining & Geology Division, Rupnagar on the official e-mail of the Executive Engineer. The copies of newspaper cuttings (Ajit Punjab, The Tribune Punjab Chandigarh, Jagbani Chandigarh, Punjabi Tribune Punjab Chandigarh, Punjab Kesri Punjab Chandigarh, Spokesman, Dainik Baskar, Danik Jagran etc) of the publication

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in this regard are being annexed as **ANNEXURES R-3 (Colly)**. The District Survey Report gives the final list of potential deposits which gives the in-situ reserves available at the proposed potential sites along with the depth and area of the sites. The quantities given in Annexure-V of District Survey Report have been worked out after carrying out the detailed survey and are correct. District Survey Report annexed with Original Application is old approved District Survey Report which has already been amended, vide letter dated 15.07.2024 by the competent authority i.e. State Level Environment Impact Assessment Authority, Punjab. A photo copy of the letter dated 15.07.2024 is being annexed herewith as **ANNEXURE R-4**. All the necessary corrections in calculation/estimation had been done in the approved District Survey Report. The details of the corrections made are being annexed herewith as **ANNEXURE R-4-1.**

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i. The procedure followed for Mining sites is as under-

   i. That as per Rule 47 of the Punjab Minor Mineral Rules, 2013, no mining activity can be undertaken unless a Mining Plan is approved by the competent authority. At the time of preparation of Mining Plan, in respect of the area included of potential mining sites in the District Survey Report, the quantity of likely replenishment of river is not considered and only the quantity of reserves already available is taken into consideration. Rather, instead of taking the total quantity mentioned in District Survey Report, only 40% of the quantity available was considered for working out the minable quantity in a year. A copy of relevant Rule 47 of the Punjab

Minor Mineral Rules, 2013 is being annexed as **ANNEXURE R-5.**

ii. That for the coming years, the minable quantity shall be taken as per the replenishment rate of that area. It is pertinent to mention that as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM-2020), the replenishment studies are to be conducted every year through institute of National repute. The Answering Respondents have entrusted the job to Indian Institute of Technology (IIT), Ropar for conducting the replenishment studies in the State of Punjab. A photocopy of work allotment to IIT Ropar and submitted replenishment report of 2023 is being annexed as **ANNEXURES R-6 (Colly).**

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iii. That a comprehensive procedure as laid down by MoEF & CC and implemented under the supervision of State Environment Impact Assessment Authority (SEIAA) is being adopted to get the Environment Clearance of site before the start of extraction.

iv. That a pre-feasibility report and Form 1 is submitted to State Environment Impact Assessment Authority (SEIAA)/State Level Expert Appraisal Committee (SEAC) for feasibility check.

v. That the State Level Expert Appraisal Committee (SEAC) committee after deep deliberations and necessary checks with laid down guidelines appraises the pre-feasibility report and recommends it to State Environment Impact Assessment Authority (SEIAA).

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vi. That the State Environment Impact Assessment Authority (SEIAA) after rechecking the same issues TOR (Terms of references) on the basis of which entire impact assessment studies are to be conducted by consultant in coordination with various stakeholders and shareholders of the mining site like Additional Deputy Commissioner, Sub Divisional Magistrate, Punjab Pollution Control Board, District Forest Officer, Block Development and Panchayat Officer, Landowner etc.

vii. That after detailed study of mine and its effects on surrounding, a draft Environment Impact Assessment (EIA) Report is prepared and same is

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submitted to Punjab Pollution Control Board.

viii. Thereafter Punjab Pollution Control Board conducts public hearing on the site after giving one-month notice in the newspapers.

ix. That in the public hearing, grievances and suggestions of all the participants are received and incorporated in public hearing proceedings and Environment Impact Assessment (EIA) report is accordingly finalized.

x. That after this Finalized EIA report is submitted to State Environment Impact Assessment Authority (SEIAA) for final decision, which is again looked into first by State Level Expert Appraisal Committee (SEAC) for the outcomes of studies and public hearing. State Level

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Expert Appraisal Committee (SEAC) after consideration recommends the same to State Environment Impact Assessment Authority (SEIAA).

xi. That the State Environment Impact Assessment Authority (SEIAA) being the final decision body issues or rejects the Environmental Clearance.

xii. That this whole process takes around 6 months and there is no scope of any irregularity.

ii. That the Department of Mines & Geology vide government notification dated 13.03.2023 issued Punjab State Minor Mineral Policy, 2023 (A photocopy of notification dated 13.03.2023 is being annexed as **ANNEXURE R-7**) which introduced two categories of mining sites i.e.

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Public Mining Sites and Commercial Mining Sites.

i. In Public Mining Sites, only manual excavation of sand shall be permitted and excavated sand shall not be used in commercial projects. Further, consumers shall be permitted to arrange a vehicle and/or labour to a Public Mining Site for the purpose of excavation of sand and its transportation. Department has categorically stated in its policy that presence of any heavy machinery such as tipper or JCB in any Public Mining Site shall be assumed to be for the purpose of illegal mechanical mining and legal action shall be initiated immediately.

ii. In Commercial Mining Sites, the mining rights of clusters of Commercial Mining Sites shall be granted to concessionaires selected through transparent e-tendering process and use of machinery shall be as per approval of SEIAA.

iii. That In compliance to the Punjab State Minor Mineral Policy, 2023, 4 number Public Mining Sites were launched in the district Rupnagar by the Department and 4 number clusters of 7 number Commercial Mining Sites were auctioned. The details of Public Mining Sites and Commercial Mining Sites in district Rupnagar are being annexed as **ANNEXURE R-8**.

iv. That none of the mining site mentioned in District Survey Report of district Rupnagar is operational without the mandatory

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Environmental Clearance irrespective of the area of mining lease from the competent authority as per EIA notification 2006 and SLP (C) no 19628-19629 of 2011 titled "Deepak Kumar vs State of Haryana".

v. That to check illegal mining, following measures have been taken-

i. That for the functioning of site, it mandatory to issue computerized T-slips that are embedded with unique QR code and also synchronized with central server of database, each slip is being verified by Junior engineer- cum-Mining inspector before issuance thus making the whole process tightly monitored and foolproof leaving iota chances of excess extraction from mine site.

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ii. That the stone crushers have to file monthly returns on departmental mining portal giving details of the inputs i.e. material obtained from the mines or purchase from the interstate material along with the output i.e. Q-form to access any illegal activity at the crusher. Superintending Engineer, had constituted teams vide order dated 27.08.2023 for checking of Q-forms issued by the crushers in district Rupnagar. A photocopy of the order dated 27.08.2023 is being annexed as **ANNEXURE R-9**.

iii. Five permanent check posts and Three Mobile Nakka cum temporary check posts had been set up in district Rupnagar. The details regarding the Check posts set up in the area, the

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designation of the officers heading up the said check posts and revenue collected by way of royalty as per policy of the Government from the period August 2022 to August 2024 are being annexed herewith as **ANNEXURE R-10** respectively.

iv. That during the period 01.01.2018 to 15.08.2024, about 490 complaints had been filed before the concerned police authorities for registration of FIR under section 21(1) and read with 4(1) of Minor Minerals Development and Regulation Act, 1957. *137 numbers of Poclane machines, 65 number of JCB machines, 249 number of Tippers and 107 number of Tractor-trolley have been seized.* The detail list of the complaints is being annexed as **ANNEXURE R-11**.

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In addition to the filing of complaints for raising the minor minerals without lawful authority, action had also been taken as per Rule 85 of Punjab Minor Mineral Rules, 2013 to determine the total production of mineral and impose royalty & price on the accused. Amount of Rs 14.91 crores have been recovered from the accused as R/S/M notices in this regard.

v. That Apart from Filing of complaints for registration of FIR's, compounding fee had also been charged in case of illegal transportation of minerals under rule 74 & 75 of Punjab Minor Mineral Rules 2013. For which, intensive checking is carried out by the mining officers in the district. So far, compounding fee of Rs. 3.75 crores have been recovered from

the offenders in this regard. The list of challans issued, amount recovered and disposed of in district Rupnagar for the period 01.11.2022 to 15.08.2024 is being annexed as **ANNEXURE R-12**.

vi. That the Office orders were issued by Executive Engineer for the duty roster of Junior Engineers date wise for holding a checkpoint on regular basis. One such photocopy of office order dated 22.08.2023 is being annexed as **ANNEXURE R-13**.

vii. That Apart from the duty roster issued by the Executive Engineers, the Superintending Engineer also in consultation with the Executive Engineer issued office order appointing teams of Flying squads for checking illegal mining and activities of stone

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crushers. A photocopy of one such office order dated 27.08.2023 is being annexed as **ANNEXURE R-14.**

viii. That the department had set up an online Punjab Mining web portal. The sale of processed material is controlled by electronic documentation linked to a central documentation monitoring facility and daily progress is uploaded on the portal. The summary of online order, Quantity of available material at mine is made available on portal.

ix. That Each Commercial Mining Site has an electronic weighbridge integrated with the central server. The Weighment slips are mandatory and have security features like QR code and are stamped with date and time. All vehicle carrying minor minerals mandatorily carry the

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weighment slip for transportation. Any vehicle found carrying minor mineral without proper weighment slip is seized under provisions of Mines and Minerals Development and Regulations act, 1957.

x. The Mining Officials (Executive Engineer, SDO's and J.E's) frequently conduct inspections of the Mining sites and crushers to verify the authenticity the data uploaded on the departmental portal. Apart from this, the officer conducts night patrolling and holds nakkas for checking any illegal activity.

vi. That the CRM-M-44082 of 2023 titled "Aajamdeen vs. State of Punjab" had been decided by the Hon'ble Punjab and Haryana High Court, vide order dated 19.12.2023 (A

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photocopy of order dated 19.12.2023 is being annexed as **ANNEXURE R-15**), whereby the interim order dated 04.09.2023 had been made absolute.

vii. That for Mine Swara, Baihara of District Rupnagar, Demand Notice (Form-S) as per Rule 85(5) of Punjab Minor Mineral Rules, 2013 for amount Rs 464.31 crores, Rs. 165.82 crores respectively had been issued to contractors, crushers owners and land owners in equal proportion for recovering the amounts shown in the orders dated 31.01.2019 passed in OA No. 767 of 2018 titled "Dinesh Kumar Chadha vs State of Punjab" and orders dated 10.12.2020 passed in OA No. 57 of 2020 titled "Bachitar Singh & Others vs State of Punjab". The concerned has filed appeals under Rule 87 of Punjab Minor Mineral Rules, 2013 against

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the issued Demand Notices, which are pending for hearing and decision by the Appellate Authority. For Mine in village Harshabela, recovery notice for Rs. 8.05 lakh MT had been issued to the concerned contractor, who had filed civil suit in Civil Court, Sri Anandpur Sahib, which is still pending for adjudication.

viii. That with regard to the requirement of obtaining Environmental Clearance by stone crushers, it is stated that stone crushers are not covered under the ambit of Environmental Impact Assessment notification dated 14.09.2006 and thus not required to obtain Environment Clearance. It is mandatory on the part of the owners of the stone crushers to obtain Consent to Establish (CTE)/ Operate (CTO) under the provisions of the Water (Prevention and

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Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and also as per policy guidelines from State Pollution Control Board (PCB). Policy guidelines for the registration and working of the stone crushers in the State of Punjab have been notified vide government notification dated 02.08.2023 by the Department of Mines and Geology. As per the Policy Guidelines, each stone crusher gets itself registered with the Department of Mines and Geology after obtaining consent to operate from the Punjab Pollution Control Board (PPCB) under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

ix. That for Commercial Mining Sites, as per Punjab State Minor Mineral Policy, 2023, all

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Environmental Clearances (EC) and permissions from State level Environment Impact Assessment Authority (SEIAA) shall be obtained by the Department of Mines & Geology. Thereafter, the EC for the Commercial Mining Site would be temporarily transferred, with the approval of SEIAA, to the concessionaire for the period for which the mining rights for such a Commercial Mining Site have been granted to the concerned concessionaire. The details of the Environmental Clearances for various Commercial Mining Sites and their transfer status of District Rupnagar are annexed as **ANNEXURE R-16**.

5. That from the above submission, it is evident the grievances raised by the applicants in the instant original application have already been redressed.

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6. That from the above, it is evident that there is no ground for entertaining the instant OA filed by the applicants and the same deserves to be dismissed with costs. It transpires that the applicants have filed the instant OA just to cause harassment to the answering deponent. The applicants, have deliberately concealed the above material and relevant facts from this Hon'ble Tribunal. Therefore, as the applicants have concealed the material and relevant facts from this Hon'ble Tribunal, as such, the same deserves to be dismissed on this ground alone by imposing heavy costs.

It is, therefore, respectfully prayed that in view of the above preliminary submissions, the instant original application may kindly be dismissed with costs being devoid of any merit and substance, in the interest of justice.

Reply on Merits:

I. That the contents of Para No. (I) of OA, are matter of record hence need no comments.

II. That the contents of Para No. (II) of OA, are matter of record hence need no comments.

III. That the contents of Para No. (III) of OA, as stated, are wrong and hence denied. It is submitted that the process of preparing the District Survey Report had been initiated after passing of the orders dated 10.11.2021 of the Hon'ble Supreme Court in Civil Appeal No.3661-3662 of 2020 (A photocopy of the order dated 10.11.2021 is being annexed herewith as **ANNEXURE R-1**) and as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM), 2020 and Sustainable Sand Mining Management Guidelines (SSMMG), 2016 of the Ministry of Environment, Forests and Climate Change. The preparation of District Survey Report is helpful in scientific and systematic mining. The potential sites in the District Survey Report were identified on the

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basis of pre and post monsoon surveys conducted by the consultant accredited by the National Accreditation board of Education and Training/Quality Control Council of India in terms of O.M. of MoEF & CC dated 16.03.2010. The District Survey Report of district Rupnagar had been prepared by RSP Green Development and Laboratories Private Limited, which is accredited Environment Impact Assessment (EIA) Consultant with National Accreditation Board for Education and Training with validity up to 02.09.2024. The information downloaded on 29.04.2024 from the online portal of National Accreditation Board for Education and Training regarding the accreditation is being annexed as **ANNEXURE R-2**. The sites were duly visited by the Sub-Divisional Committee, which required deciding regarding the suitability of the sites for mining. The draft of the District Survey Report had been prepared by the consultant, which

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had been uploaded on the website of District Rupnagar on 01.09.2022. It was also informed that the draft DSR had been kept on the public domain for a period of one month as per the Guidelines of MoEF & CC. It was also published in the newspapers that further suggestions or objections regarding the draft DSR could be given to the office of the Executive Engineer, Drainage-cum-Mining & Geology Division, Rupnagar on the official e-mail of the Executive Engineer. The copies of newspaper cuttings (Ajit Punjab, The Tribune Punjab Chandigarh, Jagbani Chandigarh, Punjabi Tribune Punjab Chandigarh, Punjab Kesri Punjab Chandigarh, Spokesman, Dainik Baskar, Danik Jagran etc) of the publication in this regard are being annexed as **ANNEXURES R-3 (Colly)**. The District Survey Report gives the final list of potential deposits which gives the in-situ reserves available at the proposed potential sites along with the depth and area of the sites. The

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quantities given in Annexure-V of District Survey Report have been worked out after carrying out the detailed survey and are correct. District Survey Report annexed with Original Application is old approved District Survey Report which has already been amended, vide letter dated 15.07.2024 by the competent authority i.e. State Level Environment Impact Assessment Authority, Punjab. A photo copy of the letter dated 15.07.2024 is being annexed herewith as **ANNEXURE R-4**. All the necessary corrections in calculation/estimation had been done in the approved District Survey Report. The details of the corrections made are being annexed herewith as **ANNEXURE R-4-1.**

i. The procedure followed for Mining sites is as under-

   i. That as per Rule 47 of the Punjab Minor Mineral Rules, 2013, no mining activity can be undertaken unless a Mining

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Plan is approved by the competent authority. At the time of preparation of Mining Plan, in respect of the area included of potential mining sites in the District Survey Report, the quantity of likely replenishment of river is not considered and only the quantity of reserves already available is taken into consideration. Rather, instead of taking the total quantity mentioned in District Survey Report, only 40% of the quantity available was considered for working out the minable quantity in a year. A copy of relevant Rule 47 of the Punjab Minor Mineral Rules, 2013 is being annexed as **ANNEXURE R-5.**

ii. That for the coming years, the minable quantity shall be taken as per the replenishment rate of that area. It is

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pertinent to mention that as per the Enforcement and Monitoring Guidelines for Sand Mining (EMGSM-2020), the replenishment studies are to be conducted every year through institute of National repute. The Answering Respondents have entrusted the job to Indian Institute of Technology (IIT), Ropar for conducting the replenishment studies in the State of Punjab. A photocopy of work allotment to IIT Ropar and submitted replenishment report of 2023 is being annexed as **ANNEXURES R-6 (Colly).**

iii. That a comprehensive procedure as laid down by MoEF & CC and implemented under the supervision of State Environment Impact Assessment Authority (SEIAA) is being adopted to

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get the Environment Clearance of site before the start of extraction.

iv. That a pre-feasibility report and Form 1 is submitted to State Environment Impact Assessment Authority (SEIAA)/State Level Expert Appraisal Committee (SEAC) for feasibility check.

v. That the State Level Expert Appraisal Committee (SEAC) committee after deep deliberations and necessary checks with laid down guidelines appraises the pre-feasibility report and recommends it to State Environment Impact Assessment Authority (SEIAA).

vi. That the State Environment Impact Assessment Authority (SEIAA) after rechecking the same issues TOR (Terms of references) on the basis of which entire impact assessment

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studies are to be conducted by consultant in coordination with various stakeholders and shareholders of the mining site like Additional Deputy Commissioner, Sub Divisional Magistrate, Punjab Pollution Control Board, District Forest Officer, Block Development and Panchayat Officer, Landowner etc.

vii. Those after detailed studies of mine and its effects on surrounding, a draft Environment Impact Assessment (EIA) Report is prepared and same is submitted to Punjab Pollution Control Board.

viii. Thereafter Punjab Pollution Control Board conducts public hearing on the site after giving one-month notice in the newspapers.

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ix. That in the public hearing, grievances and suggestions of all the participants are received and incorporated in public hearing proceedings and Environment Impact Assessment (EIA) report is accordingly finalized.

x. That after this Finalized EIA report is submitted to State Environment Impact Assessment Authority (SEIAA) for final decision, which is again looked into first by State Level Expert Appraisal Committee (SEAC) for the outcomes of studies and public hearing. State Level Expert Appraisal Committee (SEAC) after consideration recommends the same to State Environment Impact Assessment Authority (SEIAA).

xi. That the State Environment Impact Assessment Authority (SEIAA) being

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the final decision body issues or rejects the Environmental Clearance.

xii. That this whole process takes around 6 months and there is no scope of any irregularity.

ii. That the Department of Mines & Geology vide government notification dated 13.03.2023 issued Punjab State Minor Mineral Policy, 2023 (A photocopy of notification dated 13.03.2023 is being annexed as **ANNEXURE R-7**) which introduced two categories of mining sites i.e. Public Mining Sites and Commercial Mining Sites.

i. In Public Mining Sites, only manual excavation of sand shall be permitted and excavated sand shall not be used in commercial projects. Further, consumers

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shall be permitted to arrange a vehicle and/or labour to a Public Mining Site for the purpose of excavation of sand and its transportation. Department has categorically stated in its policy that presence of any heavy machinery such as tipper or JCB in any Public Mining Site shall be assumed to be for the purpose of illegal mechanical mining and legal action shall be initiated immediately.

ii. That In Commercial Mining Sites, the mining rights of clusters of Commercial Mining Sites shall be granted to concessionaires selected through transparent e-tendering

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process and use of machinery shall be as per approval of SEIAA.

iii. That In compliance to the Punjab State Minor Mineral Policy, 2023, 4 number Public Mining Sites were launched in the district Rupnagar by the Department and4 number clusters of 7 number Commercial Mining Sites were auctioned. The details of Public Mining Sites and Commercial Mining Sites in district Rupnagar are being annexed as **ANNEXURE R-8 (Colly)**.

iv. That none of the mining site mentioned in District Survey Report of district Rupnagar is operational without the mandatory Environmental Clearance irrespective of the area of mining lease from the competent authority as per EIA notification 2006 and

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SLP (C) no 19628-19629 of 2011 titled "Deepak Kumar vs State of Haryana".

v. That to check illegal mining, following measures have been taken-

i. That for the functioning of site, it mandatory to issue computerized T-slips that are embedded with unique QR code and also synchronized with central server of database, each slip is being verified by Junior engineer- cum- Mining inspector before issuance thus making the whole process tightly monitored and foolproof leaving iota chances of excess extraction from mine site.

ii. That the stone crushers have to file monthly returns on

departmental mining portal giving details of the inputs i.e. material obtained from the mines or purchase from the interstate material along with the output i.e. Q- form to access any illegal activity at the crusher. Superintending Engineer, had constituted teams vide order dated 27.08.2023 for checking of Q-forms issued by the crushers in district Rupnagar. A photocopy of the order dated 27.08.2023 is being annexed as **ANNEXURE R-9**.

iii. Five permanent check posts and Three Mobile Nakka cum temporary check posts had been set up in district Rupnagar. The

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details regarding the Check posts set up in the area, the designation of the officers heading up the said check posts and revenue collected by way of royalty as per policy of the Government from the period August 2022 to August 2024 are being annexed herewith as **ANNEXURE R-10** respectively.

iv. During the period 01.01.2018 to 15.08.2024, about 490 complaints had been filed before the concerned police authorities for registration of FIR under section 21(1) and read with 4(1) of Minor Minerals Development and Regulation Act, 1957. 137 number of Poclane machines, 65

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number of JCB machines, 249 number of Tippers and 107 number of Tractor-trolley have been seized. The detail list of the complaints is being annexed as **ANNEXURE R-11**. In addition to the filing of complaints for raising the minor minerals without lawful authority, action had also been taken as per Rule 85 of Punjab Minor Mineral Rules, 2013 to determine the total production of mineral and impose royalty & price on the accused. Amount of Rs 14.91 crores have been recovered from the accused as R/S/M notices in this regard.

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v. Apart from Filing of complaints for registration of FIR's, compounding fee had also been charged in case of illegal transportation of minerals under rule 74 & 75 of Punjab Minor Mineral Rules 2013. For which, intensive checking is carried out by the mining officers in the district. So far, compounding fee of Rs. 3.75 crores have been recovered from the accused in this regard. The list of challans issued, amount recovered and disposed of in district Rupnagar for the period 01.11.2022 to 15.08.2024 is being annexed as **ANNEXURE R-12**.

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vi. That the Office orders were issued by Executive Engineer for the duty roster of Junior Engineers date wise for holding a checkpoint on regular basis. One such photocopy of office order dated 22.08.2023 is being annexed as **ANNEXURE R-13**.

vii. That Apart from the duty roster issued by the Executive Engineers, the Superintending Engineer also in consultation with the Executive Engineer issued office order appointing teams of Flying squads for checking illegal mining and activities of stone crushers. A photocopy of one such office

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order dated 27.08.2023 is being annexed as **ANNEXURE R-14.**

viii. That the department had set up an online Punjab Mining web portal. The sale of processed material is controlled by electronic documentation linked to a central documentation monitoring facility and daily progress is uploaded on the portal. The summary of online order, Quantity of available material at mine is made available on portal.

ix. That Each Commercial Mining Site has an electronic weighbridge integrated with the central server. The Weighment slips are mandatory and have

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security features like QR code and are stamped with date and time. All vehicle carrying minor minerals mandatorily carry the weighment slip for transportation. Any vehicle found carrying minor mineral without proper weighment slip is seized under provisions of Mines and Minerals Development and Regulations act, 1957.

x. That The Mining Officials (Executive Engineer, SDO's and J.E's) frequently conduct inspections of the Mining sites and crushers to verify the authenticity the data uploaded on the departmental portal. Apart from this, the officer

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conducts night patrolling and holds nakkas for checking any illegal activity.

vi. That the CRM-M-44082 of 2023 titled "Aajamdeen vs. State of Punjab" had been decided by the Hon'ble Punjab and Haryana High Court, vide order dated 19.12.2023 (A photocopy of order dated 19.12.2023 is being annexed as **ANNEXURE R-15**), whereby the interim order dated 04.09.2023 had been made absolute.

vii. That for Mine Swara, Baihara of District Rupnagar, Demand Notice (Form-S) as per Rule 85(5) of Punjab Minor Mineral Rules, 2013 for amount Rs 464.31 crores, Rs. 165.82 crores respectively had been issued to contractors, crushers owners and land owners in equal proportion for recovering the amounts shown in the orders dated

31.01.2019 passed in OA No. 767 of 2018 titled "Dinesh Kumar Chadha vs State of Punjab" and orders dated 10.12.2020 passed in OA No. 57 of 2020 titled "Bachitar Singh & Others vs State of Punjab". The concerned has filed appeals under Rule 87 of Punjab Minor Mineral Rules, 2013 against the issued Demand Notices, which are pending for hearing and decision by the Appellate Authority. For Mine in village Harshabela, recovery notice for Rs. 8.05 lakh MT had been issued to the concerned contractor, who had filed civil suit in Civil Court, Sri Anandpur Sahib, which is still pending for adjudication.

viii. That with regard to the requirement of obtaining Environmental Clearance by stone crushers, it is stated that stone crushers are not covered under the ambit of

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Environmental Impact Assessment notification dated 14.09.2006 and thus not required to obtain Environment Clearance. It is mandatory on the part of the owners of the stone crushers to obtain Consent to Establish (CTE)/ Operate (CTO) under the provisions of the Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981 and also as per policy guidelines from State Pollution Control Board (PCB). Policy guidelines for the registration and working of the stone crushers in the State of Punjab have been notified vide government notification dated 02.08.2023 by the Department of Mines and Geology. As per the Policy Guidelines, each stone crusher gets itself registered with the Department of Mines and Geology after obtaining consent to

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operate from the Punjab Pollution Control Board (PPCB) under the provisions of Water (Prevention and Control of Pollution) Act, 1974 and Air (Prevention and Control of Pollution) Act, 1981.

ix. That for Commercial Mining Sites, as per Punjab State Minor Mineral Policy, 2023, all Environmental Clearances (EC) and permissions from State level Environment Impact Assessment Authority (SEIAA) shall be obtained by the Department of Mines & Geology. Thereafter, the EC for the Commercial Mining Site would be temporarily transferred, with the approval of SEIAA, to the concessionaire for the period for which the mining rights for such a Commercial Mining Site have been granted to the concerned concessionaire. The details of the Environmental Clearances for various

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Commercial Mining Sites and their transfer status of District Rupnagar are annexed as **ANNEXURE R-16 (Colly.)**. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

IV. That the content of para no. (IV) Of the OA, as the contents thereof are denied to the extent that the same are inconsistent and contrary to what have been stated herein. It is submitted that the detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated

V. That the content of para no. (V) of the OA are matter of record, hence need no comments.

VI. That the content of para no. (VI) of the OA are matter of record, hence need no comments.

VII. That the content of para no. (VII) of the OA are matter of record, hence need no comments.

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VIII. That the content of para no. (VIII) of the OA are matter of record, hence need no comments.

IX. That the content of para no. (IX) of the OA are matter of record, hence need no comments.

X. That the content of para no. (X) of the OA are matter of record, hence need no comments.

XI. That the content of para no. (XI) of the OA are matter of record, hence need no comments.

XII. That the content of para no. (XII) of the OA, as stated, are wrong and hence denied. It is submitted that the detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

XIII. That the content of para no. (XIII) of the OA, as stated, are wrong and hence denied. It is submitted that the detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

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XIV. That the sub-para wise reply to the BRIEF FACTS contained in para no. (XIV) of the OA is being submitted as below:-

(i-xvii) That the content of sub-para No. (i-xvii) of the OA, are matter of record, hence need no comments.

(xviii) That in reply to the content of sub-para No. XIV (xviii) of the OA, it is submitted that for Mine Swara, Baihara of district Rupnagar, Demand Notice (Form-S) as per Rule 85(5) of Punjab Minor Mineral Rules, 2013 for amount Rs 464.31 crores, Rs. 165.82 crores respectively had been issued to contractor, crusher owners and land owners in equal proportion for recovering the amounts shown in the orders dated 31.01.2019 in OA No. 767 of 2018 titled "Dinesh Kumar Chadha vs State of Punjab" and orders dated 10.12.2020 in OA No. 57 of

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2020 titled "Bachitar Singh & Others vs State of Punjab". The concerned has filed appeals under Rule 87 of Punjab Minor Mineral Rules, 2013 against the issued Demand Notices, which are pending for hearing and decision by the appellate authority. For Mine Harsha bela, recovery notice for 8.05 lakh MT had been issued to the concerned contractor, who had filed civil suit in civil court, Sri Anandpur Sahib, which is still pending. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

(xix) That the content of sub-para no. XIV (xix) of the OA, as stated, are wrong and hence denied. It is submitted that the detailed submissions have been made in the

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preliminary submissions as well as in the foregoing paras and the same are reiterated.

(xx-xxi) That the content of sub-para No. XIV(xx-xxi) of the OA, are matter of record, hence need no comments.

(xxii) That in reply to the contents of sub para no. XIV(xxii) of the OA, it is submitted that for Mine Swara, Baihara of district Rupnagar, Demand Notice (Form-S) as per Rule 85(5) of Punjab Minor Mineral Rules, 2013 for amount Rs 464.31 crores, Rs. 165.82 crores respectively had been issued to contractor, crusher owners and land owners in equal proportion for recovering the amounts shown in the orders dated 31.01.2019 in OA No. 767 of 2018 titled "Dinesh Kumar Chadha vs State of Punjab" and orders dated 10.12.2020 in OA No. 57 of 2020 titled "Bachitar Singh & Others vs State of

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Punjab". The concerned has filed appeals under Rule 87 of Punjab Minor Mineral Rules, 2013 against the issued Demand Notices, which are pending for hearing and decision by the appellate authority. For Mine Harsha bela, recovery notice for 8.05 lakh MT had been issued to the concerned contractor, who had filed civil suit in Civil court, Sri Anandpur Sahib, which is still pending. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

(xxiii) That the content of sub-para No. XIV (xxiii) of the OA, are matter of record, hence need no comments.

(xxiv) That the content of sub-para no. XIV (xxiv) of the OA, as stated, are wrong and hence denied. It is submitted that all the strict

measures have been taken against the miscreants. During the period 01.01.2018 to 15.08.2024, about 490 complaints had been filed before the concerned police authorities for registration of FIR under section 21(1) and read with 4(1) of Minor Minerals Development and Regulation Act, 1957. 137 number of Poclane machines, 65 number of JCB machines, 249 number of Tippers and 107 number of Tractor-trolley have been seized. In addition to the filing of complaints for raising the minor minerals without lawful authority, action had also been taken as per Rule 85 of Punjab Minor Mineral Rules, 2013 to determine the total production of mineral and impose royalty & price on the accused. Amount of Rs 14.91 crores have been recovered from the accused as R/S/M notices in this regard. The detailed

submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated herein.

(xxv) That the content of sub-para no. XIV (xxv) of the OA, as stated, are wrong and hence denied. It is submitted that District Survey Report annexed with Original Application is old approved District Survey Report which has already been amended on dated 15.07.2024 (**ANNEXURE R-4**) by the competent authority i.e. State Level Environment Impact Assessment Authority, Punjab. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are re-iterated herein.

(xxvi) That the contents of sub-para no. XIV (xxvi) of the OA, as stated, are wrong and hence

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denied. It is submitted that all the necessary corrections in calculation/estimation had been done in the approved District Survey Report. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated herein.

(xxvii) That the contents of sub-para no. XIV (xxvii) of the OA, as stated, are wrong and hence denied. The District Survey Report of district Rupnagar comply with the guidelines prescribed in Sustainable Sand Mining Management Guidelines (SSMMG) 2016 and EMGSM, 2020. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated herein.

(xxviii) That in reply to the contents of sub-para No. XIV (xxviii) of the OA, it is submitted that

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the CRM-M-44082 of 2023 titled "Aajamdeen vs. State of Punjab" had been decided by the Hon'ble Punjab and Haryana High Court vide orders dated 19.12.2023 (Annexure R-15), by which the interim order dated 04.09.2023 had been made absolute. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

(xxix) That the contents of sub-para no. XIV (xxix) of the OA, as stated, are wrong and hence denied. It is submitted that all the necessary steps have been taken by the Department of Mines and Geology. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

The sub-parawise reply to the grounds is being submitted as under:

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(A) That the contents of sub para (A) of the OA pertaining to reproduction of Section 2(M) of the National Green Tribunal Act, 20 IO, are matter of record, hence need no comments. However, the remaining contents, as stated, are wrong and hence denied. It is submitted that there are no illegal activities, as has been alleged by the applicants. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

(B) That the contents of sub-para no. (B) of the OA, as stated, are wrong and hence denied. It is submitted that the detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

(C) That the contents of sub-para no. (C) of the OA, as stated, are wrong and hence denied. It is

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submitted that the applicants has leveled totally vague, baseless allegations, which are vehemently denied. There are no illegal activities, as has been alleged by the applicants. It is submitted that the officials of the department of the answering respondents are performing their duties with due diligence.

(D) That the contents of sub-para no. (D) of the OA, as stated, are wrong and hence denied. It is submitted that the applicants has leveled totally vague, baseless allegations, which are vehemently denied. There are no illegal activities, as has been alleged by the applicants. It is submitted that the officials of the department of the answering respondents are performing their duties with due diligence.

(E) That the contents of sub-para no. (E) of the OA, as stated, are wrong and hence denied. It is submitted that the officials of the department

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of the answering respondents are complying with the SSMMG, 2016.

(F) That the contents of sub-para no. (F) of the OA, as stated, are wrong and hence denied. It is submitted that the officials of the department of the answering respondents are complying with the SSMMG, 2016.

(G) That the contents of sub-para no. (G) of the OA, as stated, are wrong and hence denied. It is submitted that the applicants has leveled totally vague, baseless allegations, which are vehemently denied.

(H) That the contents of sub-para no. (H) of the OA, as stated, are wrong and hence denied. It is submitted that the officials of the department of the answering respondents are complying with EMGSM, 2020.

(I) That the contents of sub-para no. (F) Of the OA, as stated, are wrong and hence denied. It is

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submitted that the officials of the department of the answering respondents are not violating any of the directions issued by this Hon'ble Tribunal in OA No. 767 of 2018, as has been alleged.

(J) That the contents of sub-para no. (J) Of the OA, as stated, are wrong and hence denied. It is submitted that the officials of the department of the answering respondents are not violating any of the directions issued by this Hon'ble Tribunal in OA No. 767 of 2018, as has been alleged.

(K) That the contents of sub-para no. (K) of the OA, as stated, are wrong and hence denied. It is submitted that the applicants have leveled totally vague, baseless and false allegations, which are vehemently denied.

(L) That the contents of sub-para no. (L) Of the OA pertaining to making reference to the law laid

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down by the Hon'ble Supreme Court of India, in the case titled as Deepak Kumar Vs. State of Haryana and others, are matter of record.

(M) That the contents of sub-para no. (M) of the OA, as stated, are wrong and hence denied. It is submitted that the applicants have leveled totally vague, baseless and false allegations, which are vehemently denied.

(N) That the contents of sub-para no. (N) of the OA, as stated, are wrong and hence denied. It is submitted that the applicants have leveled totally vague, baseless and false allegations, which are vehemently denied.

It is, therefore, respectfully submitted that the Department of Mines and Geology is very proactive and taking all the necessary steps to check illegal mining activities in the district Rupnagar. The approved District Survey Report is prepared rightly under the Sustainable Sand Mining Management Guideline-2016 (SSMMG) and

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Enforcement & Monitoring Guidelines for Sand Mining (EMGSM-2020) and incorporates all the basic measures to stop illegal mining. The detailed submissions have been made in the preliminary submissions as well as in the foregoing paras and the same are reiterated.

It is, therefore, respectfully prayed that in view of the above submissions, the instant original application may kindly be dismissed with costs being devoid of any merit and substance, in the interest of justice.

Place: Rupnagar DEPONENT

Date: (Tushar Goyal)

District Mining Officer, Rupnagar,
Department of Mines and Geology,
Punjab

Verification:

Verified that the contents of para nos. 1 to 6 of the preliminary submissions and para no. I to XIV of the reply

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on merits of my above affidavit are true and correct to my knowledge and as per information derived from the official record. No part of it is false and nothing relevant has been concealed or mis-stated therein.

Adhar No 227632662371

Place: Rupnagar DEPONENT

Date: (Tushar Goyal)

District Mining Officer, Rupnagar,

Department of Mines and Geology,

Punjab

The contents of the affidavit/document SPA/GPA has been read over & explained to the deponent/executant & he/she has admitted the same to be correct & he/she has signed/Thumb marked in the Register at Sr No 1964 Page No 168 on 5/9/2024

Suresh Kumar NOTARY Distt. Courts. Rupnagar

NOTARY SURESH KUMAR RUPNAGAR (PB.) Reg. No.- 14704 GOVT. OF INDIA

Declared Before Me ATTESTED

NOTARY Rupnagar (Pb.) INDIA

05 SEP 2024

05 SEP 2024

ANNEXURE R-1

REPORTABLE

IN THE SUPREME COURT OF INDIA

CIVIL APPELLATE JURISDICTION

CIVIL APPEAL NOS. 3661-3662 OF 2020

THE STATE OF BIHAR AND OTHERS ...APPELLANT(S)

VERSUS

PAWAN KUMAR AND OTHERS ETC. ...RESPONDENT(S)

O R D E R

Per Court

1. The present appeals challenge the judgment and order dated 14th October 2020, passed by the National Green Tribunal, Principal Bench, New Delhi (hereinafter referred to as "the Tribunal") in O.A. No. 40/2020/EZ with O.A. No. 57/2020/EZ, thereby issuing the following directions:-

(i) "Having regard to the findings at (a), (b) and (c) above, we direct the State to undertake further exercise for preparation of a fresh DSR for the Banka district.

(ii) As the DEIAA is not functioning as a consequence of the decision of the Tribunal in *Satendra Pandey* (supra), the DSR shall be prepared through a consultant(s) accredited by the National Accreditation Board of Education and Training/Quality Control Council of India in terms of O.M. of MoEF & CC dated 16.03.2010.

(iii) The DSR so prepared shall be submitted to the District Magistrate who shall verify the DSR only in respect of the relevant facts pertaining to the physical and geographical features of the district which shall be distinct from the scientific findings based on the parameters

prescribed in the SSMMG- 2016. After such verification, the District Magistrate shall forward the DSR for examination and evaluation by the State Expert Appraisal Committee (SEAC) having regarding to the fact that the SEIAA comprises of technical/scientific experts. The SEAC after appraisal of the report shall forward it to the SEIAA for consideration and approval if it meets all scientific/technical requirements.

(iv) While preparing the DSR, the MoEF & CC Accredited Agency/Consultant shall scrupulously follow the procedure and the parameters laid down under the SSMMG-2016 and EMGSM-2020 read in sync with each other."

2. The appellant-State of Bihar has assailed the said judgment and order dated 14th October 2020, on various grounds.

3. Shri Atmaram Nadkarni, learned Senior Counsel appearing on behalf of the State of Bihar submitted that the Tribunal has grossly erred in holding that unless the State Expert Appraisal Committee (hereinafter referred to as "SEAC") and the State Environment Impact Assessment Authority (hereinafter referred to as "SEIAA") grants approval to the District Survey Report (hereinafter referred to as "DSR") for the purpose of mining of sand, the same cannot be carried out. He submitted that the Tribunal has further held that the very invitation of the tenders without preparing the DSR in accordance with the judgment of the Tribunal in the case of ***Satendra Pandey v. Ministry of Environment, Forest and Climate Change and Another***[1] could not have been done. He submitted that after the tenders are invited in accordance with the DSR prepared by the District Level Committee, the

1 O.A. No. 186 of 2016 (M.A. No. 350/2016)

successful bidder will be required to prepare a mining plan and unless such a mining plan is approved by SEAC and SEIAA, the Environmental Clearance would not be granted and in turn, mining activities cannot be carried out. He submitted that the finding of the Tribunal is like putting the cart before the horse. He further submitted that the Tribunal has also grossly erred in holding that the DSRs prepared by the State were without following the requisite procedure and without considering the relevant factors. He submitted that not only the procedure as prescribed under the relevant rules and regulations was complied with, but the voluminous material in support of the same was also placed on record before the Tribunal. He submitted that the Tribunal has not taken into consideration the said material. He therefore submitted that the judgment and order passed by the Tribunal dated 14th October 2020, needs to be set aside and the State needs to be permitted to finalize the tenders received by it.

4. Shri Nadkarni further submitted that on account of the orders passed by the Tribunal, the old lessees are continuing

with the mining activities by paying a meagre amount to the State Government. He therefore submitted that on account of this, a huge loss would be caused to the public exchequer. In the alternative, he submitted that the State, at least, needs to be permitted to undertake mining activities through Bihar State Mining Corporation until the DSRs are finalized in accordance with the judgment of the Tribunal.

5. Shri P.S. Patwalia, learned Senior Counsel appearing on behalf of the original applicant vehemently opposed the appeals. He submitted that the Tribunal has rightly held that the DSRs are not prepared in accordance with the relevant rules as well as policy guidelines. He submitted that it is apparently clear that the State has taken into consideration only financial enrichment without considering the environmental aspects.

6. Though, we have heard the learned counsel for both the parties at length on merits, we find that it will be appropriate

that the appeals are kept pending for further consideration and till then, certain interim orders are passed.

7. It cannot be in dispute that though the developmental activities are not stalled, the environmental issues are also required to be addressed. A balanced approach of sustainable development ensuring environmental safeguards, needs to be resorted to. At the same time, it also cannot be ignored that when legal mining is banned, it gives rise to mushroom growth of illegal mining, resulting into clashes between sand mafias, criminalization and at times, loss of human lives. It also cannot be disputed that sand is required for construction of public infrastructural projects as well as public and private construction activities. A total ban on legal mining, apart from giving rise to illegal mining, also causes huge loss to the public exchequer.

8. Taking into consideration these aspects of the matter, we propose to issue certain interim directions.

9. The Tribunal, in the case of ***Satendra Pandey*** (supra), has found that the notification dated 15th January 2016, which provided Environmental Clearance to be given by the District Environment Impact Assessment Authority (hereinafter referred to as the "DEIAA") was not in consonance with the judgment of this Court in the case of ***Deepak Kumar v. State of Haryana and Others***[2]. The Tribunal therefore in ***Satendra Pandey*** (supra), had directed Ministry of Environment, Forest and Climate Change (hereinafter referred to as "MoEF and CC) to take steps to revise the procedure laid down in the notification dated 15th January 2016. It is to be noted that MoEF and CC, in accordance with the directions of the Tribunal, had issued Enforcement and Monitoring Guidelines for Sand Mining (hereinafter to referred to as "the 2020 guidelines") in the month of January 2020. Chapter 4 of the 2020 guidelines deals with identification of possible sand mining sources and preparation of DSR. It will be relevant to refer to Clause 4.1.1 (a), (o) and (p) of the 2020 guidelines:-

2 **(2012) 4 SCC 629**

"4.1 Identification of possible sand mining sources and preparation of District Survey Report (DSR)

4.1.1 Preparation of District Survey Report.

a) District Survey Report for sand mining shall be prepared before the auction/e-auction/grant of the mining lease/Letter of Intent (Loi) by Mining department or department dealing the mining activity in respective states.

o) Potential site for mining having its impact on the forest, protected area, habitation, bridges etc, shall be avoided. For this, a sub-divisional committee may be formed which after the site visit shall decide its suitability for mining. The list of mining lease after the recommendation of the Committee needs to be defined in the following format given in as **Annexure-II**. The Sub-Divisional Committee after the site visit shall make a recommendation on the site for its suitability of mining and also records the reason for selecting the mining lease in the Patta land. The details regarding cluster and contiguous cluster needs to be provided as in **Annexure-III**. The details of the transportation need to ~e provided as in **Annexure IV**.

p) **Public consultation**-The Comments of the various stakeholders may be sought on the list of mining lease to be auctioned. The State Government shall give an advertisement in the local and national newspaper for seeking comments of the general

public on the list of mining' lease included in the DSR. The DSR should be placed in the public domain for at least one month from the date of publication of the advertisement for obtaining comments of the general public. The comments so received shall be placed before the sub-divisional committee for active consideration. The final list of sand mining areas [leases to be granted on riverbed & Patta land/Khatedari land, de-siltation location (ponds/lakes/dams), M-Sand Plants (alternate source of sand)] after the public hearing needs to be defined in the final DSR in the format as per **Annexure-V**. The details regarding cluster and contiguous cluster needs to be provided in **Annexure-VI**. The details of the transportation need to be provided in **Annexure-VII."**

10. It could thus be seen that in accordance with the 2020 guidelines, the DSR is required to be prepared before the auction/e-auction/grant of mining lease by Mining Department or Department dealing with mining activity in the respective States. It is further provided that the potential site for mining having its impact on the forest, protected area, habitation and bridges should be avoided. For this, a sub-divisional committee is required to be formed which, after the site visit, is required to decide regarding the suitability of the sites for mining. The

sub-divisional committee is further required to record its reasons for selecting the mining lease in the patta land. Various details are required to be given in the annexures appended to the said policy.

11. It is further to be noted that Appendix-X of the notification dated 15th January 2016, issued by MoEF and CC also provides for composition of the sub-divisional committee:-

> "A Sub-Divisional Committee comprising of Sub-Divisional Magistrate, Officers from Irrigation department, State Pollution Control Board or Committee, Forest department, Geology or mining officer shall visit each site for which environmental clearance has been applied for and make recommendation on suitability of site for mining or prohibition thereof."

12. It is to be noted that with the advent of modern technology, various technological gadgets like Drones and satellite imaging etc. can be used for identification of the potential sites and preparation of the DSR and also to check misuse and unauthorized mining.

13. We further find that when the 2020 guidelines as well as the notification issued by MoEF and CC of 2016 itself provide for constitution of sub-divisional committees comprising of the officers of the State Government from various Departments for identification of the potential sites for mining, there would be no necessity of the DSRs being prepared through private consultants as directed by the Tribunal in the impugned order. The sub-divisional committee consists of various officers from Revenue Department, Irrigation Department, State Pollution Control Board, Forest Department and Geology Mining Department of the State Government. They are better equipped to visit the sites and prepare the draft DSR for the concerned district. Apart from that, preparation of DSR through private consultants would also unnecessarily burden the public exchequer. We are therefore of the view that the direction in that regard issued by the Tribunal requires to be modified. We are further of the considered view that until the DSRs are finalized and granted approval by SEAC and SEIAA, it is appropriate that certain necessary arrangements are permitted

so that the State can continue with legal mining activities. This apart from preventing illegal mining activities, would also ensure that the public exchequer is not deprived of its share in legalized mining.

14. We therefore find it appropriate to substitute the directions issued by the Tribunal vide judgment and order dated 14th October 2020, with the following directions:-

(i) The exercise of preparation of DSR for the purpose of mining in the State of Bihar in all the districts shall be undertaken afresh. The draft DSRs shall be prepared by the sub-divisional committees consisting of the Sub-Divisional Magistrate, Officers from Irrigation Department, State Pollution Control Board or Committee, Forest Department, Geological or mining officer. The same shall be prepared by undertaking site visits and also by using modern technology. The said draft DSRs shall be prepared within a

period of 6 weeks from the date of this order. After the draft DSRs are prepared, the District Magistrate of the concerned District shall forward the same for examination and evaluation by the SEAC. The same shall be examined by the SEAC within a period of 6 weeks and its report shall be forwarded to the SEIAA within the aforesaid period of 6 weeks from the receipt of it. The SEIAA will thereafter consider the grant of approval to such DSRs within a period of 6 weeks from the receipt thereon;

(ii) Needless to state that while preparing DSRs and the appraisal thereof by SEAC and SEIAA, it should be ensured that a strict adherence to the procedure and parameters laid down in the policy of January 2020 should be followed;

(iii) Until further orders, we permit the State Government to carry on mining activities

through Bihar State Mining Corporation for which it may employ the services of the contractors. However, while doing so, the State Government shall ensure that all environmental concerns are taken care of and no damage is caused to the environment.

15. List the matter after 20 weeks.

.....J.
[L. NAGESWARA RAO]

.....J.
[SANJIV KHANNA]

.....J.
[B.R. GAVAI]

NEW DELHI;
NOVEMBER 10, 2021.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

ANNEXURE R-2

Sl. No.	Name and Address EIA Consultant Organization	Scope of Accreditation: As per NABET Schema – Sector Number	Name of Sector	Category	Project or Activity as per Schedule of MoEFCC Notification dated September 14, 2006 and subsequent Amendments	
177	RSP Green Development & Laboratories Pvt. Ltd. **Address:**7F Dinabandhu Mukherjee Lane, Kolkata – 711102, West Bengal **Head Name:**Pinaki Roy **Head Designation:**Managing Director **Mobile Number:**9830585501 **Email:** proyrsp@gmail.com **Tel:**9830585501 **Remarks:**Conditions apply	1	Mining of minerals – opencast mining only	B	1(a) (i)	**Certificate No.:** NABET/EIA/2124/SA 0178 **Validity:** 02/09/2024 **Validity Extension Letter No.:** QCI/NABET/ENV/ **Extension Letter Validity:**18/06/2024 **UserName:**ORG000886 **Accreditation Date:**11/06/2019 **category:** B
		4	Thermal power plants	B	1 (d)	
		8	Metallurgical industries – (ferrous)	B	3 (a)	
		23	Distilleries	B	5 (g)	
		37	Common Municipal Solid Waste Management Facility (CMSWMF)	B	7 (i)	
		38	Building and construction projects	B	8 (a)	
178	Sabz Care Environmental Consultancy Pvt Ltd **Address:**C/o Sabz Care Lab (Aarti Bhawan), SN Bose Road, 52 Bighas, Madhupur, Deoghar, Jharkhand-815353 **Head Name:**Mansoor Alam **Head Designation:**Managing Director **Mobile Number:**2973582754 **Email:** alam.mansoor009@gmail.com **Tel:**9334315731 **Remarks:**The EIA Coordinator for the sector 1 was found suitable for Cat. A. However, the organization as a whole was accredited for Cat. B, as they have scored less than the overall 60% marks in their Office Assessment. Thus, the ACO cannot take up Cat. A project in the sector.	1	Mining of minerals -opencast mining only	A	1 (a) (i)	**Certificate No.:** NABET/EIA/23-26/IA 0121 **Validity:** 08/06/2026 **Validity Extension Letter No.:** NA **Extension Letter Validity:**NA **UserName:**ORG001158 **Accreditation Date:**09/06/2023 **category:** B
		6	Coal washeries	B	2 (a)	

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WRD Punjab

Published in Ajit Punjab, The Tribune Punjab Chandigarh, Jagbani Chandigarh, Punjabi Tribune Punjab, Chandigarh.

PUBLIC NOTICE
GOVERNMENT OF PUNJAB
DEPARTMENT OF MINES & GEOLOGY

As per instructions of the Punjab Government, Mining Department, Punjab, the District Administration has prepared Draft District Survey Report (Preliminary Survey) of District Ropar 2022 as per Sustainable Sand Management (SSMG), 2016 and Enforcement and Monitoring Guidelines for Sand Mining, 2020 issued by MOEF & CC and as per various instruction/orders passed by Hon'ble Supreme Court of India, Hon'ble Punjab and Haryana High Court and Hon'ble National Green Tribunal and uploaded on Public Domain/District Ropar website (https://rupnagar.nic.in/) on dated 01.09.. In this regard, a press note was also issued in the newspapers on 07.09.2022 for taking suggestions and objections from the general public. After completion of Post Monsoon Survey, the final Draft DSR was uploaded on the website of District Ropar (https://rupnagar.nic.in/) on 11.11.2022. Final District Survey Report of District Rupnagar is available on District Ropar website (https://rupnagar.nic.in/).

-Sd-
Executive Engineer –Cum-
District Mining Officer,
Drainage-Cum-Mining and Geology Division,
Ropar.

DPR/NA/12/13225/2022/19440

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Drainage-cum-Mining & Geology Division
WRD Punjab

4 August 2022- Punjab Kesri, Danik Baskar, Punjabi Jagran, Ajit, Danik Jagran. Jag Bani.

The work of district survey report related to mining continues at war level

Physical verification of potential sites for preparation of District Survey Report in full swing

Rupnagar, August 3 (Vijay)- The district administration Rupnagar is in the process of preparing the District Survey Report (DSR), which Consultant R.S.P. It is being prepared by Green Development and Laboratories Limited. This district survey report is being prepared as per the various directives issued by the Sustainable Sand Mining Management Guidelines-2016, Enforcement and Monitoring Guidelines for Sand Mining, 2020, MoEF&CC, Supreme Court of Indian and National Green Tribunal to curb illegal mining and facilitate smooth mining operations.

By issuing a notice in this regard, the mining department will also seek objections from the general public for one month. Deputy Commissioner Rupnagar Dr. Preeti Yadav reviewed the district survey report being prepared by Mining in a high-level meeting at the District Administrative Complex. The Deputy Commissioner said that the report should be completed keeping in mind the rules/criteria laid down for preparing the District Survey Report. Deputy Commissioner SP. Giving instructions to the headquarters, Manwinder Bir Singh said to submit a report on seized vehicles and other matters related to illegal mining. He said that the Penalties should be recovered from the owners of seized vehicles as per the orders of NGT.

The chairman of the sub division level committee formed regarding the district survey report, sub divisional magistrate Rupnagar Jasveer Singh said that the physical verification of the potential sites is being done on a war footing to prepare the district survey report.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

Executive Engineer, Water Drainage-cum-District Mining Officer, Rupnagar Punit Sharma said that in coordination with Sub Division Committee members, RSP. Ground level action is being taken by Green Development and Laboratories Limited regarding the given potential sites of District Rupnagar and the route plan of these potential sites is being prepared.

Puneet Sharma said that according to the instructions issued by the Hon'ble Supreme Court of India and the Hon'ble National Green Tribunal regarding inclusion of agricultural land in the district survey report, a notice has been issued that if any person includes his agricultural land for mining. If he wants to do it, the applicant has to apply to the mining department, which is under process..

In the meeting, besides Additional Deputy Commissioner Harjot Kaur, Forest Department, Punjab Pollution Control Board, Water Supply and Sanitation, PWD B & R Officials of various departments were present.

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25 August 2022- Jag Bani, Punjab Kesri, Danik Jagran, Spokesman, Danik Baskar, Ajit, Punjabi Jagran.

District survey report prepared to stop illegal mining and smooth running of mining – D.C.

Rupnagar, August 24- Deputy Commissioner Rupnagar Dr. Preeti Yadav held a high-level meeting with the staff of the mining department of the district at the district administrative complex. In this meeting, the district survey report being prepared by the mining department was reviewed.

The Deputy Commissioner said that the reporter should be completed keeping in mind the rules/standards laid down for preparing the District Survey Report. Deputy Commissioner Rupnagar also discussed with the officials of the department about the new sites that are going to be built in the district under the new mining policy of the Punjab government.

It was told by the employees of the department that in coordination with the subdivision committee members, action is being taken at the ground level regarding the given potential sites of district Rupnagar and the route plan of these potential sites is being prepared. Physical verification of assembly sites is being done on a war footing to prepare the district survey report. He said that according to the instructions issued by the Hon'ble Supreme Court of India and the Hon'ble National Green Tribunal regarding the inclusion of agricultural land in the District Survey Report, a notice has been issued that if a person wants to include his agricultural land for mining. If yes, the applicant will have to apply to the mining department, which is under process.

District Administration Rupnagar, is in the process of preparing District Survey Report (DSR), Sustainable-Sand-Mining-Management-Guidelines-2016, Enforcement & Monitoring Guidelines for Sand Mining-2020, MOEF. & CC, Supreme Court of

India and National Green Tribunal, this District Survey Report is being prepared to curb illegal mining and to run the mining smoothly. By issuing a notice in this regard, the mining department will also seek objections from the general public for one month. Apart from Additional Deputy Commissioner Harjot Kaur, officials of Mining Department were present in this meeting.

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7-Sep-2022- Ajit, Jag Bani, Spokesman,

D.S.R. Objections and suggestions were sought regarding the area found in the draft

Rupnagar, September 6 (Vijay) - Today, under the leadership of Additional Deputy Commissioner (J) Rupnagar Harjot Kaur, a meeting was held with all the sub divisional magistrates and mining officers of the district through video conference regarding the district survey report at the district administrative complex. In this meeting, the draft DSR A discussion was held regarding Harjot Kaur, giving information, said that after the preliminary survey of Rupnagar district was completed, its draft DSR. After preparing the report, it has been uploaded on the website of district Rupnagar on September 1. He said that this draft DSR has been kept in the public domain for one month as per the guidelines of MoEF&CC. Regarding disposition or objection may be made by approaching the office of the Executive Engineer, Drainage-cum-Mining Division, Rupnagar or by mail to the Engineer Engineer.

Published in Ajit Punjab, The Tribune Punjab Chandigarh, Punjab Kesri Punjab, Chandigarh.

GOVERNMENT OF PUNJAB

DEPARTMENT OF MINES & GEOLOGY

District Administration Rupnagar is in the process of preparing District Survey Report, which is being prepared by the Consultant RSP Green Development & Laboratories PVT. LTD. DSR will be prepared as per Sustainable Sand Management (SSMG), 2016 and Enforcement and Monitoring Guidelines for Sand Mining, 2020 issued by MOEF & CC and as per various instruction/orders passed by Hon'ble Supreme Court of India, Hon'ble Punjab and Haryana High Court and Hon'ble National Green Tribunal. If any land owner wants to auction his land for Sand and Gravel mining, please submit your applications along with the revenue records to office of Executive Engineer-Cum-District Mining Officer, Rupnagar and SDM Office (Rupnagar, Shri Anandpur Sahib, Shri Chamkour Sahib, Morinda and Nangal). So that these purposed sites will be included in the District Survey Report.

-Sd-
Executive Engineer –Cum-
District Mining Officer,
Drainage-Cum-Mining and Geology Division,
Ropar.

DPR/NA/12/10839/2021/15939

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

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STATE LEVEL ENVIRONMENT IMPACT ASSESSMENT AUTHORITY PUNJAB
Ministry of Environment, Forest & Climate Change, Government of India
PBTI Complex, Knowledge City, Sector-81,
Mohali-140306
seiaapb2017@gmail.com

No. SEIAA/MS/2024/ 671 **Registered/E-Mail** **Date:** 15/07/24

To

The Deputy Commissioner,
Ropar.

Subject: **Regarding approval of District Survey Report (DSR) of District Roopnagar.**

It is intimated that the Mining Department vide its vide memo no. 488/Gig/E-file no.690147 dated 31.05.2024 has requested for granting approval of 2nd amendment in District Survey Report (DSR) of District Roopnagar.

Accordingly, the matter regarding approval of DSR of Ropar was placed in 292nd meeting of SEAC held on 06.06.2024 and 296th meeting of SEAC held on 01.07.2024, wherein the SEAC recommended the case to SEIAA to approve the amendment in DSR of District Roopnagar.

The matter was considered by SEIAA in its 301st meeting held on 09.07.2024. After careful examination and keeping in view the recommendations made by SEAC, the amended DSR of Rupnagar District as submitted by Mining Department during the meeting was approved by the Authority subject to the conditions stipulated by SEIAA vide its letter No. SEIAA/MS/2022/1318 dated 27.12.2022 & letter no. 1086 dated 17.08.2023 and further relevant advisories / amendments thereto as issued by SEIAA from time to time and additional condition that Mining Department shall also comply with the orders of the Hon'ble Punjab and Haryana High Court and other relevant judicial directions, if any.

As such, the amendment in DSR as approved by the SEIAA is also enclosed herewith for ready reference.

This is for information and necessary action in the matter.

DA/As above

15/7/24
Environmental Engineer

Endst 672 **Dated:** 15/07/24

A copy of the above is forwarded to the Chief Engineer, Department of Water Resouces (Mines & Geology), Punjab for information and necessary action. It is requested to ensure the following:

1. Mining Plans for river beds sites should be prepared by the Registered Qualified Person (RQP) and approved by the mining department taking into consideration that prevalent replenishment rates and guidelines issued by MoEF&CC from time to time.
2. Bench-marks used in the DSRs for establishing levels be protected and it be ensured that their integrity is not compromised.
3. Annual proposal be submitted by the Mining Department in the month of October/November each year along with justification thereof for updating the mining sites to be included as an addendum to the respective DSRs.

DA/As above

15/7/24
Environmental Engineer

Endst 673 **Dated:** 15/07/24

A copy of the above is forwarded to the Member Secretary, State Expert Appraisal Committee, Punjab for information, please.

DA/As above

15/7/24
Environmental Engineer

ok

Endst 674 **Dated:** 15/07/24

A copy of the above is forwarded to the Principal Secretary, Department of Water Resources, Punjab for information, please.

15/7/24
Environmental Engineer

ok

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

OFFICE OF EXECUTIVE ENGINEER/ ROPAR/SHRI ANANDPUR SAHIB,

DRAINAGE-CUM-MINING & GEOLOGY DIVISION, WRD PUNJAB

Subject: - Approval of Revised District Survey Report of District Ropar.

Explanatory Note

It is submitted that SEIAA Punjab vide its office letter No. SEIAA/MS/2022/1318 Dated 27.12.2022 has approved District Survey Report (DSR) of District Rupnagar. First amendment in DSR was approved by SEIAA Punjab vide its office letter No. SEIAA/MS/2023/1086 Dated 17.08.2023. This Office has observed certain clerical mistakes in approved DSR mentioned below in table no. 06, 07, 17, 18 of approved DSR.

1. Table No. 06, Difference in numbers and areas of Sub-Divisions of District Rupnagar.
2. Table No. 07, Forest Land cover and Forest land use data of the District Rupnagar.
3. Table No. 17, Drainage System with description of main rivers.
4. Table No. 18, (Part I) Salient features of important rivers and streams.
5. Table No. 20, Estimation of sand reserves in Pre & Post Monsoon periods in sand bars
6. Table No. 21, Sediment Load Comparison Pre & Post monsoon periods for different rivers of the district.
7. Table No. 22, Sediment Load Comparison Pre & Post monsoon periods for different rivers of the district.
8. Annexure 9, Cross section of final proposed zones with Thalweg Point and L section of river.

Corrections in above mentioned tables are corrected as mentioned below: -

1. It has been observed that there are clerical mistakes in Table no. 06 of Page no. 30 of approved DSR. There are 5 no. Sub-Divisions in District Rupnagar and their corrected areas are mentioned as below: -

Sr. No.	Block Name	Area (Sq. Km)	Correct Observed Area (Sq. Km)	Remarks
1.	Shri Anandpur Sahib	400	501.91	SDM, Shri Anandpur Sahib vide letter no. 280/MC-3 dated 03.04.2024
2.	Shri Chamkaur Sahib	361	214.44	SDM, Shri Chamkaur Sahib vide letter no. 888 dated 03.04.2024
3.	Nangal	243	172.89	SDM, Nangal vide letter no. 288/MC-2 dated 03.04.2024
4.	Rupnagar	352	338.24	SDM, Rupnagar vide letter no. 462/MC-3 dated 28.03.2024
5.	Morinda		139.81	SDM, Morinda vide letter no. 171 dated 03.04.2024

2. In table no 07 of page no. 31 of approved DSR, Forest Land cover and Forest land use data of the District is incorrect. District forest Officer, Rupnagar vide letter no. 11626 dated 30.01.2024 sent corrected data of Forest Land cover and Forest land use data of the District Rupnagar, detail of forest area of forest division, Rupnagar is as below: -

Class Name	Area (Hectare)
Government Forest Area	
Protected Forest Area	3103.25
Unclassed Forest Area	775.81
Road Strips Forest Area	269.62
Rail Strips Forest Area	257.16
Canal Strips Forest Area	775.13
Bands and Drain Strips Forest Area	387.66
Total Government Forest Area	5568.63
Private Forest	
Area closed u/s 4 & 5 of P.L.P.A 1900	26338.41
Total Private Forest	26338.41
Grand Total Forest Area	31906.58
Source: *Forest Department of Rupnagar district*	

3. This office has also observed that in table no 17 on Page no. 59 of approved DSR, Drainage System with description of main rivers is not correct as per office record. Corrected details of Drainage System with description are as below: -

Sr. No.	Name of the River	Discharge(Cusec)
1.	SUTLEJ RIVER	250000
2.	BHATLAUR KHAD	1500
3.	BUDKI NADI	25000
4.	CHARANGANGA DRAIN	23502.96
5.	SWAN NADI	215000
6.	DABATWALI KHAD	12219.93
7.	KOTLA KHAD	4423
8	SOAH KHAD	8000
9	MIDWAN KHAD	6764
10	DASSGRAIN/DONAL KHAD	11400
11	LOHAND KHAD	31571.31
12	USMANPUR CHOE	25000
13	HARIPUR NALA	1000
14	BRAHAMPUR DRAIN	28.85
15	BANDHLEHRI KHAD	85
16	RAIPUR JHAJJ KHAD	2100
17	BHATTO KHAD	2500
18	MANSOLI DRAIN	628
19	SURTAPUR DRAIN	NA
20	KUNDLU KHAD	14638
21	LOTHAN KHAD	7987.82
22.	LADDAL KHAD	867
23	CHURANWALI KHAD	2830
24	SISWAN NADI	23290
25	PHOOL DRAIN	80
26	SIRSA NADI	151500
	Source: *Drainage Cum Mining Dep., Rupnagar*	

4. This office has also observed that in table no 18 on Page No. 60, (Part I) data about Salient features of important rivers and streams is not correct as per office record. Corrected details of Salient features of important rivers and streams are as below: -

SR. NO.	NAME OF THE RIVER/STREAM	TOTAL LENGTH IN DISTRICT AS PER DSR	CORRECTED TOTAL LENGTH INTHE DISTRICT(KM)	PLACE OF ORIGIN
1.	SUTLEJ RIVER	107	80	Foothills of Shivalik
2.	BHATLAUR KHAD	20	4.8	Foothills of Shivalik
3.	BUDKI NADI	8	21	Foothills of Shivalik
4.	CHARANGANGA DRAIN	3	8.38	Foothills of Shivalik
5.	SWAN NADI	6	18.29	Foothills of Shivalik
6.	DABATWALI KHAND	2.5	9.20	Foothills of Shivalik
7.	KOTLA KHAND	4	2.59	Foothills of Shivalik
8.	SOAH KHAD	8	8	Foothills of Shivalik
9.	MIDWAN KHAD	12	8.8	Foothills of Shivalik
10.	DASSGRAIN/DONAL KHAD	3	8.89	Foothills of Shivalik
11.	LOHAND KHAD	2	9.08	Foothills of Shivalik
12.	USMANPUR CHOE	2	10	Foothills of Shivalik
13.	HARIPUR NALA	16	2	Foothills of Shivalik
14.	BRAHAMPUR DRAIN	1.5	2	Foothills of Shivalik
15.	BANDHLEHRI KHAD	12	2	Foothills of Shivalik
16.	RAIPUR JHAJJ KHAD	2.5	4.8	Foothills of Shivalik
17.	BHATTO KHAD	2	10	Foothills of Shivalik
18.	MANSOLI DRAIN	7	3.35	Foothills of Shivalik
19.	SURTAPUR DRAIN	4	2	Foothills of Shivalik
20.	KUNDLU KHAD	5.5	3.3	Foothills of Shivalik
21.	LOTHAN KHAD	7	6	Foothills of Shivalik
22.	LADDAL KHAD	2.5	2	Foothills of Shivalik
23.	CHURANWALI KHAD	2.5	2.1	Foothills of Shivalik
24.	SISWAN NADI	26	18	Foothills of Shivalik
25.	PHOOL DRAIN	20	3.6	Foothills of Shivalik
26.	SIRSA NADI	80	6.9	Manasrovar-Rakas Lakes
				Source: Drainage Cum Mining Dep., Rupnagar

5. It has also been observed that there are certain clerical and calculation mistakes in Chapter No. 07 Table No. 20 from page 74 to 77. Corrected table is as below:-

Sr. No.	Deposit zone code	Avg. RL(m)	Area in Sq. m	Avg. Thickness (m)	BULK DENSITY	Quantity (Weight) (MT)	Sl. No.	Deposit zone code	Avg RL. (m)	Area in Sq.m	Avg. Thickness (m)	BULK DENSITY	Quantity (Weight) (MT)	Difference (MT) 'YY'
			Pre-monsoon							Post-monsoon				
1	PB-RUP-SUT-01	327.28	3100	1.37	1.68	7134.96	1	PB-RUP-SUT-01	327.39	3100	1.26	1.68	6562.08	-572.88
2	PB-RUP-SUT-02	327.2	3700	1.37	1.68	8515.92	2	PB-RUP-SUT-02	327.17	3700	1.40	1.68	8702.4	186.48
3	PB-RUP-SUT-03	325.95	3500	1.37	1.68	8055.6	3	PB-RUP-SUT-03	326.01	3500	1.31	1.68	7702.8	-352.8
4	PB-RUP-SUT-04	325.2	20400	1.37	1.68	46952.64	4	PB-RUP-SUT-04	325.05	20400	1.52	1.68	52093.44	5140.8
5	PB-RUP-SUT-05	322.01	12600	1.22	1.68	25824.96	5	PB-RUP-SUT-05	321.86	12600	1.38	1.68	29211.84	3386.88
6	PB-RUP-SUT-06	319.53	17700	1.22	1.65	35630.1	6	PB-RUP-SUT-06	319.44	17700	1.31	1.65	38258.55	2628.45
7	PB-RUP-SUT-07	319.43	15600	1.22	1.72	32735.04	7	PB-RUP-SUT-7	319.22	15600	1.43	1.72	38369.76	5634.72
8	PB-RUP-SUT-08	314.33	7000	1.22	1.64	14005.6	8	PB-RUP-SUT-8	314.20	7000	1.34	1.64	15383.2	1377.6
9	PB-RUP-SUT-09	312.96	10200	1.37	1.7	23755.8	9	PB-RUP-SUT-9	312.9	10200	1.43	1.7	24796.2	1040.4
10	PB-RUP-SUT-10	312.38	14300	1.37	1.7	33304.7	10	PB-RUP-SUT-10	312.29	14300	1.46	1.7	35492.6	2187.9
11	PB-RUP-SUT-11	312.36	13100	1.37	1.7	30509.9	11	PB-RUP-SUT-11	312.24	13100	1.49	1.7	33182.3	2672.4
12	PB-RUP-SUT-12	310.28	4900	1.37	1.68	11277.84	12	PB-RUP-SUT-12	310.25	4900	1.4	1.68	11524.8	246.96
13	PB-RUP-SUT-13	305.42	17800	1.52	1.67	45183.52	13	PB-RUP-SUT-13	305.32	17800	1.63	1.67	48453.38	3269.86
14	PB-RUP-SUT-14	304.19	14000	1.52	1.67	35537.6	14	PB-RUP-SUT-14	304.18	14000	1.55	1.67	36239	701.4

15	PB-RUP-SUT-15	298.53	80900	1.68	1.68	228332.16	15	PB-RUP-SUT-15	298.38	80900	1.83	1.68	248718.96	20386.8
16	PB-RUP-SUT-16	325.17	11700	1.52	1.69	30054.96	16	PB-RUP-SUT-16	324.65	11700	1.68	1.69	33218.64	3163.68
17	PB-RUP-SUT-17	323.94	93400	1.37	1.62	207291.96	17	PB-RUP-SUT-17	323.85	93400	1.46	1.62	220909.68	13617.72
18	PB-RUP-SUT-18	316.96	68100	1.52	1.69	174935.28	18	PB-RUP-SUT-18	316.9	68100	1.58	1.69	181840.62	6905.34
19	PB-RUP-SUT-19	315.07	37200	1.52	1.72	97255.68	19	PB-RUP-SUT-19	314.95	37200	1.65	1.72	105573.6	8317.92
20	PB-RUP-SUT-20	314.3	21400	1.37	1.65	48374.7	20	PB-RUP-SUT-20	314.45	21400	1.22	1.65	43078.2	-5296.5
21	PB-RUP-SUT-21	313.5	27800	1.37	1.65	62841.9	21	PB-RUP-SUT-21	313.38	27800	1.49	1.65	68346.3	5504.4
22	PB-RUP-SUT-22	311.52	13000	1.37	1.65	29386.5	22	PB-RUP-SUT-22	311.34	13000	1.55	1.65	33247.5	3861
23	PB-RUP-SUT-23	303.15	16200	1.22	1.64	32412.96	23	PB-RUP-SUT-23	302.99	16200	1.37	1.64	36398.16	3985.2
24	PB-RUP-SUT-24	302.53	4300	1.22	1.64	8603.44	24	PB-RUP-SUT-24	302.69	4300	1.07	1.64	7545.64	-1057.8
25	PB-RUP-SUT-25	301.31	9000	1.22	1.64	18007.2	25	PB-RUP-SUT-25	301.37	9000	1.16	1.64	17121.6	-885.6
26	PB-RUP-SUT-26	301.27	12200	1.22	1.64	24409.76	26	PB-RUP-SUT-26	301.49	12200	1.01	1.64	20208.08	-4201.68
27	PB-RUP-SUT-27	298.28	89700	1.37	1.69	207682.41	27	PB-RUP-SUT-27	298.19	89700	1.46	1.69	221325.78	13643.37
28	PB-RUP-SUT-28	296.31	49100	1.37	1.69	113681.23	28	PB-RUP-SUT-28	296.4	49100	1.28	1.69	106213.12	-7468.11
29	PB-RUP-SUT-29	287.1	75900	1.37	1.69	175731.27	29	PB-RUP-SUT-29	287.07	75900	1.4	1.69	179579.4	3848.13
30	PB-RUP-SUT-30	282.48	43000	1.68	1.65	119196	30	PB-RUP-SUT-30	282.6	43000	1.55	1.65	109972.5	-9223.5
31	PB-RUP-SUT-31	282.78	153500	1.68	1.65	425502	31	PB-RUP-SUT-31	282.76	153500	1.7	1.65	430567.5	5065.5
32	PB-RUP-SUT-32	277.43	94700	1.22	1.68	194097.12	32	PB-RUP-SUT-32	277.4	94700	1.25	1.68	198870	4772.88

33	PB-RUP-SUT-33	252.84	108300	1.68	1.68	305665.92	33	PB-RUP-SUT-33	252.88	108300	1.65	1.68	300207.6	-5458.32
34	PB-RUP-SUT-34	252.78	175700	1.68	1.68	495895.68	34	PB-RUP-SUT-34	252.96	175700	1.5	1.68	442764	-53131.68
35	PB-RUP-SUT-35	252.4	67900	1.37	1.68	156278.64	35	PB-RUP-SUT-35	252.37	67900	1.4	1.68	159700.8	3422.16
	TOTAL					**3514060.95**							**3551380.03**	**37319.08**
36	PB-RUP-SWAN-01	319.73	74200	1.22	1.62	146648.88	36	PB-RUP-SWAN-01	319.64	74200	1.31	1.62	157467.24	10818.36
37	PB-RUT-SWAN-02	319.83	53800	1.22	1.62	106330.32	37	PB-RUT-SWAN-02	319.86	53800	1.19	1.62	103715.64	-2614.68
38	PB-RUP-SWAN-03	316.43	45700	1.22	1.59	88648.86	38	PB-RUP-SWAN-03	316.35	45700	1.3	1.59	94461.9	5813.04
39	PB-RUP-SWAN-04	324.62	28700	1.22	1.60	56022.4	39	PB-RUP-SWAN-04	324.51	28700	1.33	1.60	61073.6	5051.2
40	PB-RUP-SWAN-05	324.37	155800	1.22	1.60	304121.6	40	PB-RUP-SWAN-05	324.33	155800	1.27	1.60	316585.6	12464
41	PB-RUP-SWAN-06	323.01	49100	1.37	1.60	107627.2	41	PB-RUP-SWAN-06	323.2	49100	1.19	1.60	93486.4	-14140.8
42	PB-RUP-SWAN-07	322.32	18000	1.37	1.60	39456	42	PB-RUP-SWAN-07	322.29	18000	1.4	1.60	40320	864
43	PB-RUP-SWAN-08	321.97	19200	1.52	1.60	46694.4	43	PB-RUP-SWAN-08	321.9	19200	1.4	1.60	49152	2457.6
44	PB-RUP-SWAN-09	320.16	62600	1.52	1.62	154146.24	44	PB-RUP-SWAN-09	320.27	62600	1.42	1.62	144005.04	-10141.2
45	PB-RUP-SWAN-10	320.73	219900	1.52	1.62	541481.76	45	PB-RUP-SWAN-10	320.78	219900	1.48	1.62	527232.24	-14249.52
46	PB-RUP-SWAN-11	314.28	283700	1.37	1.63	633530.47	46	PB-RUP-SWAN-11	314.2	283700	1.45	1.63	670524.95	36994.48

47	PB-RUP-SWAN-12	312.08	80300	1.37	1.63	179317.93	47	PB-RUP-SWAN-12	311.94	80300	1.51	1.63	197642.39	18324.46
48	PB-RUP-SWAN-13	307.32	40400	1.52	1.63	100095.04	48	PB-RUP-SWAN-13	307.38	40400	1.46	1.63	96143.92	-3951.12
49	PB-RUP-SWAN-14	304.13	41600	1.52	1.63	103068.16	49	PB-RUP-SWAN-14	304.09	41600	1.46	1.63	105780.48	2712.32
50	PB-RUP-SWAN-15	291.84	23600	1.52	1.63	58471.36	50	PB-RUP-SWAN-15	291.72	23600	1.65	1.63	63472.2	5000.84
51	PB-RUP-SWAN-16	338.16	65100	1.52	1.63	161291.76	51	PB-RUP-SWAN-16	338.16	65100	1.53	1.63	162352.89	1061.13
TOTAL						**2826952.38**							**2883416.49**	**56464.11**
Source: Field Survey and DGPS data														

6. It has also been observed that there are certain clerical and calculation mistakes in Chapter No. 07 Table no. 21 and in paragraph on page no. 78. Corrected comparative table is as below:-

Table No 21: Sediment Load Comparison Pre & Post monsoon periods for different rivers of the district

River Name	Pre-monsoon No of Ghats	Post-monsoon No of Ghats	Pre-monsoon Sediment Load (MT) as per DSR	Post-monsoon Sediment Load (MT) as per DSR	Difference (MT) as per DSR	Percentage Variance as per DSR	Corrected Pre-monsoon Sediment Load (MT) as per DSR	Corrected Post-monsoon Sediment Load (MT) as per DSR	Corrected Difference (MT) as per DSR	Corrected Percentage Variance as per DSR
Sutlej	**35**	**35**	**3493691.29**	**3545150.50**	**212450.70**	**5.99%**	**3514060.95**	**3551380.03**	**37319.08**	**1.05%**
Siwan	**35**	**16**	**2830323.74**	**2880180.44**	**146957.26**	**5.10%**	**2826952.38**	**2883416.49**	**56464.11**	**1.95%**
Total	**51**	**51**	**6324015.03**	**6425330.94**	**359407.96**		**6341013.33**	**6434796.52**	**93783.19**	
Source: Field Survey and DGPS data										

For River Sutlej in Approved DSR		Corrections in River Sutlej
Total number of sand block	35	35
Total quantity (weight) of riverbed material	**3493691.29** MT (pre-monsoon)	**3514060.95** MT (pre-monsoon)
Total quantity (weight) of riverbed material	**3545150.50** MT (post-monsoon)	**3551380.03** MT (post-monsoon)
Percentage of variance	**5.99 %**	**1.05%**

For River Swan in Approved DSR		Corrections in River Swan
Total number of sand block	16	16
Total quantity (weight) of riverbed material	**2830323.74** MT (pre-monsoon)	**2826952.38** MT (pre-monsoon)
Total quantity (weight) of riverbed material	**2880180.44 MT** (post-monsoon)	**2883416.49** MT (post-monsoon)
Percentage of variance	**5.10 %**	**1.95 %**

7. It has also been observed that there are certain clerical and calculation mistakes in Chapter No. 07 Table no. 22 on page no 80. Corrected table is as below: -

Table No. 22: Annual deposition

River Name	Zone	Type of Material	Quantity (weight) in MT (as per 'YY') as per DSR	60% of Quantity (weight) in MT as per DSR	Quantity (weight) in MT (as per 'YY') (Corrected)	60% of Quantity (weight) in MT (Corrected)
Sutlej	PB-RUP-SUT-01 to PB-RUP-SUT-35	Sand & Gravel	**212450.70**	**127470.42**	**37319.08**	**22391.44**
Swan	PB-RUP-SWAN-01 to PB-RUP-SWAN-16	Sand & Gravel	**146957.26**	**88174.36**	**56464.11**	**33878.46**
		TOTAL	**359407.96**	**315644.78**	**93783.19**	**56269.91**

Source: Field Survey and DGPS data

8. It has also been observed that there are certain clerical and calculation mistakes in Annexure 9 carried forward from Table No. 20. of approved DSR from page 388-422, 458-473. Corrected Cross section of final proposed zones with Thalweg Point and L section of river is attached.

Accordingly, it is requested to send the revised DSR to the competent authority for its approval so that mining operation can be carried out in accordance with the guidelines of SSMMG-2016 & EMSSG-2020.

Executive Engineer/Shri Anandpur Sahib,
Drainage-Cum-Mining & Geology Division,
W.R.D. Punjab.

Executive Engineer/Ropar,
Drainage-Cum-Mining & Geology Division,
W.R.D. Punjab.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

Provided that the appeal is filed within two months of the date of the order appealed against.

45. **Fees for appeal and review.** -The memorandum of appeal or application for review shall be accompanied in every case by a treasury receipt of fee as specified in the Schedule to the credit of the Government under the head "128—Receipt from Royalty and other Fee Concession".

46. **Review.** -The Government or the Director, as the case may be, may call for the relevant records and other information in any case, and after giving the parties concerned an opportunity of being heard and considering any comments that might be offered by the officer concerned, may cancel or review the orders in any such case. The orders of the Government under this rule shall be final.

CHAPTER-IV

SCIENTIFIC AND SYSTEMATIC MINING AND ENVIRONMENTAL SAFEGUARDS

47. **Mining Plan.** - No Mineral Concession shall be granted unless a mining plan has been duly approved by the competent authority:

Provided that the Government may exempt certain specified mining activities from the requirements of preparation and approval of a mining plan.

48. **Requirements of Mining Plan.** - (1) The mining plan shall be prepared by a recognised person. It shall be in accordance with regulation 106 of Metalliferous Mines Regulations, 1961 and relevant guidelines issued by the Indian Bureau of Mines, Ministry of Mines, Government of India and shall incorporate the following :-

(i) the plan of the precise area showing the nature and extent of the mineral deposit, spot or spots, where the excavation is to be done in the first year and its extent, a detailed cross-section and detailed plan of spots of excavation based on the prospecting data gathered by the applicant and a tentative scheme of mining for the first two years of the grant of Mineral Concession;

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Divisi
WRD Punjab

No. 1842 /Gig Dated- 1-36-23

From,

The Chief Engineer,
Mines & Geology,
Punjab, Chandigarh.

To

Head of Department,
Department of Civil Engineering,
Indian Institute of Technology, Ropar.

Subject- Work order regarding detailed River Audit study as per the Guidelines of the MOEF&CC to inter alia capture accurate replenishment rates in the rivers in the State of Punjab.

Vide this office letter no.-1580 dated 30.05.2023, quotation for the work mentioned in subject above was sought from your institute in reference to which your institute has submitted the quotation of total cost including everything Rs. 45 lakh per year. In pursuance to the quotation received, the work regarding detailed River Audit study as per the Guidelines of the MOEF&CC to inter alia capture accurate replenishment rates in the rivers in the State of Punjab is hereby allotted to your institute.

Further, the amount quoted by your institute shall be deposited in the account of your institute as per the details provided by your office. As you are aware that the pre-monsoon survey needs to be completed before the onset of monsoon in the State of Punjab, it is requested that the survey may be initiated soon and all the formalities as per the standing instructions of your institute such as advance payment, agreement form etc. may be completed in parallel and may not come in the way of initiating the survey.

Narinder Kumar Jain
Chief Engineer, Mines & Geology

A copy of the above is forwarded to all Executive-cum-District Mining Officer in the State of Punjab with the direction to provide all necessary support to the survey team of IIT Ropar in your District.

Narinder Kumar Jain
Chief Engineer, Mines & Geology

Executive Engineer, Ropar
Drainage-cum-Mining & Geology Division
W.D. Punjab

Mines and Geology, Water Resources Department,
Punjab, Chandigarh

No. 64 /e-437535 Date: 19-1/2024

To

All Executive Engineers-cum-
District Mining Officers
in the State of Punjab.

Subject: Regarding replenishment report and new sites identified by IIT Ropar.

In reference to the subject cited above the replenishment report has been received from IIT Ropar in which the average depth of 2 m for mining sites has been established (copy enclosed).

You are hereby directed to include replenishment report in the already approved DSRs of your district and also include new sites in DSRs identified by IIT Ropar.

Chief Engineer/Mines & Geology

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

Report on River Sand Replenishment for the Rivers of Punjab

Report Prepared

By

Dr. Reet Kamal Tiwari& Dr. Sayantan Ganguly

For

Mines and Geology Department

Government of Punjab

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
Punjab

Year 2023

Indian Institute of Technology Ropar

Table of Content

Chapter 1

Introduction

1.1.Introduction:

The construction and urbanization landscape in India is currently undergoing a transformative phase, primarily driven by the escalating demand for construction materials. In this milieu, river sand emerges as a pivotal resource, forming the cornerstone of various developmental initiatives. However, the unrestrained extraction of river sand has precipitated a predicament—a conundrum between meetings developmental needs and preserving the intricate balance of river ecosystems. This chapter serves as the preamble to a comprehensive study meticulously crafted to delve into the intricate dynamics of river sand replenishment, specifically within the context of prevalent river sand mining in the state of Punjab. Through a methodically woven tapestry of perspectives from regulatory bodies, innovative scientific methodologies, and a keen awareness of environmental imperatives, this study endeavors to unravel the multifaceted intricacies surrounding river sand extraction and its subsequent replenishment.

The study has been rigorously designed, adhering meticulously to the guidelines stipulated in the document titled "Enforcement & Monitoring Guidelines for Sand Mining," issued by the Ministry of Environment, Forest, and Climate Change. Fieldwork was conducted diligently during three pivotal periods: pre-monsoon, monsoon, and post-monsoon, with the aim of comprehensively understanding the dynamic processes involved in sand replenishment. Primary data acquisition involved a diverse array of fieldwork methodologies, encompassing the collection of sand samples for precise bulk density calculations, extraction of river water samples for the determination of suspended sediment loads, GNSS surveying, and UAV surveys for the quantification of sand deposition during monsoonal floods.

Despite meticulous planning, the execution of fieldwork encountered unforeseen challenges. The aspiration to collect data from all mining points in the year 2022-23 before the

monsoon was impeded by the early onset of monsoons and subsequent rises in water levels in the rivers. Consequently, the fieldwork could not be completed as initially intended. However, a substantial number of sample points were surveyed, providing a robust foundation for drawing meaningful conclusions regarding replenishment rates. This setback prompted a recalibration of our approach, with an increased emphasis on the integration of inputs from satellite data and remote sensing studies to augment and enhance the dataset.

As the study navigates through these challenges, it not only addresses immediate concerns but also sets the stage for future implications and anticipated contributions. The adaptive integration of satellite data ensures a robust foundation for deriving precise conclusions regarding sand replenishment rates. This adaptive approach not only underscores the resilience of the research design but also positions the study as a trailblazer in seamlessly integrating traditional fieldwork with contemporary remote sensing methodologies. The anticipated contributions extend beyond the immediate scope of this study, influencing future research endeavors, aiding in the formulation of policies, and fostering sustainable practices within the realm of sand mining. As the layers of this complex narrative unfurl, the need for an in-depth and comprehensive study on river sand replenishment becomes not just evident but imperative.

1.2. Need of Study:

The pivotal significance of the river sand replenishment study is deeply enshrined in the directives and guidelines promulgated by India's foremost regulatory bodies. Citations from the Central Water Commission (CWC), the National Green Tribunal (NGT), and the Ministry of Environment, Forest and Climate Change serve as potent reminders of the urgent need to meticulously address the environmental consequences of river sand mining. Key documents, including the exhaustive "Enforcement & Monitoring Guidelines for Sand Mining" by the Ministry of Environment, Forest and Climate Change, not only provide a blueprint for the study but accentuate the exigency of adopting sustainable practices in the extraction of this finite resource. Here we are calling the sand as "finite" resources to highlight that the although the river sand is replenished every year during the monsoon but if the sand is not mined properly from the river bed it may lead to sever environmental consequences. Further in Punjab not only the sand is mined but the large boulders are also extracted from the river bed to generate the stones requirements for the

construction. From the report it is very evident that the replenishment of the large boulders are very limited and further study is required to asses the replenishment of the stones in the rivers of Punjab. The filed study mostly concentrated around the study of the sand replenishment rates in the river Sutlej and Beas. The report at the end also provides guidelines to be followed form the next year to do this type of study more methodically and efficiently.

1.3.Short Methodology:

This section transcends a mere enumeration of methodologies; it embarks on an intricate exploration of the sophisticated and carefully calibrated approach employed in the river sand replenishment study. A judicious fusion of cutting-edge remote sensing technologies, methodical field surveys, and the application of empirically derived equations constitutes the bedrock of the report. Remote sensing technologies, with their capacity for synoptic and time series observation, become the lens through which areas significantly received sand replenishment and deposition are identified. The water samples and the sand samples were analyzed for insights into bulk density and the suspended sediment loads during the different period. The samples of water were collected three times i.e. pre- & post-monsoon and during the monsoon to capture the details of sediments during all the periods. The water samples were dried to measure the sediment quantity in the sample. These extracts were further studied for the grain size distribution and the data of same were used for the empirical studies.

For the survey to determine the exact quantity of aggradations UAV and GNSS survey were carried out during the pre- and post-monsoon period. Although the guidelines suggest that the 10 m gap can be taken in the different profiles for the study of the volume change, we employed more advanced method. For our study we 1st collected the UAV and GNSS (control point) data and processed it to generate the DEM of the area. In the 2nd step we assessed the accuracy of the generated DEM using the control points collected from the GNSS. The accuracy we found was varied between 2-3 cm in the entire studied samples. Thereafter we subtracted the post monsoon DEM from the pre-monsoon DEM to provide the exactly quantify changes in volume of the area. The DEM pixel size was kept 1 m to have more accuracy in the estimated volume. The advantage this method provides can be understood by the figure below. In the figure below we can see that if the gap in the profiles is more, we may miss humps and depressions leading to the ambiguity in

the calculated volume. The method also removes the requirement of permanent benchmarks in the area as the temporary benchmarks are created during the UAV flying by the help of chequerboard (Figure 2). Details of the data and the methodology are presented in the respective chapters.

1.4.Bulk density and Depth of Sand:

Here in the report, we have taken depth of sediments as 2 m as an average depth as the depth varied from 1.5 to 2.5 m at the surveyed locations. However, these are not the actual depth as some sediment is already present in the survey sites. Thus, the depth can be more at places which can only be analyzed by taking the core samples which was not in the scope of the study. The Bulk density at different places is found to be in the range of 1.4 to 1.6 kg/l at the surface but at 2 places we have taken the samples by digging .5 m which showed a higher density. Thus, our recommendation is to take an undisturbed sample core and measuring the bulk density at different depth.. For the calculation we have taken the average bulk density of 1.5 kg/l for all the chapters.

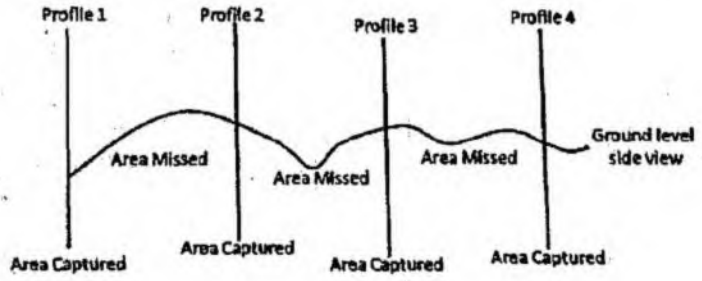
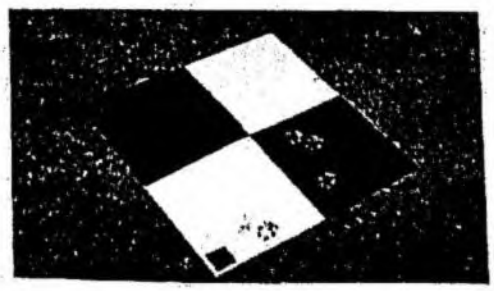


Figure 1.1: Synoptic diagram showing the need of smaller DEM resolution in place of evenly spaced ground profiles for volume calculation.



ANNEXURE R-

Figure 1.2: Representative ground control points.

1.5.Importance of the Study:

The pivotal importance of the study is not a mere theoretical assertion; it is a resonant call to action resonating through the echelons of policy, regulation, and sustainable sand mining practices. As the demand for sand continues its unrelenting ascent, the imperative to strike an equitable balance between developmental needs and environmental preservation transforms from a pragmatic necessity to a moral imperative. The report seeks to illuminate the often-overlooked ecological intricacies of river sand replenishment, providing nuanced insights that can act as the compass guiding decision-makers toward a more sustainable and harmonious coexistence of developmental imperatives and environmental conservation.

Temporal considerations are etched into the fabric of this study, recognizing the dynamic and ever-evolving nature of river ecosystems juxtaposed against the escalating demand for construction materials. The study ardently advocates for an immediate call to action, not just as a response to urgency but as a proactive stance. The dynamic and adaptive nature of a continuous monitoring and assessment framework is proposed, aligning with the evolving landscape of river sand mining. This section delves into the intricacies of timing, highlighting the need for perpetual vigilance and real-time adaptation to prevent irreversible ecological damage.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

Chapter 2

Sediment Yield Modelling

2.1.Introduction

Soil erosion is one of the major problems In India, due to uneven distribution and intensification of rainfall (Shukla 2017). Soil erosion is the process of exfoliation of the top layer of soil particles on the earth surface. It occurs generally due to natural geological processes, anthropogenic activities and the soil sediments are transported by means of natural agents like water, wind, etc. The soil erosion results in increased siltation in reservoirs and reduces the carrying capacity of water bodies (water level rises during floods). It also leads to changes in water quality and cross-section of the rivers. However, for this erosion and deposition is the main source of the sediment generation and thus studying the dynamics of the soil erosion can reflect on the replenishment rates of the rivers. The Revised Universal Soil Loss Equation (RUSLE) is one of the most widely used empirical equations to determine the soil erosion rates and is able to prioritize areas susceptible to high or low erosion in the catchment. RUSLE integrates various openly available spatial and temporal datasets including rainfall, soil, land use land cover (LULC), Normalized Difference Vegetation Index (NDVI) and topographic data. National Institute of Hydrology, Roorkee published a report in 2013 on "Morphological Study on Sutlej River" to identify the river course of Sutlej River by using LISS-II and LISS-III satellite imagery and also studied river bank shifting analysis using Survey of India (SOI) toposheets. The survey concluded that erosion and deposition rates of soil sediments were increasing with respect to time (NIH_Roorkee, 2013). So far, several studies have implemented Universal Soil Loss Equation (USLE) models for analysing soil erosion rates. Vemu & Pinnamaneni (2011) studied soil erosion of Indravati catchment using the USLE model and predicted the sediment yield using empirical equations and validated the results with observed data. Whereas, several studies used the RUSLE model to estimate the soil erosion rates for various basins across the world and results were validated with observed data, shown best accuracy. (Bhadra, 2018; Foteh, 2020; Ganasri

&Ramesh, 2016; Nikolaos, 2014; Phinzi & Ngetar, 2019; Sidi et al., 2021; Thapa, 2020; Zhou et al., 2020, Ghosal & Das, 2020).

The amount of sediments (loose non-cohesive material) eroded and transported near banks of a river due to hydraulic action of water later get deposited as the velocity of the river flow decreases. This is known as sediment yield. The variations of rainfall, temperature patterns and streamflow trends with respect to time and space show their impact on soil erosion rate and severity. Sediment yield can be determined by various techniques such as, hydrographic survey, stream measurements, empirical models, numerical models and satellite remote sensing (SRS) techniques (Pandey 2016). In this chapter we have used all the above-mentioned methods to determine the sediment yield for the rivers of Punjab and has been summarized to get an insight into the total sediment/sand which can be available in the region.

2.2.Study area:

The present chapter encompasses the Beas/Sutlej basin, which originates from the Manasarover lake (Elevation =4570m) at Mount Kailash in China (Tibetian Plateau) and extends towards the Shipkila at Himachal Pradesh (Greater and lesser Himalayan Ranges), Punjab (Siwalik Hills or Outer Himalayas) in India. The Sutlej basin covers 3% area of the Xizang state in China, 62% area of the Himachal Pradesh state, and 35% area of the Punjab state in India. The Sutlej basin extends at latitudes of 300N to 330N and longitudes of 740E to 820E. As per the digital world soil map provided by Food and Agricultural Organization (FAO), the basin is covered maximum by loam, and sandy loam at 0-30 cm depth from ground level. As per the data available from the NASA power data access viewer during the period from 1998 to 2020, theaverage annual rainfall of the Sutlej basin is 582mm, the temperature ranges from 0.960C to 480C, the wind ranges from 0.22 to 10.62 m/s, and the solar radiation ranges from 0.65 to 30.89 MJ/m2 /day. The basin receives most rainfall from June to September (South-West Monsoon). Figure 2.1 shows the index map of the Sutlej basin.

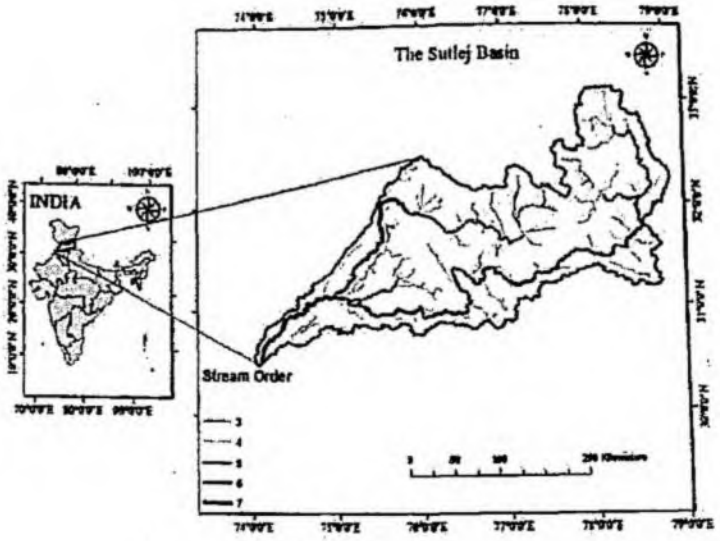


Figure 2.1: Index map of the study area

2.3.Data Collection:

The ASTER (Advanced Space borne Thermal Emission and Reflection Radiometer) Digital Elevation Models (DEM) required for the study area is downloaded from USGS Earth Explorer website (Figure 2.2). The DEM is of 30m resolution and is used to generate the stream network and to delineate watershed. The Land use and Land cover (LULC) is developed from Sentinel-2 satellite image (10m resolution) of August 2022 is loaded in Google earth engine and supervised classification is performed by assigning samples to the image (Figure2.3). In LULC maps (Figure 2.3) we observed five major classes – water body, agriculture, forest, built-up and barren land. Soil map (Figure2.4) is acquired from Food and Agricultural Organization (FAO) website. The precipitation data is obtained from CHRS portal at a resolution of 0.250.

ANNEXURE R_

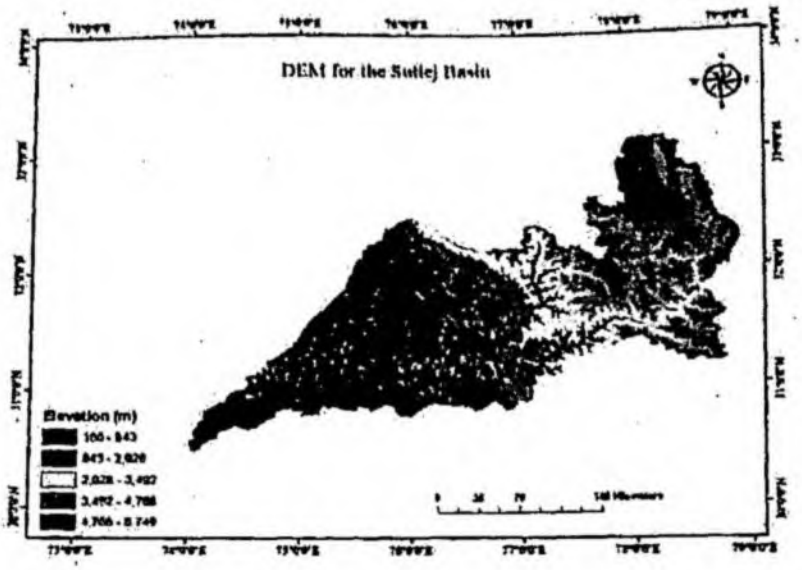


Figure 2.2: ASTER DEM of the Sutlej Basin

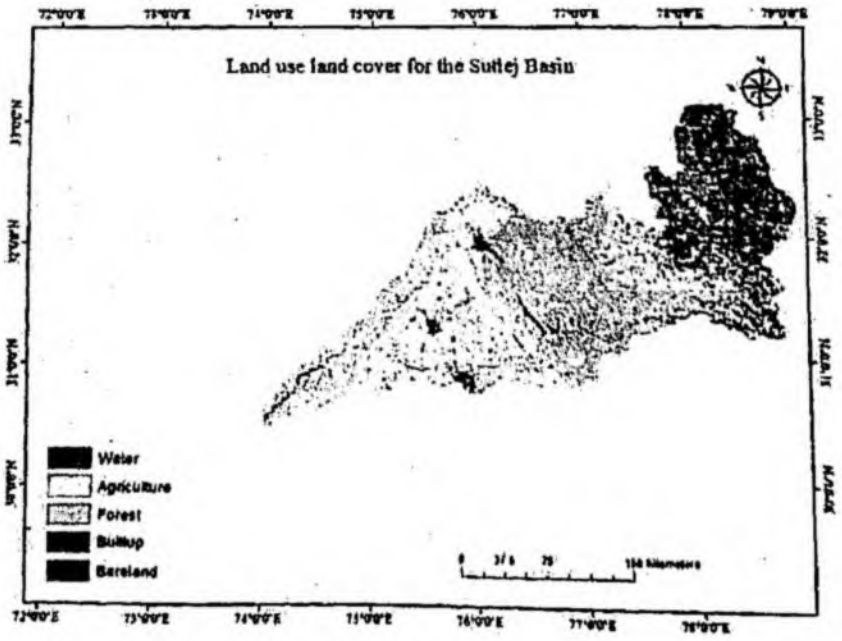


Figure 2.3: Land use land cover of the Sutlej Basin

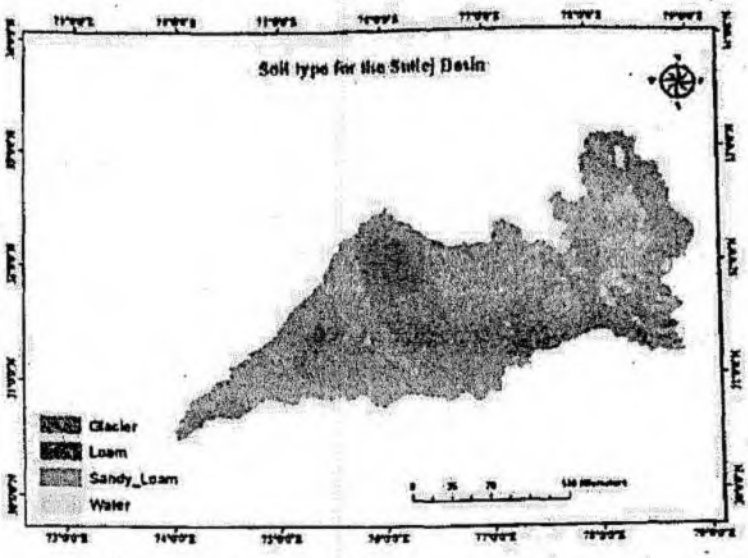


Figure 2.4: Type of soil available in Sutlej basin

2.4.Methodology:

2.4.1. Revised Universal Soil Loss Equation (RUSLE):

It is an empirical equation (Eq-1) used to quantify potential annual average soil loss (tons/ha/year) (A). It integrates many independent factors such as rainfall erosivity factor (R), soil erodibility factor (K), cover management factor (C), support practice factor (P), slope length and slope steepness factor (LS).

$$\text{Annual Soil loss rate, } A = R * K * LS * C * P \quad (1)$$

$$\text{Sediment yield, } S_y = 11.8 * \left(Q * q_p\right)^{0.56} * K * LS * C * P \quad (2)$$

RUSLE is an estimate of sheet and rill soil movement down a uniform slope using rainfall energy as the erosive force acting on the soil (Wischmeier and Smith 1978). Depending on soil characteristics (texture, structure, organic matter, and permeability), some soils erode easily

while others are inherently more resistant to the erosive action of rainfall. Equation-1&2 shows the estimation of annual soil loss rate and sediment yield using USLE.

Rainfall erosivity factor (R): This factor tells about potential of rain to detach the soil particles based on annual rainfall (P). Therefore, R is determined using mean annual rainfall as recommended by Roose (1975) cited in Morgan and Davidson (1991) (Equation-3). The R-factor is a multi-annual average index that measures rainfall's kinetic energy and intensity to describe the effect of rainfall on sheet and rill erosion.

$$R = 0.5 * P \quad (3)$$

Soil Erodibility factor, (K): It represents the potential ability of soil to erode and depends on soil texture and permeability. Equation-4-8 shows the method recommended by Williams, (1995). The soil erodibility factor (K) describes how easily it will erode under normal conditions, how easily sediment can be moved around, and how much water will be washed off the top in response to a given rainfall. A soil's K factor can be calculated using a nomograph, which considers the soil's texture (silt%, sand %, clay %, permeability %, soil structure %, organic matter %,) permeability and soil's structure.

$$K_{USLE} = F_{csand} * F_{cl-si} * F_{orgc} * F_{hisand} \quad (4)$$

$$F_{csand} = 0.2 + 0.3 * exp[-0.256 * m_s * \left(1 - \frac{m_s}{100}\right)] \quad (5)$$

$$F_{cl-si} = \left(\frac{m_{silt}}{m_c + m_{silt}}\right)^{0.3} \quad (6)$$

$$F_{orgc} = \left(1 - \frac{0.25 * orgC}{orgC + exp[3.72 - 2.95 * orgC]}\right) \quad (7)$$

$$F_{hisand} = \left(1 - \frac{0.7 * \left(1 - \frac{m_s}{100}\right)}{\left(1 - \frac{m_s}{100}\right) + exp[-5.51 + 22.9 * \left(1 - \frac{m_s}{100}\right)]}\right) \quad (8)$$

$OrgC = percentageofsoilorganiccarboncontent;$

$m_s = percentageofsandfractioncontent;$

$m_{silt} = percentageofsiltfractioncontent;$

$$m_c = percentageofclayfractioncontent;$$

$$F_{orgc} = Factorofsoilorganiccarboncontent;$$

$$F_{csand} = Coarsesandcontentfactor;$$

$$F_{ct-si} = siltfractioncontentfactor;$$

$$F_{hisand} = highersandcontentfactor;$$

$$K_{USLE} = Soil\ erodibility\ factor\ [\frac{t - ha - \frac{h}{ha}/MJ}{mm}]$$

Slope length and steepness factor, (LS): It is a topographic factor. It depends on length and steepness of slope. Indirectly it includes drainage density. The LS factor is computed by the equation recommended by Morgan and Davidson (1991) (Equation-9). The steepness of the incline (L) measures the extent to which the slope impacts erosion. The length of a slope is the horizontal distance between the point where deposition begins, or runoff water enters a clearly defined channel and the point at which overland flow begins. As the incline increased, the rate of soil erosion per unit area increased. The influence of slope steepness on weathering is denoted by the slope steepness parameter (S). The degree of slope steepness has a higher influence on the amount of soil that is carried away than does the length of the slope. Steeper the slope, the greater is the erosion.

$$LS = \sqrt{\frac{L}{22}} * (0.065 + 0.045 * S + 0.0065 * S^2) \quad (9)$$

L- Slope length in meters; S – Percent Slope.

Cover management, (C): It accounts the potential of soil erosion due to cropping pattern and management practices. Equation-10 is used to estimate C-Factor. Depending on seasonal rainfall distribution, low precipitation rates in the rainy season significantly affect the C-factor in the following year. The NDVI time series obtained from satellite images, such as from

Landsat 5 or Sentinel 2, are useful for estimating the cover management factor and monitoring watershed erosion.

$$C = \frac{-NDVI+1}{2} \quad \text{(Durgion et al. 2014)} \qquad (10)$$

$$Normalized Difference Vegetation Index, NDVI = \frac{NIR-Red}{NIR+Red} \qquad (11)$$

Support practice factor, (P): It tells about the effect of surface management practices that are used to reduce soil erosion. It may include ploughing, terracing etc. P-values are recommended based on land use type, slope. The P factor quantifies the influence of conservation strategies, such as buffer belts of close-growing plants, contouring, and terracing on soil loss at a specific site. Adopting these supportive conservation practices reduces the P-value because they limit runoff volume and velocity and promote sediment deposition on the slope surface.

Quantification of Surface Runoff using Soil Conservation Service – Curve Number (SCS-CN) method:

The SCS curve number method is a simple, widely used method for determining the amount of runoff from a rainfall even in a particular area. Although the method is designed for a single storm event, it can be scaled to find average annual runoff value. The curve number is based on the area's hydrologic soil group, land use, and hydrologic condition. Equation-12 &13 are used to estimate Runoff for a given rainfall in a watershed.

$$Runoff, Q = \frac{(P-0.2*S)^2}{P+0.8*S} for P > 0.2*S and Q = 0 \quad for P < 0.2*S \qquad (12)$$

$$S = \frac{25400}{CN} - 254 \qquad (13)$$

$$Q - Surface Runoff; P - Precipitaion; S - Potential maximum retension$$

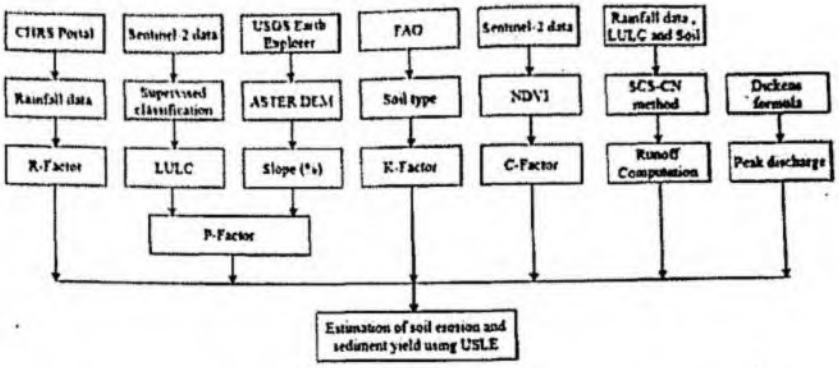


Figure 2.5: Workflow followed to estimate soil erosion and sediment yield using USLE

Peak discharge estimation (QP): Peak discharge is the peak rate of runoff (volume per unit time) from a specified catchment area. In this study, Dicken's formula is used to determine peak discharge for different sub-basins in the Sutlej basin. Equation-14 is used to estimate peak discharge.

$$\text{Peak discharge, } Q_P = C_d * A^{0.75} \qquad (14)$$

2.4.2. Bed load and Total load calculation:

Meyer Peter Muller equation: Meyer-Peter's equation is based on experimental work carried out at Federal Institute of Technology, Zurich. Mayer-Peter gave a dimensionless equation based, for the first time, on rational laws. Mayer- Peter equations giving an empirical correlation of bed load transport rates in flumes and natural rivers. This method is used to determine the bed load transport rate in N/m/s. The bed load is estimated by using the equations 15-19.

$$Non-dimensional Bedload, \emptyset_B = 8 * (\tau'_{0*} - 0.047)^{1.5} \quad (15)$$

$$\emptyset_B = \frac{q_B}{\gamma_s * (g * d^3)^{0.5}} * \frac{1}{\left(\frac{\gamma_s}{\gamma} - 1\right)^{0.5}} \quad (16)$$

$$\tau'_{0*} = \frac{\tau'_0}{(\gamma_s - \gamma) * d} \quad (17)$$

$$\tau'_0 = \gamma * R * S * \left(\frac{n_s}{n}\right)^{1.5} \quad (18)$$

$$Strucklers formula: n_s = \frac{d_{50}^{\frac{1}{6}}}{21.1} \quad (19)$$

$\tau'_{0*} - excess shear stress;\ \tau'_0 - shear stress resisted by grains;\ q_B - bedload$

$\gamma - Specific unit weight of water;\ \gamma_s - Specific unit weight of sediment$

$n_s - manning roughness coefficient for grains hear stress$

$n - manning roughness coefficient for total shear stress$

$R - hydraulic radius; S - Slope$

d_{50}
$- the diameter\ (mm)\ at which\ 50\%\ of a sample's mass is comprised of smaller particles$

Engelund and Hansens equation: It is a total load transport equation, developed from flume data, using relatively uniform sand sizes between 0.19 mm and 0.93 mm.

$$\emptyset_T * f = 0.4 * \tau_*^{2.5} \quad (20)$$

$$\emptyset_T = \frac{q_T}{\gamma * (g * d^3)^{0.5}} * \frac{1}{\left(\frac{\gamma_s}{\gamma} - 1\right)^{1.5}} \quad (21)$$

$$f = \frac{8 * g * R * S}{V^2} \quad (22)$$

$$V = \frac{1}{n} * R^{0.667} * S^{0.5} \quad (23)$$

$$\emptyset_T - totalloadtransportfunction;\ q_T - Totalload\ (\frac{\frac{N}{m}}{s})$$

$$\tau_* - Non - dimensionalbedshearstress\ ;\ f - darcyweisbachfrictionfactor$$

$$\gamma - Specificunitweightofwater;\ \gamma_s - Specificunitweightofsediment$$

$$R - hydraulicradius; S - Slope$$

2.4.3. Estimation of Sediment yield using the Dandy Bolton equation:

Dandy and Bolton equation estimates all types of sediment yield i.e., through Sheet and rill Erosion, gully Erosion, Channel Bed and bank erosion and mass movement etc. Dandy-Bolton determined the combined influence of runoff and drainage area to compute the sediment yield.

For run off less than 2 inches:

$$S = 1289 * Q^{0.46} * (1.43 - 0.26 * logA) \quad (24)$$

For run off more than 2 inches:

$$S = 1958 * 10^{-0.055*Q} * (1.43 - 0.26 * logA) \quad (25)$$

Where: S = Sediment yield (tons/sq miles/yr) Q = Mean Annual runoff (inch) A = Net drainage are in sq mile

2.5.Results:

2.5.1. Revised Universal Soil Loss Equation (RUSLE): Results

RUSLE integrated with Remote Sensing and GIS is applied to determine annual potential soil loss (tons/ha/year) for every cell (100 m×100 m resolution) for the Sutlej basin. Rainfall erosivity factor is calculated by using equation (3) which ranges from 0 to 297 MJ mm/ha/h/year (Figure 2.6). It has been observed that, in the upstream areas of Sutlej basin, there is reduced amount of rainfall i.e., less than 340 mm resulting in rainfall erosivity factor to be very low. Whereas, in the downstream areas of Sutlej basin, there is more amount of rainfall activity and thus the rainfall erosivity factor increased. As cover management factor (C) depends mainly on type of crop, its growth, percentage of cover, it is directly proportional to normalized vegetation index NDVI. Here C values ranges from 0 to 1, higher values represent no cover effect, and therefore more amount of soil loss takes place and vice-versa.C-factor is calculated by using equation (10). Figure-7 shows the variation of C-factor for the Sutlej basin.

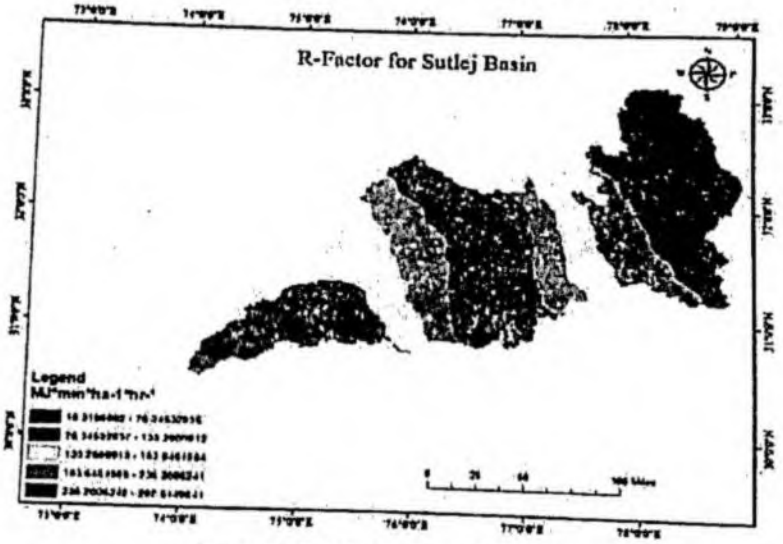
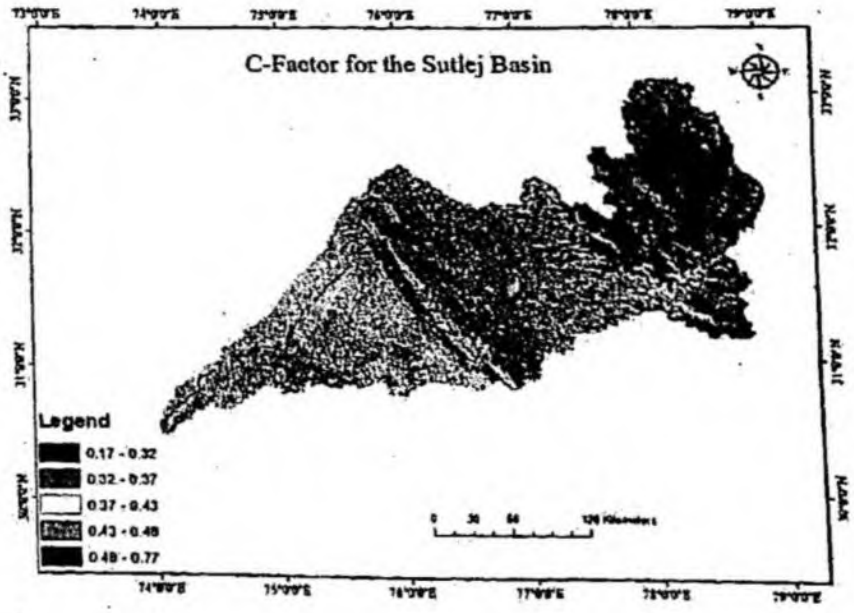


Figure 2.6: Rainfall erosivity factor for Sutlej basin

The P factor lies between 0 and 1, lower P value indicates that high effectiveness of support or conservation practices (terracing, strip cropping, and contour ploughing) and higher P value suggests that no conservation practices or measures implemented. Figure 2.8 depicts the variation of P-factor for the Sutlej basin. In general clays have lower K value because of low permeability and it will resist the soil detachment. Sandy soils are also having lower K values because of higher infiltration losses and lower runoff, and these are not easily transported. Silt loam soils have moderate K values, they are easily detachable and suspend sediments. Figure2.9 depicts the variation of soil erodibility factor for the Sutlej basin.

LS factor is very high for nearer streams due to higher slopes, and very low at farther streams. As LS factor increases, soil loss per unit area increases and vice versa. Figure2.10 depicts the variation of LS factor for the Sutlej basin. The annual potential soil loss is calculated by multiplying all factors (Figure2.11). It is shown that more amount of soil erosion is happening in the upstream of the Sutlej basin due to presence of larger slope, silt-loam soil, non-existence of any type of cover and support practice factor. In upstream at some areas, the annual potential soil



loss is zero because of less amount of rainfall. One of the drawbacks of RUSLE model is that, it assumes that soil loss is due to rainfall but not runoff.

Figure 2.7: Cover management factor for the Sutlej basin

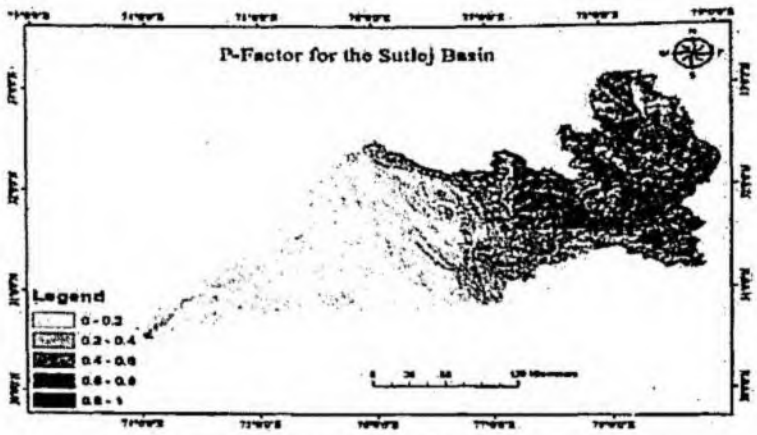


Figure2.8: Support practice factor for the Sutlej basin

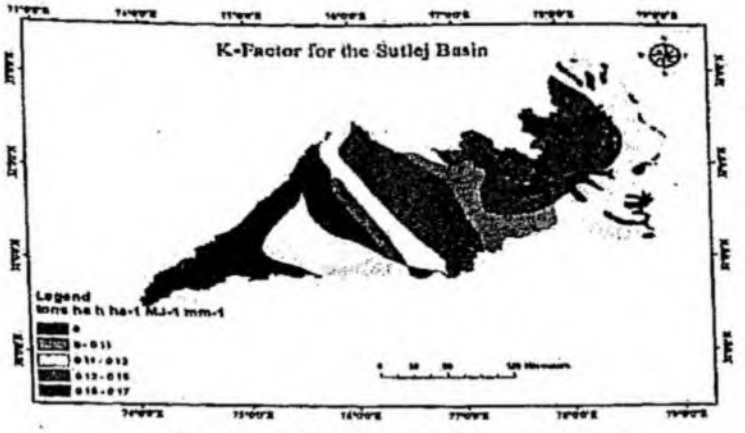


Figure2.9: Soil erodibility factor for the Sutlej basin

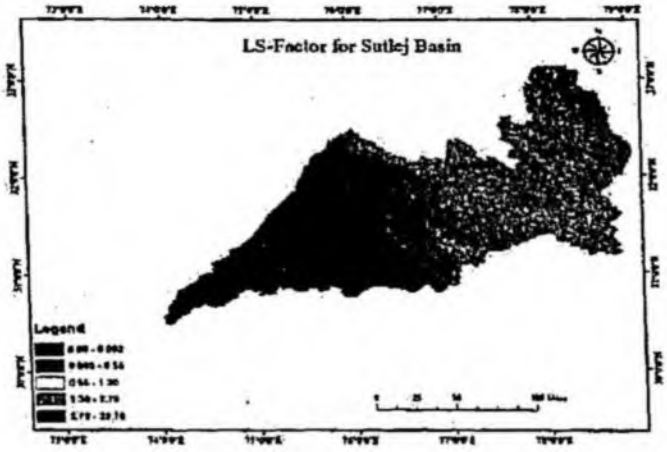


Figure2.10: Slope length and steepness factor for the Sutlej basin

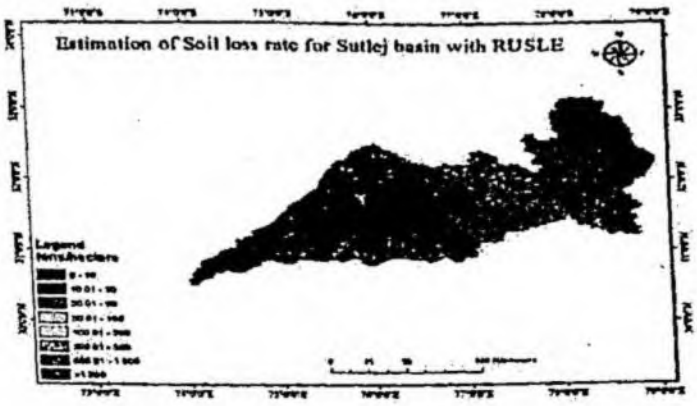


Figure2.11: Variation of annual soil loss for the Sutlej basin

The volume of direct surface runoff is estimated by using SCS-CN method (Figure2.12). It is observed that its upstream at the Shipki la has very less significant amount of runoff and the direct surface runoff is increasing upto Bhakra dam and later again it is decreasing towards downstream. The peak discharge is estimated by using the Dickens formula. The variation of peak-discharge for each sub-basin is plotted (Figure2.13) to estimate sediment yield by using Modified-USLE. It is observed that, the sediment yield is very high in its upstream upto Bhakra dam later it is decreased as it progresses downstream due to presence of more amount of surface runoff and peak discharge (Figure 2.14).

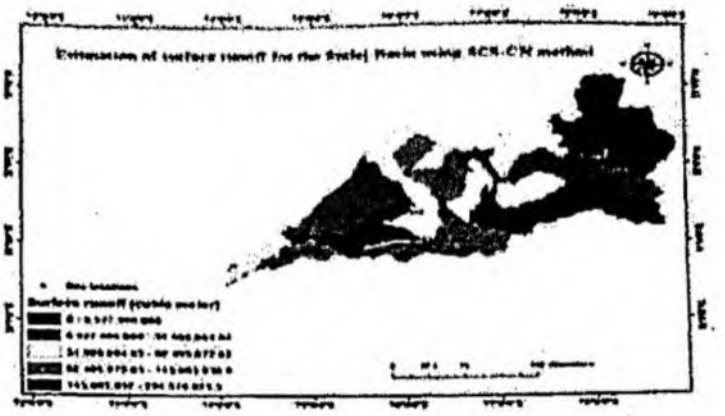


Figure2.12: Variation of surface runoff for the Sutlej basin

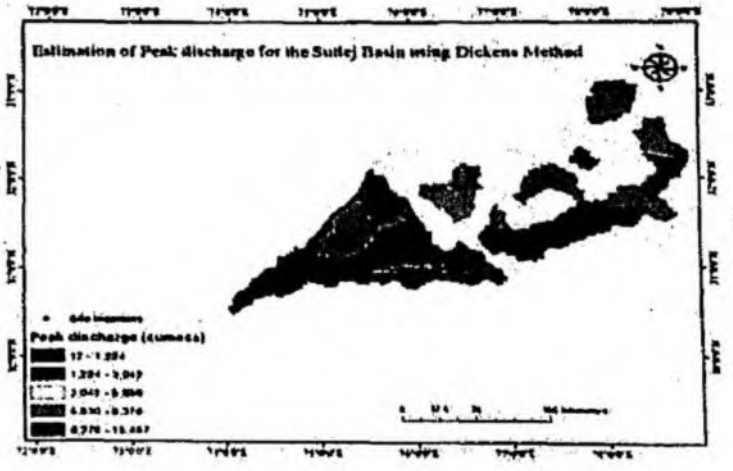


Figure2.13: Estimation of peak discharge using the Dickens method

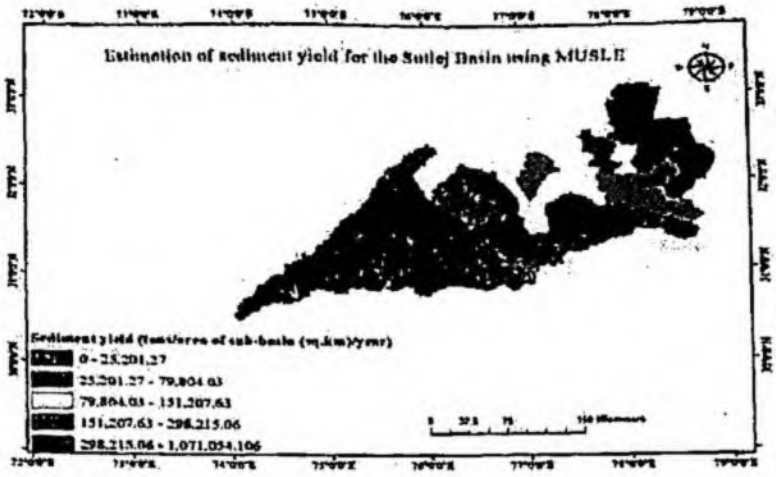


Figure 2.14: Estimation of sediment yield using MUSLE

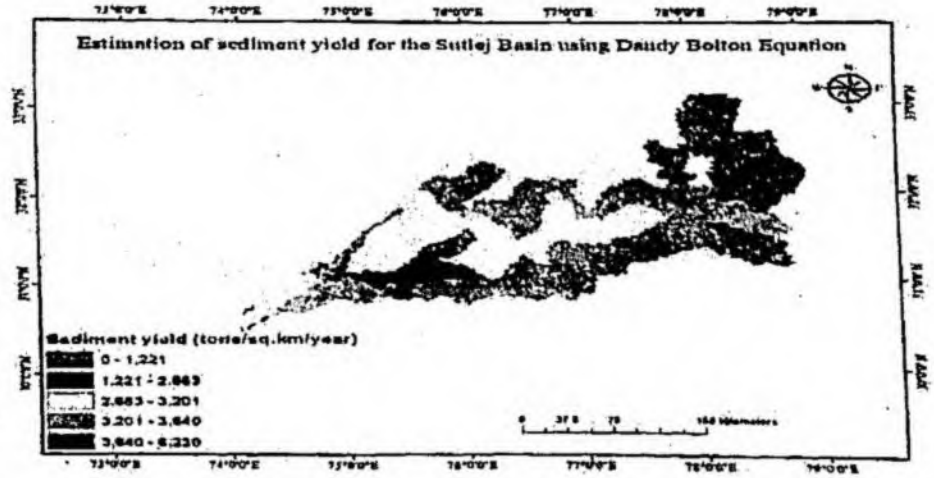


Figure 2.15: Estimation of sediment yield in terms of tons per square kilometre for the Sutlej basin using Dandy-Bolton equation

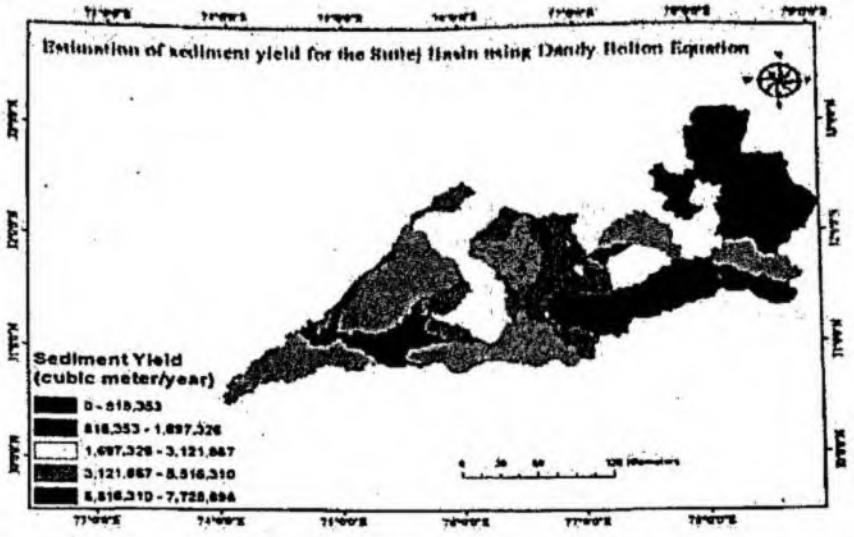


Figure 2.16: Estimation of sediment yield in terms of cubic meter per year for the Sutlej basin using Dandy Bolton equation

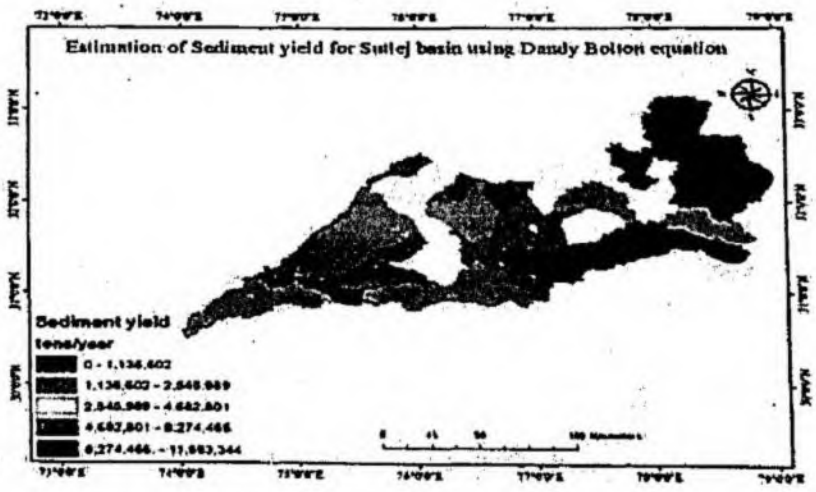


Figure 2.17: Estimation of sediment yield in terms of tons per year for the Sutlej basin using Dandy Bolton equation

2.5.2. Bed load and Total load calculation at various sites in Punjab State:

In this study, the Bed load is estimated by using Meyer-Peter-Muller equation and the Total load is estimated by using Engelund-Hansen equation. The grain-size distribution analysis is performed at various sites on Sutlej and Beas rivers in the Punjab state to determine the total load and bed load. Table-1 shows the sediment carrying capacity of a channel at various sites on the Sutlej and Beas Rivers.

Table2.1: Tabulation of Total load and Bed load at various location on Sutlej and Beas Rivers

							Total load (N/m/s)		Bed load (N/m/s)	
Name	Slope	d10 (mm)	d35 (mm)	d50 (mm)	d60 (mm)	d90 (mm)	qT monsoon	qT postmonsoon	qB monsoon	qB postmonsoon
Taprain R	0.00051	0.12	0.28	0.35	0.39	0.6	144.27	76.67	88.72	63.10
SBS22	0.00043	0.18	0.27	0.32	0.38	0.6	103.00	54.74	66.24	47.09
SBS36	0.00084	0.25	0.34	0.4	0.41	0.6	443.43	235.64	199.79	142.39
Jalandhar	0.00084	0.15	0.24	0.3	0.35	0.6	586.00	311.40	178.95	127.63
Boont	0.00043	0.18	0.25	0.31	0.35	0.6	106.32	56.50	65.50	46.57
Mianpur	0.00043	0.15	0.22	0.3	0.35	0.5	109.87	58.38	64.74	46.03
Tangda	0.00043	0.18	0.28	0.3	0.35	0.5	109.87	58.38	64.74	46.03

2.5.3. Total Sediment yield using the Dandy Bolton equation

Table 2.2 shows the amount of sediment yield determined by using Dandy Bolton equation in terms of cubic meter and tons. It shows that maximum amount of sediment yield is obtained at upstream of the Pong dam on the Beas River. Figure-15 shows that sediment yield in majority it is varying between 1221 to 3640 tons/square kilometer. Figure 2.16& 2.17 shows sediment yield in terms of cubic meter per year and tons per year. The sediment yield in terms of cubic meter per year is determined by considering density of sediment as 1.5ton/cubic meter.

Table 2.2: Estimation of sediment yield using Dandy Bolton equation at upstream and downstream of hydraulic structures on the Sutlej and Beas rivers

Spatial extent	Sediment yield (cubic meter/year)	Sediment yield (tons/year)
Downstream of Bhakra dam on the Sutlej river	11773755	17660633.06
Upstream of Bhakra dam on the Sutlej river	20003126	30004689.19
Downstream of Pong dam on the Beas river	13205329	19807994.14
Upstream of Pong dam on the Beas river	30048064	45072095.30

2.6.Conclusions:

The soil erosion is determined by using RUSLE equation considering rainfall, soil, DEM, land use, and land cover. This show area with high elevation along with prompt rainfall susceptible to soil erosion.

The analysis and results conclude that the average soil loss estimated using RUSLE model isvaries from 0-331 tons/sq.km/yr in the Sutlej and Beas Basin in the Punjab state. While the average soil loss in its upstream from the Shipkila to Bhakra dam varies between 38-2760tons/sq.km/yr. The erosion elements affecting soil loss, such as high rainfall, loamy soil dominance, higher topography regions with a steep side slope, and high agriculture activities, would promote the high soil loss amount. It was determined that the most severely degraded areas are generally situated in the upstream parts of the investigated basin. In contrart, the slightly deteriorated areas are situated in the watershed's downstream parts. Although the downstream parts of the basin have a limited potential for soil erosion, materials eroded from the upstream parts may collect in the river's lower reaches.

The Sediment yield is also determined by using MUSLE equation by considering multiple factors such as peak discharge, volume of direct surface runoff, soil erodibility factor, Slope length and steepness factor, Cover management factor, and support practice factor. The average sediment yield of the Sutlej and Beas portion lies in the Punjab state varies from0.015-18

tons/sq.km/year. While the sediment yield in its upstream from the Shipkila to Bhakra dam varies between 0-209 tons/sq.km/yr. It is also observed that sediment yield is also high in its upstream compared to downstream due to low surface runoff and peak discharge. The weighted area average of sediment yield in upstream of the Bhakra dam is found to be 119.71 tons/sq.km/year and in downstream region of the Bhakra dam is found to be 7.44 tons/sq.km/year. Sediment yield in terms of tons per year at upstream of the Bhakra dam is found to be 2613452.80 tons/year and at downstream region from the Bhakra dam is found to be 56746.69 tons/year.

Dandy Bolton equation provided the sediment generation of 17660633.06 and 19807994.14 tones at the downstream of Bhakra dam and Pong dam respectively. Sediment yield determined by using MUSLE is underestimated because the sediment yield is directly proportional to volume of direct surface runoff (cubic meter) and peak discharge. In Dandy Bolton equation, the sediment yield is inversely proportional to annual runoff (inches).

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Chapter 3

Satellite Data Based Change Assessment

3.1.Introduction:

In the dynamic field of environmental monitoring and resource management, satellite data has become indispensable for addressing various challenges. One significant application is the mapping of river sand dynamics, crucial for sustainable land use planning and disaster management. This study focuses on the pre-monsoon and post-monsoon periods of 2023 (22 May and 8 December, respectively), utilizing Sentinel (optical) satellite data with a spatial resolution of 10 meters.

The utilization of satellite data for river sand mapping provides a unique perspective, offering a comprehensive understanding of riverine environments' dynamic nature. Sentinel satellites, equipped with advanced optical sensors, provide high-resolution imagery, enabling accurate analyses of land cover changes, especially in riverbeds.

Before diving into the analysis, data preprocessing is essential to ensure result accuracy and reliability. Two critical processes are mosaicing and clipping. Mosaicing involves combining multiple satellite images to create a seamless representation of the study area, enhancing spatial coverage. Clipping, on the other hand, extracts specific portions of imagery relevant to riverbeds and surrounding areas, optimizing computational resources for a targeted assessment of sand dynamics.

Implementing these preprocessing steps on Sentinel data produces datasets well-suited for detailed analyses of river sand dynamics during the critical pre-monsoon and post-monsoon periods in 2023. This approach enhances our understanding of environmental changes, aiding informed decision-making for sustainable land management and disaster preparedness. In this

study we only covered the river bed and mapped all the sand bars. We excluded the banks (which were present in the DSR) as the mining guidelines suggest that the bank should not be mined as it may alter the course of the river.

Beyond preprocessing, the core of river sand mapping involves meticulous change detection. By comparing pre-monsoon and post-monsoon Sentinel data, we discern alterations in the riverbed landscape, revealing significant changes such as sediment deposition, erosion, and shifts in water body courses. The chapter also presents change detection in areas covered in the previous DSR; mapping areas left out from the previous DRS sites. A comparison of UAV survey areas with post-monsoon satellite data confirms the accuracy of vector data from the satellite output.

3.2.Results:

The total area covered in the pre-monsoon time was found to be 2093.59hectare (Ha) covering a total of 650 sites in the river Sutlej and Beas. The sites are generally small and fragmented during the pre-monsoon time. In the post-monsoon data, the number of sites decreased to 564 but the area significantly increased to 5312.24 (Ha). Showing a high deposition rates or replenishment rates during the year 2023 monsoon. Here it should be noted that the total area of the DSR sites were 5094.55 (Ha) but these sites also included the banks of river and the agricultural fields which are not the part of the post-monsoon data. Thus, signifying the amount of replenishment received during monsoon of 2023. The details of sites are present in the annexture 1. The UAV survey areas (post-monsoon) were overlayed over the post-monsoon data and it was found that the area matches completely signifying the accuracy of the satellite-based assessment.

Table 3.1: Comparison of total area (in Ha) in different scenarios.

Area May 2023	Area December 2023	Area DSR	Area (Ha) DSR Sites remaining post-monsoon 2023
2093.59	5312.24	5094.55	1149.87

Table 3.2: Comparison of total available sand volume & weightin different scenarios.

Volume(m^3)May 2023	Volume(m^3)December 2023	Volume(m^3)DSR	Volume (m^3) DSR Sites remaining post-monsoon 2023
41871829	106244774	101891099	22997483

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Weight May 2023	Weight December 2023	Weight DSR	Weight DSR Sites remaining post-monsoon 2023
62807744	159367161	152836649	34496224
Note: Volume is calculated based on 2 m depth and weight is in tones by taking average 1.5 kg/l as bulk density.			

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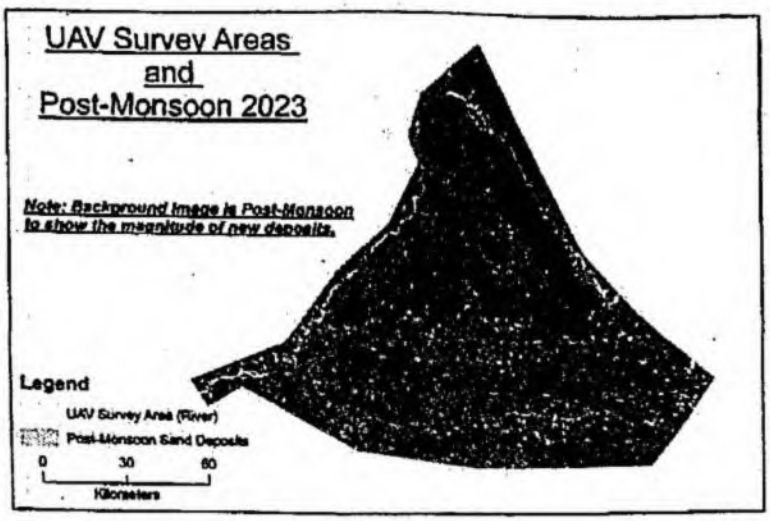


Figure 3.1: Figure showing the overlay of UAV and post-monsoon areas.

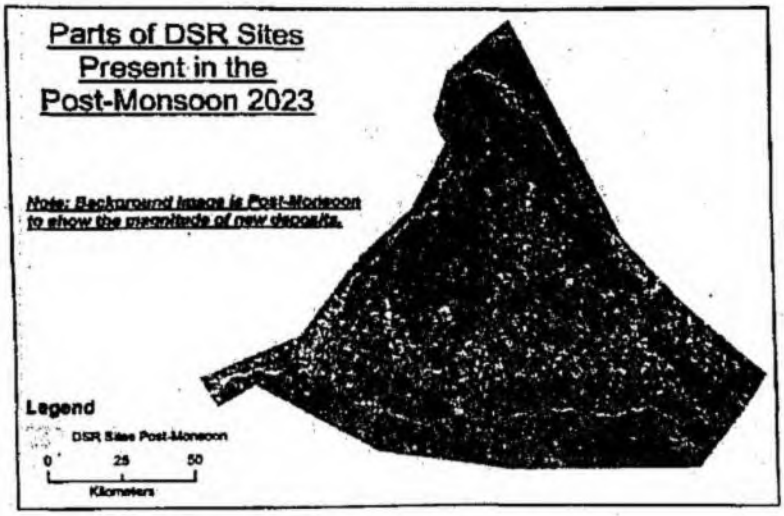
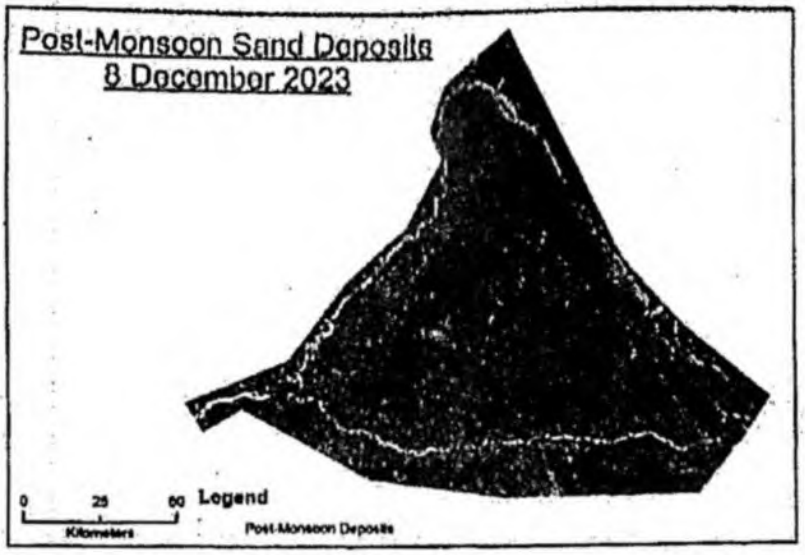


Figure 3.2: Figure showing the part of DSR sites remaining in the post-monsoon areas.



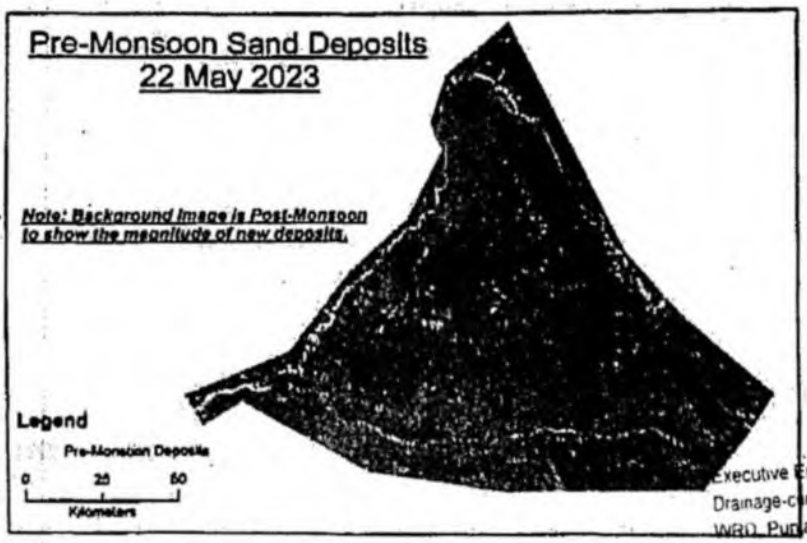


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Figure 3.3: Pre- and post-monsoon area of year 2023.

Chapter 4

UAV & GNSS Based Change Assessment

4.1. Introduction:

UAV Survey was carried out during the pre-monsoon and post-monsoon time for the mining sites.UAV collected the aerial photographs of the sites. Ground control was collected using DGPS. Processing was done using UAV data processing software where point cloud of the surface was obtained from the 2D aerial photographs. Digital elevation model (DEM) was then created using the point cloud. For each site pre and post monsoon DEM were generated. Volume change, net volume deposit and deposit area changes were then obtained after the analysis of both DEM. The accuracy of the DEM was found to be in satisfactory range when compared with GNSS data.

In the volume calculation we have used the lowest level (elevation) of the pre-monsoon data for the calculation of the total volume gained after the monsoon period. The lowest level has been taken considering the fact that the new deposits have altered the river channel and in the pre monsoon time we had water at the site where we got new deposits. Thus, in actual the volume deposited will be more than the calculated volume shown in the report. The depth below the water level where new deposits formed will be extra volume which is not included in the current calculations. To get this data we should do the bathymetry surveys so that we have the under-water geometry which can be used to calculate the volume gain in cases where the river changes its course and the new deposits are formed from the base of the river.

For Sites 1,2, 6 to 9 and 11to 16, since pre monsoon area was mostly submerged in water, and the depth of the water area was not available, deposited volume was calculated by taking a mean elevation of lowest region in site. For sites 3, 4, 5 and 10, total volume of erosion and deposition was calculated. Figure 4.1 shows the sites surveyed. Table 4.1 shows the list of sites and corresponding labels.

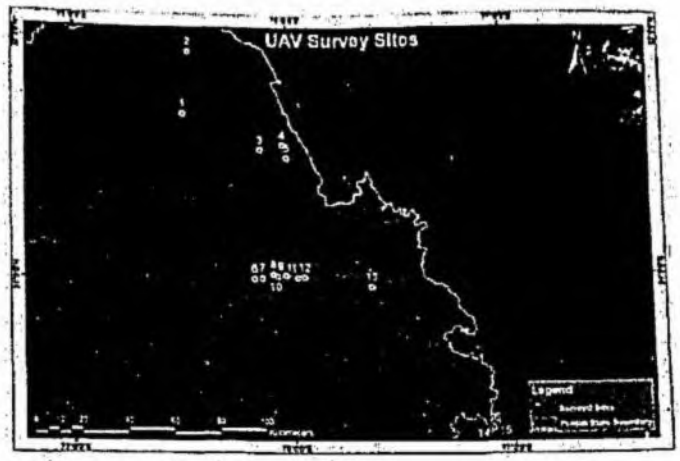


Figure 4.1: Locations of mining sites surveyed using UAV

Table 4.1: Surveyed sites and their labels

Label	Site	Location
1	Rarra	Rarra, Hoshiarpur
2	Taggar Kalan	Mukerian, Hoshiarpur
3	NS5	Dagana Kalan, Hoshiarpur
4	NS1	Sherpur, Hoshiarpur
5	ML1	Mehlanwali, Hoshiarpur
6	ludh52	Kasabad, Ludhiana
7	Ludh44	Kasabad, Ludhiana
8	Boont, Jal1	Boont, Ludhiana
9	Sasrali	Sasrali, Ludhiana
10	SBS82	Burj Tehal Dass, SBS
11	SBS 70_72	Jhungian, SBS
12	sbs66ab	Talwand Shibu, SBS
13	SUT 33_35	Sultanpur, Rupnagar
14	Tangri 1	Nagla, Mohali
15	Tangri 2	Nagla Mohali
16	Tangri 5	Razpur, Mohali

Results:

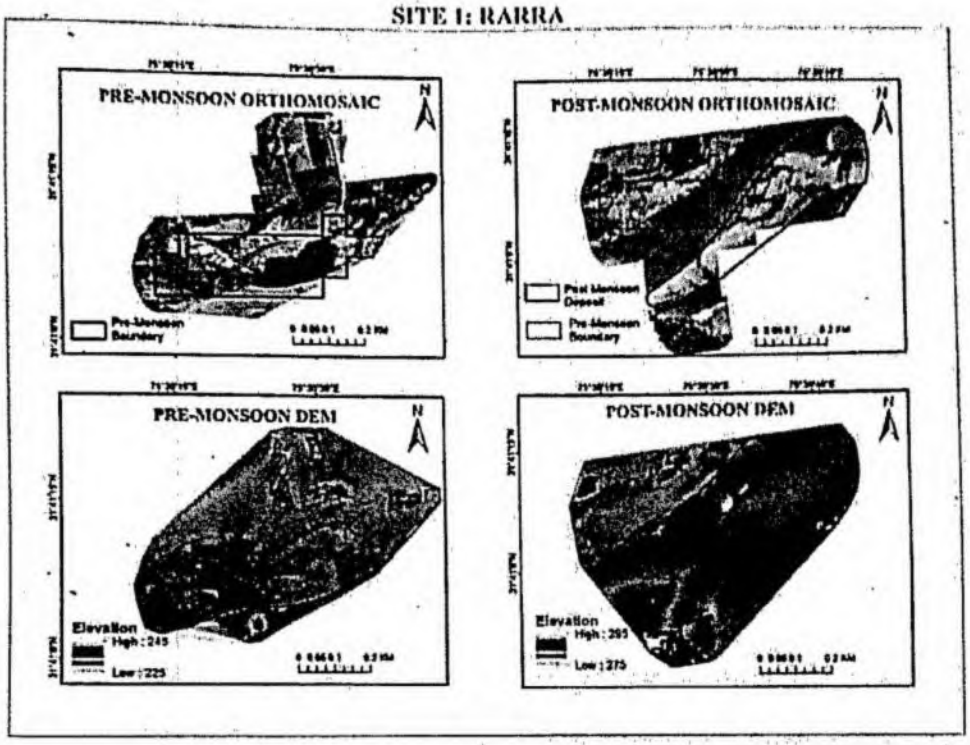
The tables and the figures below show the results of the UAV survey

Table 4.2: Table showing the area and volume of the sand deposited at the UAV survey sites.

Site No	Location	Kml Volume (m^3)	Total Volume (KML + New Deposit) (m^3)	New Deposits (m^3)	Mean level (m)
1	Rara_hos	97173.83	0.00	253344.30	231
6	Ludh 52_54	191794.16	593925.39	402131.23	235
7	Ludh 44	33608.75	113426.40	79817.65	234
8	Boont	902433.44	2243047.92	1340614.47	236
9	Sasrali	132018.91	281913.61	149894.70	237
11	Sbs 70_72	702895.69	1330066.49	627170.81	243
12	Sbs66ab	14797.31	36694.42	21897.11	242
13	Sut34	347850.40	847804.84	499954.44	235
14,15	Tangiri1,2	4257.99	77311.13	73053.14	277
16	Tagiri5	17350.65	93650.53	76299.88	277
Total Volume		2444181.13	5617840.72	3524177.73	
Total Weight (Tones)		3666271.69	8426761.09	5286266.59	

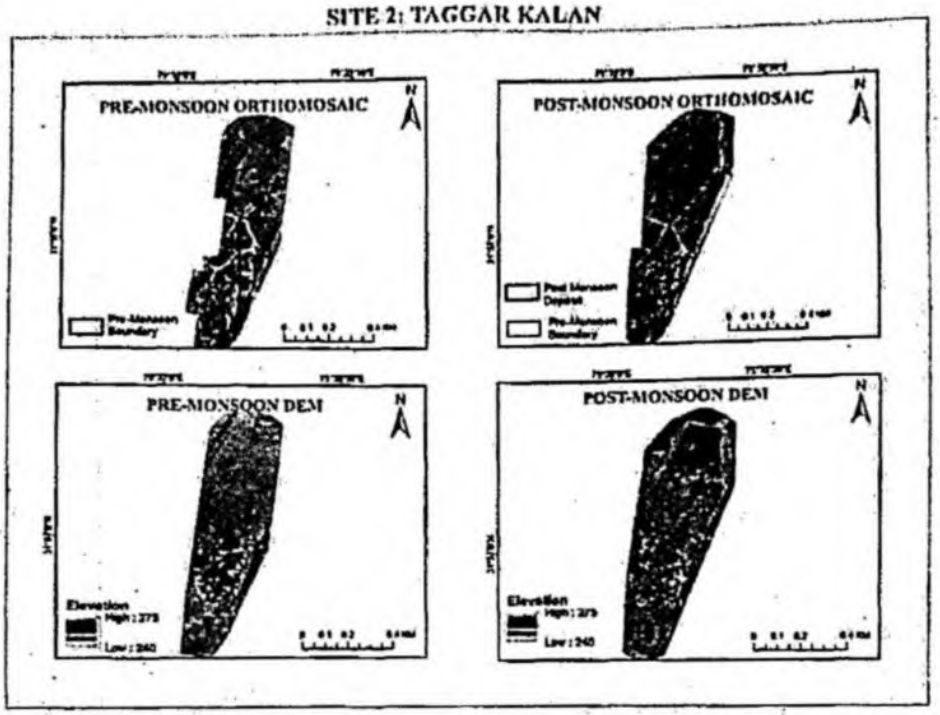
Site No	Location	Deposition	Erosion	Net Gain (m3)
3	NS5	9378.04	7378.71	19999.33
4	NS1	199836.27	94573.36	105262.91
5	ML1	4979.77	3507.92	1471.84
10	SBS82	23713.95	21780.70	1933.24
Total Volume		235974.73	129173.94	128667.32
Total Weight (Tones)		353962.17	193760.91	193000.98

SITE 1: RARRA



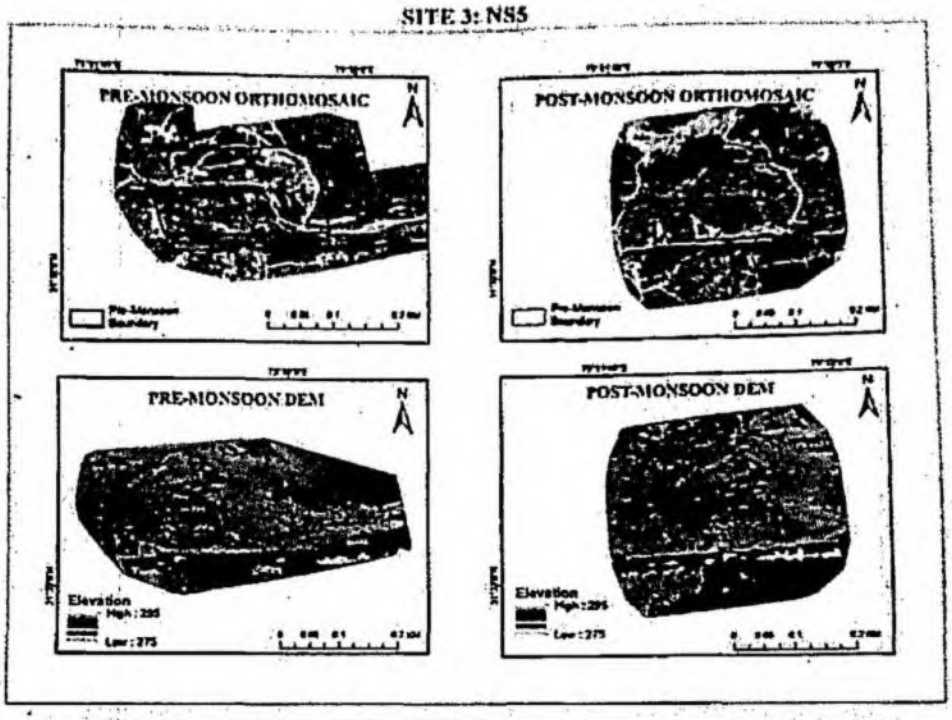
Volume of deposition within pre monsoon boundary(m^3)	97173.82
Total Volume of deposition post monsoon (m^3)	350518.12
New deposit volume(m^3)	253344.30
Area of the pre monsoon boundary (m^2)	98613.57
Total deposit Area post monsoon (m^2)	275853.45

SITE 2: TAGGAR KALAN



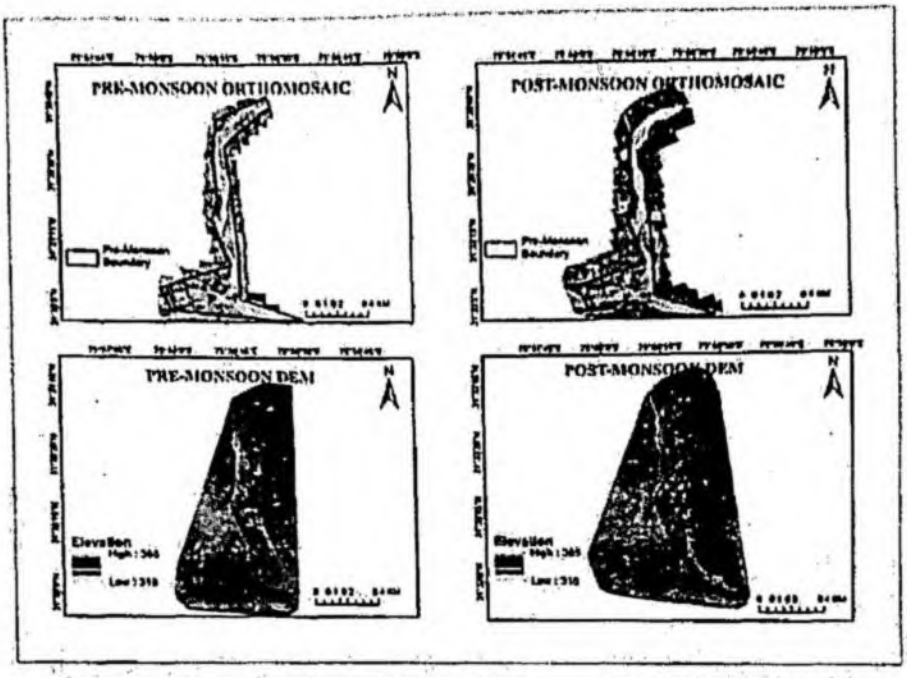
The area does not exhibit any significant changes. And area is covered by vegetation.

SITE 3: NS5



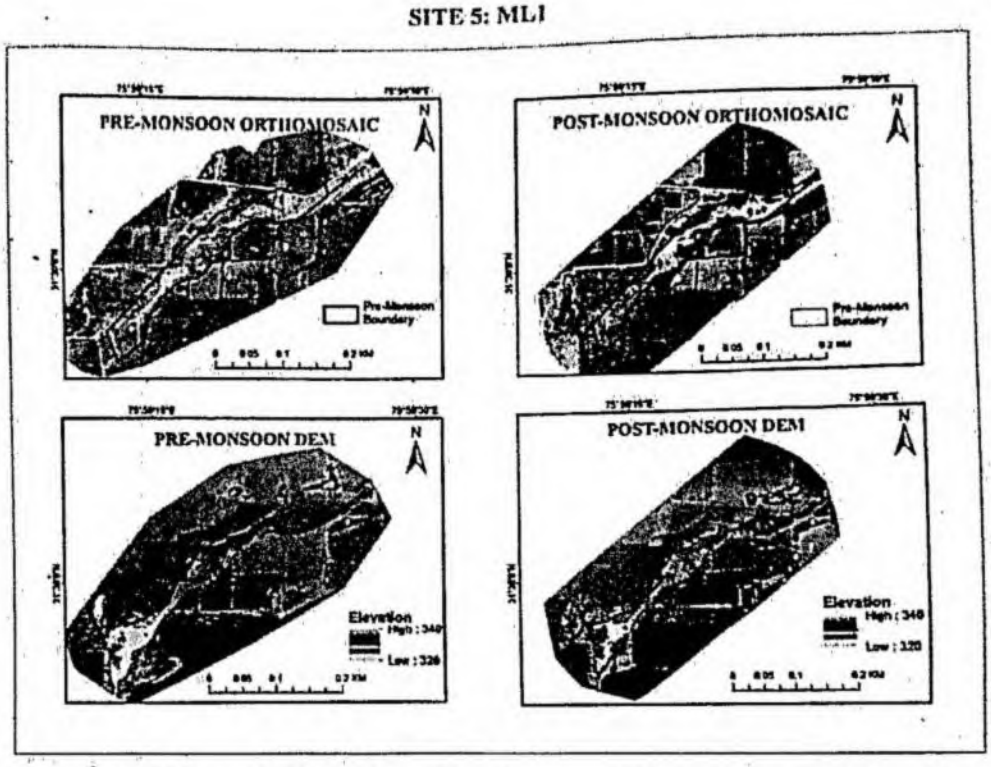
Volume of deposition (m^3)	9378.04
Volume of Erosion(m^3)	7378.71
Netdeposit volume(m^3)	1999.33
Area of the pre monsoon boundary (m^2)	36390.69

SITE 4: NS1



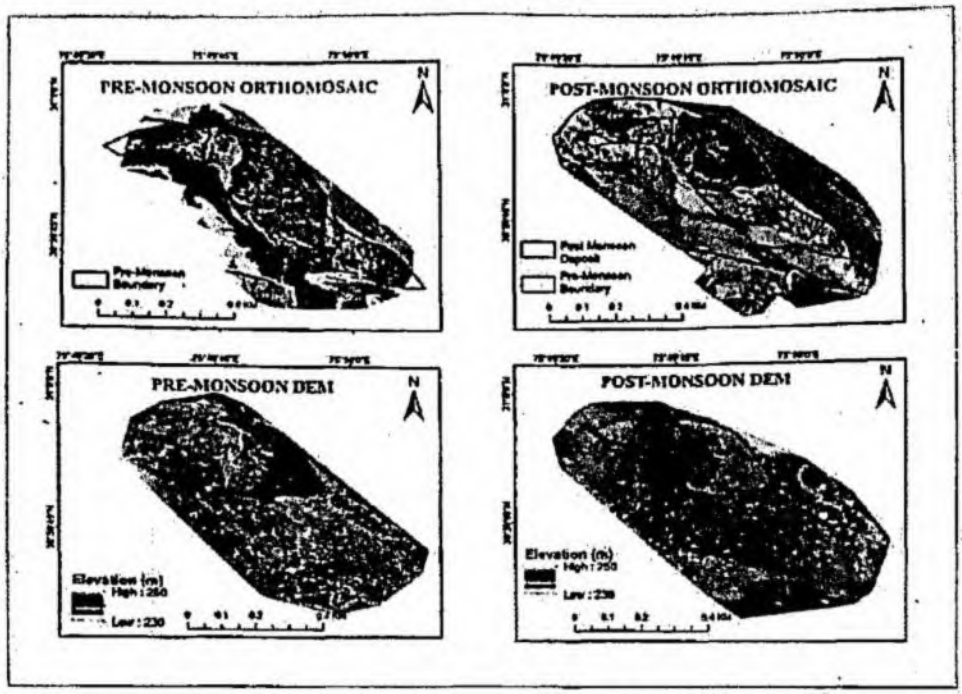
Volume of deposition (m^3)	199836.27
Volume of Erosion(m^3)	94573.36
Netdeposit volume(m^3)	105262.91
Area of the pre monsoon boundary (m^2)	279299.15

SITE 5: MLI



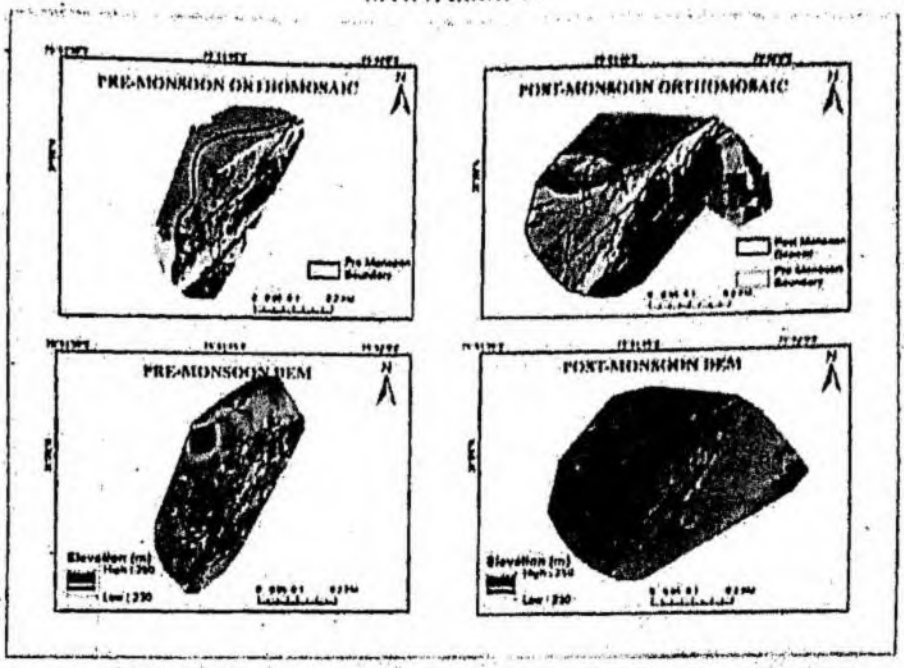
Volume of deposition (m^3)	4979.77
Volume of Erosion(m^3)	3507.925
Netdeposit volume(m^3)	1471.84
Area of the pre monsoon boundary (m^2)	15356.01

SITE 6: LUDH 52_54



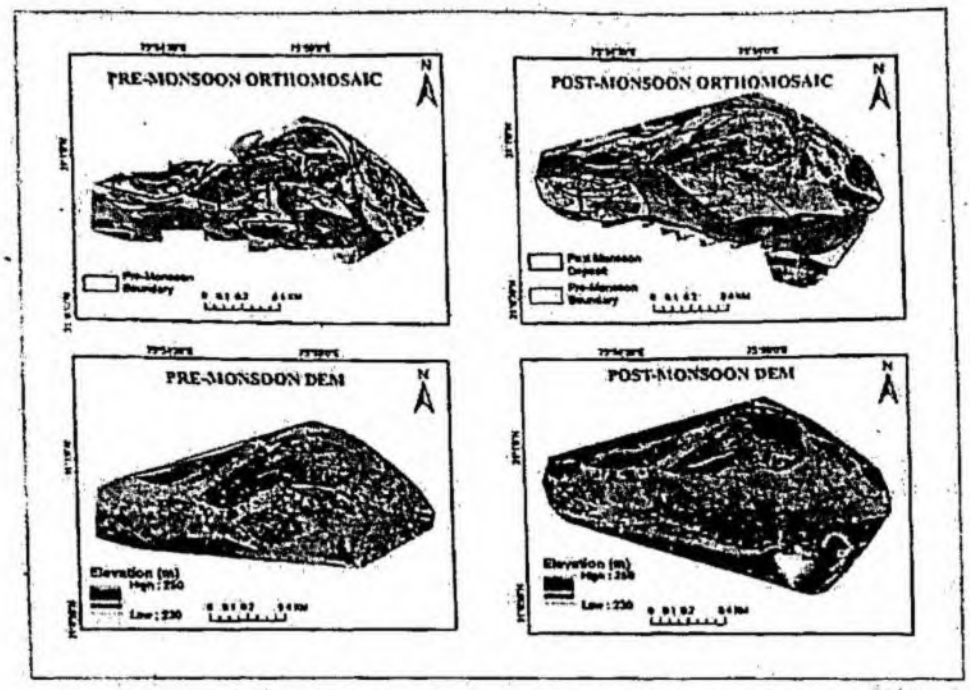
Volume of deposition within pre monsoon boundary(m^3)	191794.16
Total Volume of deposition post monsoon (m^3)	593925.38
New deposit volume(m^3)	402131.22
Area of the pre monsoon boundary (m^2)	156768.31
Total deposit Area post monsoon (m^2)	303583.87

SITE 7: LUDH-44



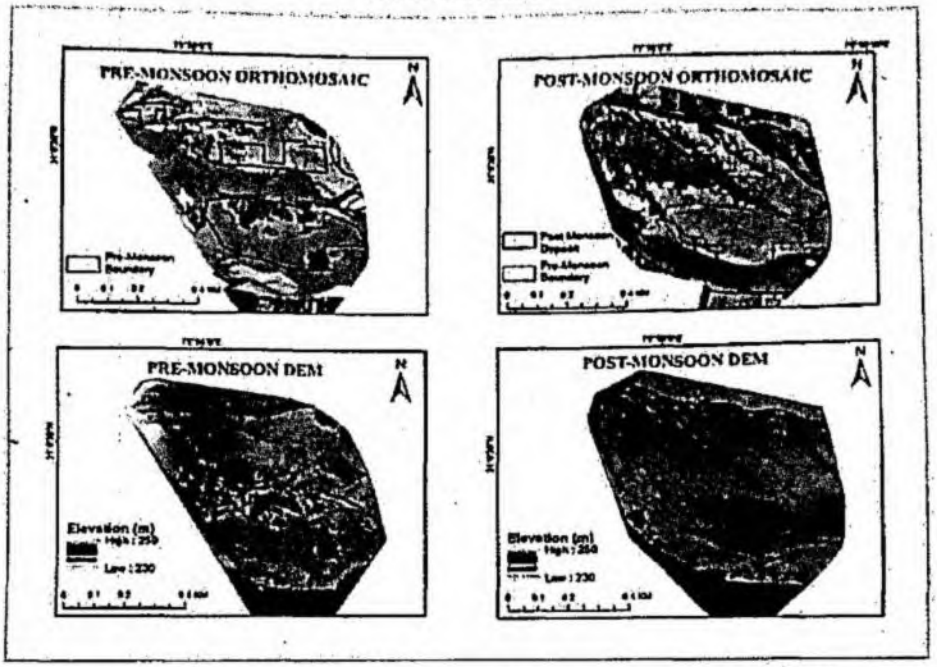
Volume of deposition within pre monsoon boundary(m^3)	33688.74
Total Volume of deposition post monsoon (m^3)	113426.39
New deposit volume(m^3)	79817.65
Area of the pre monsoon boundary (m^2)	37711.93
Total deposit Area post monsoon (m^2)	90243.90

SITE 8: BOONT, JAL 1



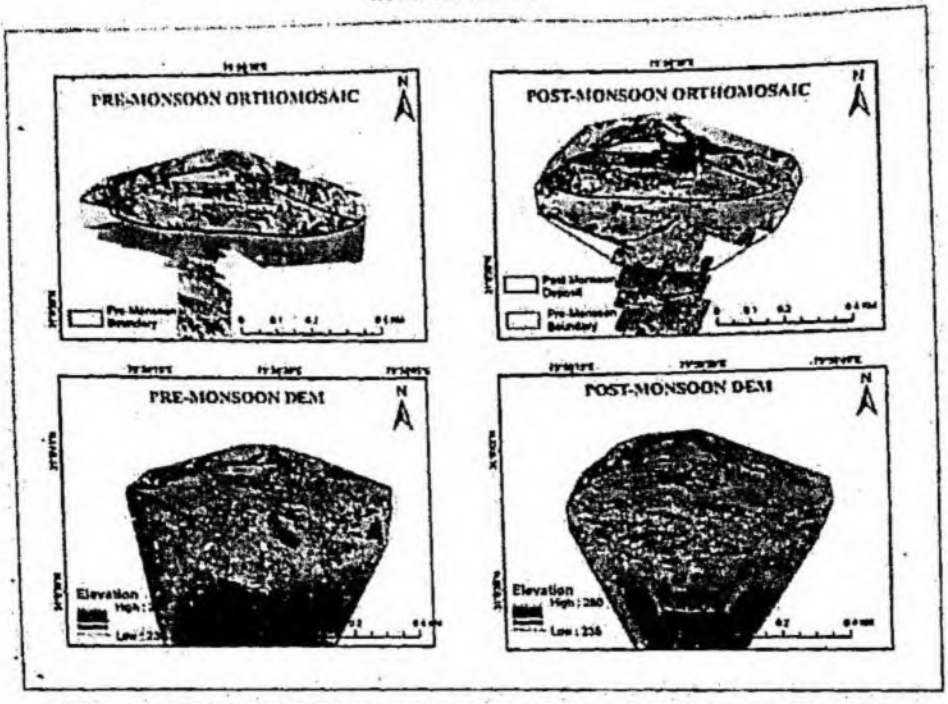
Volume of deposition within pre monsoon boundary(m^3)	902433.44
Total Volume of deposition post monsoon (m^3)	2243047.91
New deposit volume(m^3)	1340614.47
Area of the pre monsoon boundary (m^2)	349775.43
Total deposit Area post monsoon (m^2)	781759.27

SITE 9: SASRALI



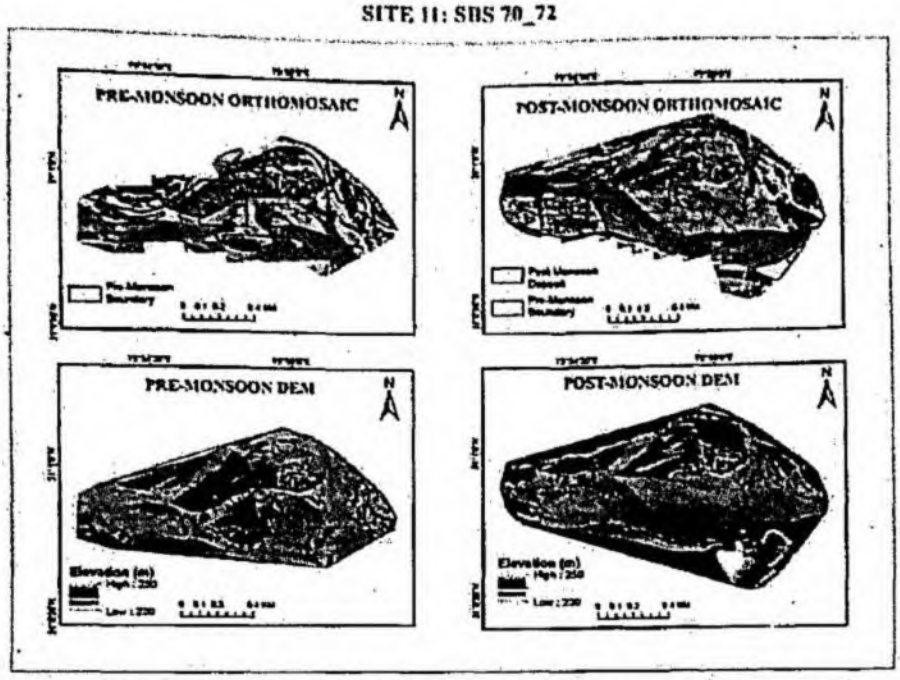
Volume of deposition within pre monsoon boundary(m^3)	132018.91
Total Volume of deposition post monsoon (m^3)	281513.61
New deposit volume(m^3)	149894.69
Area of the pre monsoon boundary (m^2)	119753.27
Total deposit Area post monsoon (m^2)	399249.03

SITE 10: SBS 82



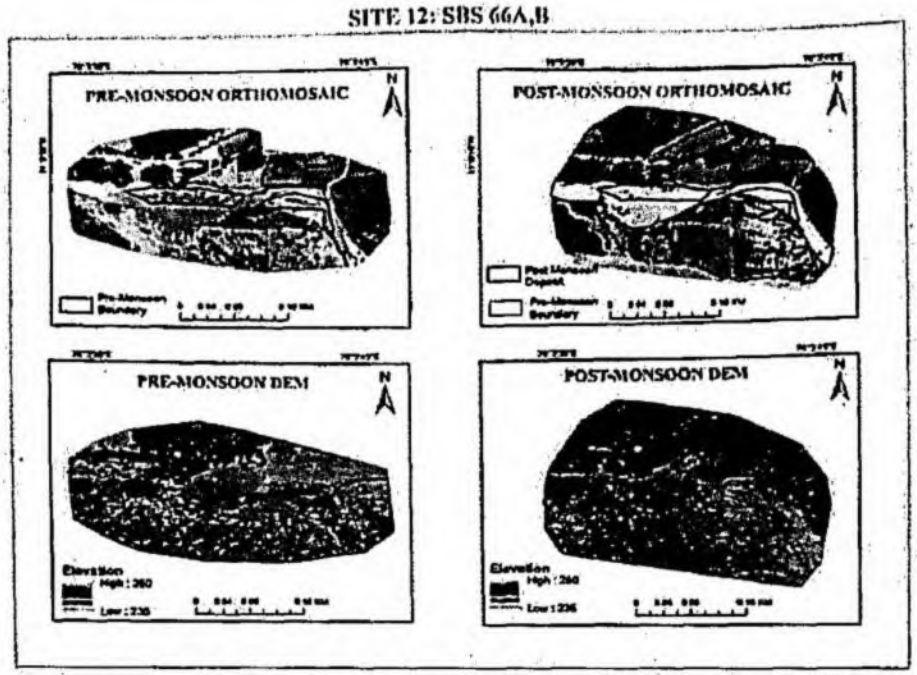
Volume of deposition (m^3)	23713.95
Volume of Erosion(m^3)	21780.7
Netdeposit volume(m^3)	1933.238
Area of the pre monsoon boundary (m^2)	87115.10
Total deposit area post monsoon	243888.51

SITE 11: SBS 70_72



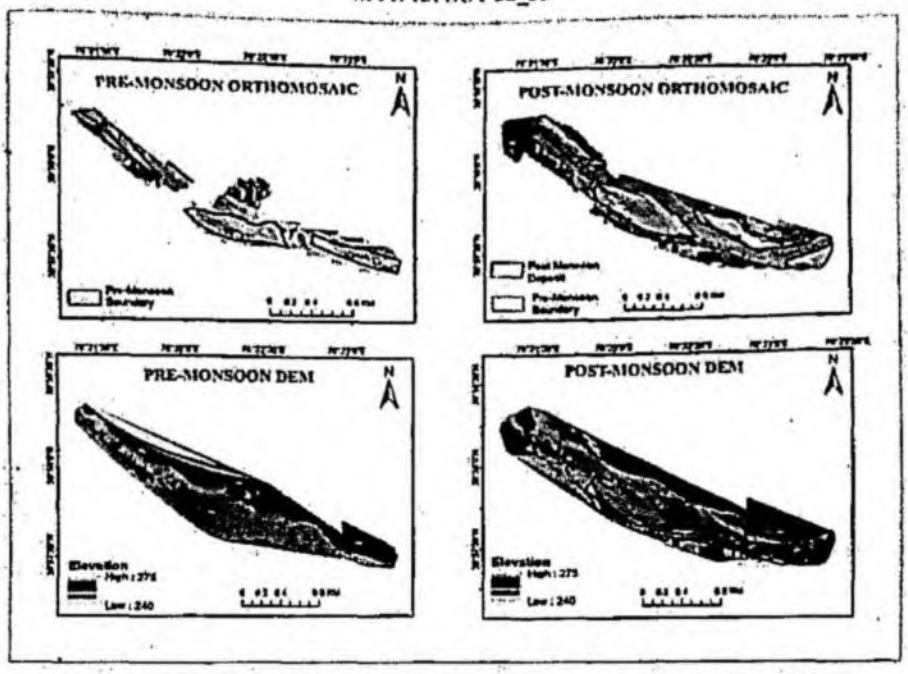
Volume of deposition within pre monsoon boundary(m^3)	702895.68
Total Volume of deposition post monsoon (m^3)	1330066.49
New deposit volume(m^3)	627170.81
Area of the pre monsoon boundary (m^2)	377709.74
Total deposit Area post monsoon (m^3)	812039.86

SITE 12: SBS 66A,B



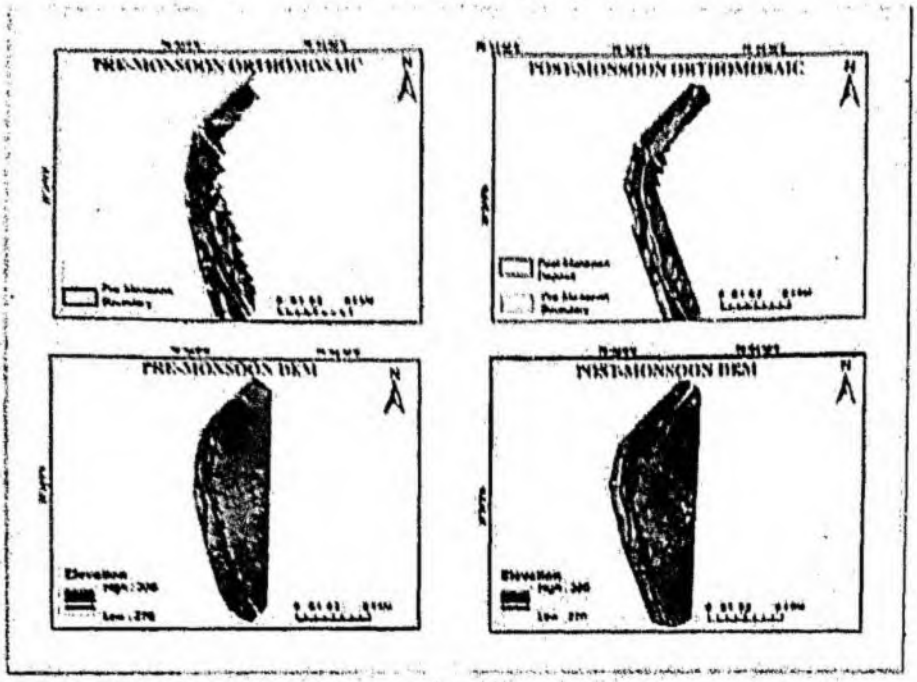
Volume of deposition within pre monsoon boundary(m^3)	14797.31
Total Volume of deposition post monsoon (m^3)	36694.41
New deposit volume(m^3)	21897.1
Area of the pre monsoon boundary (m^2)	5977.28
Total deposit Area post monsoon (m^2)	18029.74

SITE 13: SUT 33_35



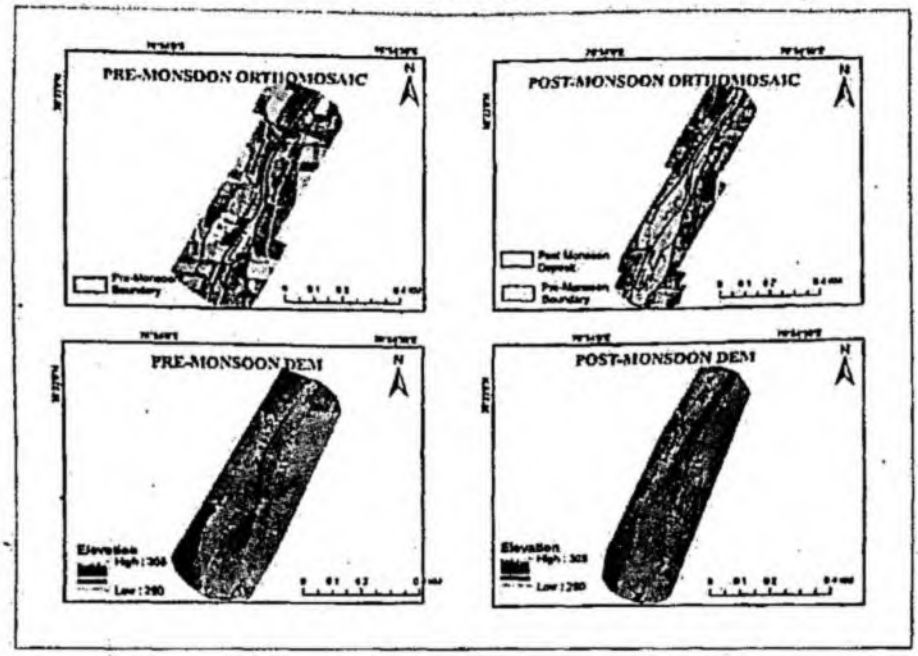
Volume of deposition within pre monsoon boundary(m^3)	347850.39
Total Volume of deposition post monsoon (m^3)	847804.84
New deposit volume(m^3)	499954.44
Area of the pre monsoon boundary (m^2)	352046.81
Total deposit Area post monsoon (m^2)	461600.12

SITE 14, 15: TAGIRI 1,2



Volume of deposition within pre monsoon boundary(m^3)	4257.98
Total Volume of deposition post monsoon (m^3)	77311.12
New deposit volume(m^3)	73053.13
Area of the pre monsoon boundary (m^2)	18791.09
Total deposit Area post monsoon (m^2)	61871.32

SITE 16: TAGIRI 5



Volume of deposition within pre monsoon boundary(m^3)	17350.65
Total Volume of deposition post monsoon (m^3)	93650.52
New deposit volume(m^3)	76299.87
Area of the pre monsoon boundary (m^2)	19181.76
Total deposit Area post monsoon (m^2)	79659.06

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Chapter 4

Conclusions and Recommendations

In this chapter we present our conclusions and recommendations based on the current study. The study clearly indicates a high sediment yield in the rivers of Punjab during the year 2023. Here to make these recommendations and conclusions we have used the field data in form of UAV survey, soil and water samples which were father analyzed in the lab, satellite data and empirical equations-based study.

4.1. Conclusions:

1. The sediment yield for the river Beas and Sutlej for the year 2023 (monsoon) based on the satellite data is estimated to be 159367161 tones having an area of 5312.24 Ha.
2. Due to high sedimentation rate, it has been observed from the analysis of the satellite data that several of the small sand bars merged and formed the large sand deposits. This is responsible in the decrease in the number of sites from 650 in pre-monsoon period to 564 in the post-monsoon period.
3. In our satellite-based data analysis we have not considered the DSR sites which were in the concave end of the river as mining in these sites may lead to high bank erosion. Thus, it is recommended to not mine sites which are at the concave banks.
4. The DSR sites which are still present in the post-monsoon (2023) has an area of 1149.87 Ha with the total sediment of 34496224 tones in comparison to the total of 5094.55 Ha area and 152836649 tons of sand. The decrease in this area and amount can be attributed to the fact that most of the areas have been mined or eroded in the due course of time. This is also confirmed by the fact that river has changed its course at several places.
5. From the UAV survey we have found a very good correlation of the UAV survey area and the pot-monsoon sand area (More than 95%). ***UAV survey also provided the average depth of the sand bars to be around 2 m which can be taken as a***

minimum mining depth for next year at all the sites. This is based on the lowest level of sand seen in the pre-monsoon area. However, the deposit may be deeper due to the fact that the lowest level was determined on the visible area but some sand will be deposited below the water level also. This can also be confirmed by the fact that the areas where water was visible in the pre-monsoon survey, sand is present in the post-monsoon survey which also confirms the change in the course of the river.

6. The empirical equations showed the very low rate of sediment yield in comparison to the average data based on the satellite data. It could be explained by several fact such as uncertainty in the soil and LULC maps. Further, the rainfall estimates could also have high uncertainty due to the fact that many the extreme rainfall events are usually generalized in the model rainfall data. Further, during the heavy rainfall of the 2023 the dam gates were also opened which may have brought additional stored sediments from the dams which could be deposited at the rivers.

4.2.Recommendations:

1. The satellite data-based study must be conducted every year to understand the dynamics of the sediment transport every year. The river water flow velocity should also be studied at a regular interval using sensors which can help in modelling the sediment deposits.
2. The time of the UAV survey should be planned in such way that all the mining site could be surveyed well in time i.e. before the river water level rises.
3. Bathymetry survey should be conducted at all the mining locations and at the regular interval so that the bed topography could also be included with the UAV DEM to asses the exact amount of sand deposits.
4. To improve the estimation by the empirical equations the discharge data must be collected at few important locations in the rives of the Punjab. These locations can be entry of river and few places in the downstream of the river.
5. The bulk density must be determined by taking the core from various locations so that the differential density can be mapped as it was seen that the bulk density increases with the increase in depth of the sediment deposits.

6. The depth of the sand bars should be calculated based on the bathymetry survey and the core study of the proposed mining sites.

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GOVERNMENT OF PUNJAB

DEPARTMENT OF MINES AND GEOLOGY

NOTIFICATION

The 13th March, 2023

PUNJAB STATE MINOR MINERAL POLICY, 2023

No. PB/Mineral Policy/2023/1293.–This Policy, drafted in accordance with the Punjab Minor Mineral Rules, 2013 framed under Section 15 and Section 23-C of the Mines and Mineral (Development and Regulation) Act, 1957, is hereby notified for achieving the following objectives :-

a. The Primary Objective of the policy shall be on providing sand and gravel at affordable rates to the consumers

b. The other objective of the Policy shall beto ensure that mining of sand and gravel is undertaken in a transparent and legal manner

c. In addition the policy seeks to achieve:

   a. Adequate Supply of sand and gravel in the State to meet the demand of the market.

   b. Transparent allotment of mining rights to achieve adequate supply of sand and gravel through private participation

   c. Adequate monitoring to check illegal mining

   d. Market interventions by the Government to check prices and to ensure adequate supply

Introduction

a. This policy may be called the PUNJAB STATE MINOR MINERAL POLICY, 2023.

b. It shall come into force from the date of Notification in the official gazette.

2. Definitions

In this Policy the following words shall have the meaning as indicated.

a. "Act" shall mean the *"Mines and mineral (development and regulation) Act 1957"*

b. "Annual Concession Quantity" shall mean the quantity of sand and gravel that the concessionaire

shall be allowed to mine from any Cluster of Commercial Mining Sites for any particular year during the period of Concession.

c. "Annual Concession Value"shall be the figure arrived at by multiplying the Annual Concession Quantity by the Revenue

d. "Commercial Project" shall mean any infrastructure project involving realty, roads, highways, railways or any building being constructed for commercial usage.

e. "Developer" shall mean the owner of a privately owned Commercial Project, or the appointed Contractor in case of a Government Commercial Project

f. "Director" shall mean the Director, Mines and Geology, Government of Punjab

g. "DMF Fund" shall mean District Mineral Foundation Fund and shall have the same meaning as mentioned in *The Punjab District Mineral Foundation Rules, 2018*

h. "DSR" shall mean the District Survey Reports as defined in Sustainable Sand Mining Management Guidelines, 2016 issued by the Ministry of Environment and Forests and Climate Change, Government of India

i. "EC" shall mean Environmental Clearance as defined in Notification S.O. 1533(E) dated 14.9.2006 issued by the Ministry of Environment and Forests, Government of India

j. "EMF" shall mean Environmental Management Fund and shall have the same meaning as mentioned in Rules

k. "Government" shall mean the Government of Punjab in the Department of Mines & Geology

l. "Maximum Concession Value" shall mean the value arrived at by multiplying Revenue and the total quality of sand and/or gravel in any CMS or cluster of CMS as mentioned in Annexure VII

m. "Pit-head Price" shall mean the net sale price of sand or gravel excluding GST, at any Mining Site under this Policy

n. "Portal" shall mean the web-portal https://minesandgeology.punjab.gov.in

o. "Revenue" shall mean the sum of Royalty, EMF and DMF as defined in the Pit-head Price

p. "Royalty" shall have the same meaning as mentioned in the Rules

q. "Rules" shall mean the *Punjab Minor Mineral Rules, 2013*

r. "Secretary" shall mean the Administrative Secretary Mines & Geology, Government of Punjab

s. "SEIAA" shall mean the State Environmental Impact Assessment Authority as defined in the Notification S.O. 1533(E) dated 14.9.2006 issued by the Ministry of Environment and Forests, Government of India

t. "Total Concession Quantity" shall mean the total quantity of sand and gravel which the concessionaire commits to mine during the concession period in any Cluster of CMS

u. "Total Concession Value" shall mean the amount calculated by multiplying the Total Concession Quantity quoted by the Concessionaire with the Revenue.

v. "Year" shall mean an initial period of 365 days calculated from the date of permitting of Mining Rights to any concessionaire, and every 365 days subsequently.

3. Mining Sites

a. There shall be two classes of Mining Sites namely Commercial Mining Sites (CMS) and Public Mining Sites (PMS). While Commercial Mining Sites shall be grouped into distinct Clusters, the Public Mining Sites shall be stand alone sites.

b. Annexure I gives District-wise details of Mining Sites for which EC has been granted by SEIAA along with estimated available sand and gravel in these Sites, the period of validity of the EC and the method of excavation permitted by SEIAA

c. Annexure II gives the District-wise details of Mining Sites included in any DSR duly approved by SEIAA and for which mining using Mechanical excavation methods has been permitted by SEIAA, along with estimated available sand and gravel in these Sites and the period for which mining has been permitted by SEIAA.

d. Annexure III gives the District-wise details of Mining Sites included in any DSR duly approved by SEIAA and for which mining using Semi-Mechanical excavation methods has been permitted by SEIAA, along with estimated available sand and gravel in these Sites and the period for which mining has been permitted by SEIAA.

e. Annexure IV gives the District-wise details of Mining Sites included in any DSR duly approved by SEIAA and for which mining using Manual excavation methods has been permitted by SEIAA, along with estimated available sand and gravel in these Sites and the period for which mining has been permitted by SEIAA.

f. Annexure V gives the District-wise details of Mining Sites included in any DSR duly approved by SEIAA and for which no order permitting mining through any form has been permitted by SEIAA, along with estimated available sand and gravel in these Sites.

g. Annexure VI gives details of estimated available sand and gravel in the Mining Sites earmarked as PMS, the excavation method permitted by SEIAA, the validity of such permission and the quantities to be allowed for quarrying.

h. Annexure VII gives details of estimated available sand and gravel in each Cluster of earmarked CMS Sites, the excavation method permitted by SEIAA, the validity of such permission and the quantities to be allowed for quarrying.

i. Annexures I-VII can be amended at any time by the Government

4. Public Mining Sites

a. Each PMS shall be operated by the Department of Mining & Geology or any Agency or official nominated by it through a special order.

b. Only manual excavation of sand shall be permitted in PMS and the excavated sand shall not be used in commercial projects.

c. Consumers shall be permitted to arrange a vehicle and/or labour to a PMS site for the purpose of excavation of sand and its transportation.

d. Sand shall be sold at the pit-head price plus GST at any PMS

e. The cost of excavation, loading and transportation of sand from any PMS shall be borne by the consumer at his level.

f. Presence of any heavy machinery such as Tipper or JCB in any PMS shall be assumed to be for the purpose of illegal mechanical mining and legal action shall be initiated immediately.

g. The onus of ensuring that the sand purchased from a PMS is not used in any commercial project shall lie on the purchaser. In case it is discovered that the sand excavated from a PMS has been used in a commercial project, an amount equal to three times the pit head price of the sand shall be recoverable from the Developer.

h. The onus of ensuring the road worthiness of any vehicle arranged by a consumer for transportation of sand from a PMS shall lie on the consumer. Any authority prescribed under the Motor Vehicle Act, 1988, as amended from time to time, may at any time inspect any vehicle and take such legal action as is deemed fit, in case the vehicle is found contravening any provision of the said Act.

5. Commercial Mining Sites

a. Mining Rights of clusters of CMS shall be granted to concessionaires selected through a transparent e-tendering process. Methodology of excavation of sand and gravel in these sites shall be as permitted in the Annexure VII to this Policy.

b. The Concessionaire shall be responsible for creating necessary infrastructure at the site in accordance with the guidelines issued from time to time. He shall also be responsible for ensuring that mining in the CMS allotted to him is done strictly in accordance with the guidelines issued by the Director and/or SEIAA and/or Ministry of Environment & Forests, Government of India from time to time.

Clusters

CMS may be grouped into distinct Clusters with an aim of ensuring adequate competition and viability of operations.

Grant of Mining Rights

a. Mining rights of Sand and gravel in a Cluster of CMS shall be allotted through e-tender by 2-Bid system involving Technical Bid and Financial Bid in accordance with the provisions of the Act.

b. The Bid parameter shall be the Total Concession Quantity and the H1 bid of equivalent Total Concession Value shall be the sole determining factor in the Financial Bid for award of the Tender for any Cluster.

c. Wherever there is a tie for the H1 Bid, the tie shall be resolved by the Director through draw of lots and the procedure shall be videographed. The Concessionaires who have given the tied H1 bid shall be encouraged to be present at the time of draw of lots. They may independently arrange to videograph the process at their respective costs, and the Director shall allow the same. Any Concessionaire who has given a bid lower than the H1 bids shall not be allowed to be present during the draw of lots.

d. Upon successful completion of the tender process, the Director shall, with the approval of the Government, issue the order proposing grant of mining rights to the successful Concessionaires in such Form as may be prescribed and on fulfillment of such conditions as may be prescribed.

Period of Concession:

a. The Mining Rights for any cluster of CMS shall be awarded for a period of three years.

b. The Government may, at its discretion, extend these rights for a period of not more than six months for reasons to be recorded in writing.

Application for Grant of Mining Rights

Any person desirous of grant of mining rights in a CMS / cluster of CMS shall submit his bid online on the e-tendering portal.

Application Fee

a. Each bid for grant of mining rights shall be accompanied by a fee of Rs. 25,000 (non-refundable) through the e-tendering portal.

b. In accordance with the provisions of the Act, the bidder shall also submit an EMD equivalent to 5% of the Maximum Concession Value of his bid through the e-tendering portal, which shall be refunded in case the bid is unsuccessful.

c. EMDs of successful bidders shall be adjusted in the initial quarterly payments due from them.

Eligibility and Capacity –

a. Registered companies, partnerships, societies including co-operative societies, sole proprietors and individuals shall be eligible to apply for Mining Rights subject to fulfillment of the following eligibility criteria:

b. Average annual turn-over of the bidder during the last three financial years ending 31st March must not be less than Rs. 2 crore

c. The bidder shall undertake to ensure the presence of Site Manager(s) and Software professional(s) for each cluster.

Total Concession Quantity

a. The Total Concession Quantity, shall be the bid parameter and shall in no case be higher than quantity of sand and gravel defined for a Cluster in Annexure VII.

b. The estimated available quantity in each Cluster is, however, indicative and it is responsibility of the bidder to make his own assessment about it before submitting a bid.

c. The Department shall not be liable to compensate the miner in any way for any subsequent case of proven mismatch between the actual quantity of sand and gravel on the ground and the quantity defined in Annexure VII.

Annual Concession Quantity

a. The normal Annual Concession Quantity, shall be fixed at 1/3rd of the Total Concession Quantity.

b. The Concessionaire may, at any time before the conclusion of the 1st year of the Concession, offer to excavate a quantity higher than the normal Annual Concession Quantity for the first year, and wherever such an offer has been received, the same shall be allowed by the Govt., and the Annual Concession Quantity for the 1st year shall then be pegged at such an offered quantity,

c. Any rise in Annual Concession Quantity for the first year, due to such an offer by the Concessionaire, shall be offset by a corresponding reduction in the Annual Concession Quantity of the 3rd Year.

d. The Concessionaire may, at any time before the conclusion of the 2nd year of the Concession, offer to excavate a quantity higher than Annual Concession Quantity fixed for the 2nd year, and wherever such an offer has been received, the same shall be allowed by the Govt., and the Annual Concession Quantity for the 2nd year shall then be such offered quantity.

e. Any rise in Annual Concession Quantity for the 2nd year, due to such an offer by the Concessionaire, shall

rue offset by a corresponding reduction in the Annual Concession Quantity of the 3rd Year.

Sale Price of sand & gravel:

a. Both sand and gravel shall be sold by the concessionaire at the pit head i.e. at the mining site from where the material has been excavated. Sand and gravel shall only be sold at the pit head price fixed under this Policy. The detailed breakup of the pithead price is placed at Annexure VIII to this policy

b. The government may at any time notify the maximum rates, linked to distance, that can be charged per cubic feet for transportation of sand and gravel. Wherever such rates have been notified, it shall be the duty of the concessionaire to verify that the transporter has not charged more than the notified rate, and where it is discovered that the rate charged is more, he shall decline to sell sand/gravel to such a transporter.

c. Violation of the above condition may result in cancellation of the agreement and forfeiture of the security amount

Power to revise Pit Head Price

(i) The government may, at any time, revise the pit head price for any CMS or PMS notwithstanding the fact that such CMS have already been allotted for mining to any concessionaire under this policy. Where any such revision in pithead price is decided by the government, the concessionaire shall be bound to sell the sand and gravel at the revised pithead price.

ii) The revision in pithead price may be effected by a change in any of the entries at Sr No 1-4, 6 and 8 in the Table in Annexure VIII to this policy. Under no circumstances will the entry at Sr No 5 related to _"Cost of Excavation & loading and Profit Margin for Concessionaire in any CMS" _ be changed after award of Mining rights to any Concessionaire.

Concession Amount

a. The concession shall be awarded at a lump sum amount equal to the Total Concession Value. The Concessionaire shall pay to the Government, or to any Agency authorised by it in this regard, the concession amount in quarterly installments in advance for each quarter as per the following schedule :

   i. 35% of Annual Concession Value for the first three months of the year

   ii. 25% of Annual Concession Value for the next three months of the year

   iii. 20% of Annual Concession Value for the next three months of the year

   iv. 20% of Annual Concession Value for the last three months of the year

b. The quarterly installments shall be payable irrespective of whether the Concessionaire has been able to commence the mining operations satisfactorily or not.

Security

a. In order to discourage frivolous/ bids, a Security in the form of cash or Demand Draft or bank guarantee shall be received from the successful bidder, and which shall be 25% of Annual ConcessionValue.

b. The amount of security shall be adjusted in the last instalment(s) after adjustment of any other dues to be recovered.

e. The Director shall also reserve the right to draw from the Security any amount recoverable from the concessionaire on account of deficiency in services, including the value of any quantity of sand and gravel discovered to be illegally extracted by the Concessionaire. The contractor shall be charged at thrice the pit head rate for any quantity illegal extracted by him.

Award of Concession and Signing of Agreement –

a. The successful bidder shall be awarded the concession to mine sand and gravel for a period of 3 years.

b. The successful bidder shall execute and register the concession agreement within 15 days from date of issuance of provisional acceptance as per Form-L1 under rule 42G of the Rules which may be suitably amended from time to time, and give requisite performance guarantee.

Start of concession period :

Concession period of the Concessionaire shall commence after

i. One month of award of provisional acceptance; OR

ii. Signing of the contract agreement, obtaining all required clearances, installation of electronic weigh bridge and deposit of the security amount and first quarterly advance installment whichever is earlier.

Identification of Mines and Clearances –

a. The Department shall be responsible to hand over the CMS / Cluster of CMS to the Concessionaire.

b. All ECs and permissions from SEIAA shall also be obtained by the Department of Mines & Geology.

c. The EC for any CMS shall be temporarily transferred, with the approval of SEIAA, to the Concessionaire for the period for which mining rights for such a CMS have been granted to him.

d. The Department shall, however, reserve the right to withdraw the EC from any Concessionaire at any time for reasons to be recorded in writing.

e. The Concessionaire shall obtain the consent of the land owner(s), wherever the same is not available, arrange for all infrastructural requirements like a right of way etc.

f. Desilting operations in any water channel shall not be allowed to any Concessionaire under this policy.

g. The Director may at any time deploy such physical/ digital monitoring mechanisms through the resources of the Government, as are deemed necessary, in any CMS/ Cluster of CMS/ PMS to check whether the operations are being carried out in accordance with this policy or not.

Construction of Basements in Buildings :

a. Rs. 5 per sq. ft. shall be charged by the Town Planning Authority or any Authority duly authorized by the department, approving the building plans where construction of basement is proposed for each storey of basement to be constructed.

b. This shall not be applicable for residential houses of any size or for any other building on a plot size upto to five hundred square yards.

c. The revenue collected shall be collected by respective local bodies/ Town Planning authorities and deposit it in the appropriate Receipt Head of the Department.

Royalty Rate of Clay and Ordinary Earth:

a. The royalty rate of ordinary clay and ordinary earth is fixed at Rs. 2.00 per cubic feet for use in construction of Commercial Infrastructure Projects except brick kilns.

b. Further, no royalty rate shall be imposed on excavation of ordinary clay and ordinary earth which is to be used by farmers for activities other than commercial infrastructure projects.

Excavation of Ordinary Earth :

a. Only Manual excavation of ordinary earth shall only be permitted for non commercial projects in the area

up to 2 acres or depth upto 3 feet. The land owner shall obtain prior permission of the department. The Department shall facilitate online submission and clearance of all such applications within 7 days of receipt.

Unauthorised Transport of sand & Gravel:

a. State Govt. shall collect Royalty and penalty amount from all the vehicles carrying processed or unprocessed minor minerals, which do not possess requisite documents, across the interstate borders into the State of Punjab provided that the sum collected from each vehicle shall not be less than the pit-head price fixed for sale of sand or gravel, as the case may be, at the Mining Site.

b. The Government shall notify the rate, from time to time, at which the sum is to be collected. Further, confirmation receipt in a form prescribed by the govt. shall be issued immediately to all such vehicles.

Failure to excavate adequate quantity :

Where any concessionnaire fails to excavate at least 60% of the annual concession quantity, a penalty equal to 20% of concession value of the shortfall will be payable by the concessionaire at the close of the respective year before further mining is allowed.

Surrender of Concession

The Government may accept the concessionnaire's request for surrender of a concession subject to the condition that 75% of the Security shall be forfeited in case the request is received in the 1st year, 50% of the Security shall be forfeited in case the request is received in the 2nd year and 30% of the Security shall be forfeited in case the request is received in the 3rd year,

Punjab Sand Portal –

a. The Department is implementing an Online Punjab Sand Portal and sale of sand to all consumers, small, medium or large, will be through online mode. All transactions/payments will be captured through an online real time monitoring system.

b. Sale of sand will be controlled by electronic documentation linked to a central documentation monitoring facility which will upload the daily progress report on the portal.

c. The concessionaire of each CMS/ Cluster of CMS shall have to notify the rate of sand on this portal. The summary of online order and the quantity of available sand at the mine shall be available on the portal. Punjab Sand Portal shall be a facility available to consumer and act as an MIS for the department and concessionaire. A mobile app shall also be launched for booking of orders by consumers. Online orders can be booked from Divisional Mining Office or Sub-Divisional Mining Office.

d. All big consumers i.e. contractors or firms consuming more than 2,50,000 cubic feet sand, gravel, river bed material and ordinary earth in total in a project such as in Roads, Irrigation Works, Dams and Buildings of any type will be required to keep record of and check authenticity of way slips from official web-site of the department. The Director will create a facility on the Sand Portal that will allow these consumers to scan the QR codes of weighment slips of sand and gravel used by them, and thus automatically upload the quantity on the portal. They will file a return online annually with the Mining department indicating the consumption along with log of way slips failing which they shall be liable to pay the Government dues along with 50% of it as penalty.

Registration of Vehicles on Punjab Sand Portal –

a. All commercial vehicles used for transportation of sand, from CMS shall be registered on the sand portal These vehicles shall have Hologram and such other marking facilities as may be ordered by the Government from time to time.

b. The Department shall endavour to create a facility to allow consumers to purchase the sand and gravel online through the departmental web-portal i.e. https://minesandgeology.punjab.gov.in. As and when such a facility is created, it shall be binding on the Concessionaire to accept online orders received from the portal and service them on priority.

c. The list of all the registered vehicles along with their contact details shall be displayed for the customers to place orders for transportation.

d. In the case of PMS the details of the vehicles shall be uploaded at the time of sale of sand or gravel at the pit-head.

Weigh-bridges and Weighment Slips

a. Each mine shall have an electronic weigh-bridge, integrated with a central server. Any vehicle found carrying sand without proper weighment slip shall be liable to be seized under the provisions of the Mines and Minerals (Development and Regulation) Act, 1957 or the rules made there under.

Provided that the Director may, with the approval of the Government, allow issuance of weighment slips on the basis of volumetric calculation of sand in PMS, wherever there is a delay in installment of weighbridge in such a PMS.

b. The concessionaires shall be responsible for installation of weighbridge at sites, their operation, integration with the department web portal and installation of CCTV cameras at sites.

c. The weighment slips for transportation of sand will have the security features like bar codes, QR codes and will be stamped with date and time along with all other information.

d. All vehicles carrying sand shall mandatorily carry the weighment slips for transportation of sand.

e. Revenue collected by the Concessionaire against Information and Technology pegged @ 8paise per cubic feet of Annual Concession Quantity, shall be deposited in the State exchequer by the contractor along with other quarterly installments.

f. It shall be the responsibility of the contractor for maintenance of roads connecting mining sites and to ensure that traffic is not interrupted in the vicinity of mine due to the movement/breakdown of vehicles carrying sand and gravel.

Geo-tagging of mines –

Geo-tagging of the mine area will be carried out while conducting physical inspection as the boundary of the mine will be checked using the coordinates recorded in GPS device, and the monitoring team can check whether any mining activity is going on outside the permitted area or not.

Currently auctioned mines to continue operations

The mines which are currently auctioned shall continue to operate till the completion of their tenure and shall be excluded from the mining rights to be auctioned under this policy.

Amendment in Rules

Necessary amendment to the Punjab Minor Mineral Rules, 2018 shall be made separately, wherever required, in accordance with the Punjab State Sand and Gravel Policy, 2023.

Review

The Government may from time to time review this policy and issue fresh guidelines or amendments as it may deem fit.

Implementation and Appeal

a. The Director of Mines and Geology, Punjab shall take immediate necessary action for the implementation of the policy and make necessary arrangements for its wide publicity.

b. Due publicity shall be done for the information of public at large through mass media, notice boards at pit head of the mine sites to ensure that no one charges any amount more than the pit head rates. In case any State Government official is found to create hindrance in the mining operations without any valid reason or justification, then the disciplinary proceedings shall be carried out as per rules. In case any contractor charges more than the fixed selling prices, his agreement shall be cancelled and due penalty shall be imposed.

c. Dedicated toll free number shall be made available to the consumers to register their complaint, when they are charged more than the fixed selling price of sand and gravel.

d. Wherever a specific provision of appeal against any order passed by the Director, in pursuance of implementation of this policy, does not exist in the Rules, such an appeal shall lie before the Secretary.

Sd/-
GURKIRAT KIRPAL SINGH IAS,
Secretary to Government of Punjab,
Department of Mines and Geology

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

ANNEXURE-I

Mining Sites with valid EC and Method of Excavation Permitted by SEIAA

Sr. No.	District	Name of Mine	Area (Ha)	Qty as per EC (MT/yr)	EC Valid upto	Method of mining
1	ROPAR	Surewal	52.75	78161	30.11.23	Semi Mechanized
2	ROPAR	Dayapur	48.68	63000	30.11.23	Semi Mechanized
3	ROPAR	Plassi	19.45	22000	30.11.23	Manual
4	ROPAR	Bhallan	5.1	12240	30.11.23	Manual
5	ROPAR	Nangran	32.39	11542	19.02.23	Manual
6	Ludhiana	Akkuwal (Riverbed Mine)	20.65	903231	02.05.24	Semi Mechanized
7	Ludhiana	Hujra (Riverbed Mine)	22.26	973652	03.05.24	Manual
7	Ludhiana	Boont (Riverbed Mine)	24.28	1062007	03.05.24	Semi Mechanized
9	Ludhiana	Khasi Kalan (Off River Mine)	3.85	41406	05.11.27	Manual
10	Ludhiana	Gorsian Khan Mohammad Contractor (Riverbed Mine)	24.69	1079941	03.05.24	Manual
11	Ludhiana	Chakli Kasab (Riverbed Mine)	8.2	358668	03.05.24	Manual
12	Ludhiana	Bhukri Khurd (Off River Mine)	17.23	107663	03.05.24	Manual
13	Ludhiana	Balliewal (Off River Mine)	12.31	107688	03.05.24	Semi Mechanized
14	Ludhiana	Rattangarh (Off River Mine)	13.76	110487	03.05.24	Semi Mechanized
15	Ludhiana	Lubhangarh (Riverbed Mine)	6.77	42303	03.05.24	Manual
16	Ludhiana	Baunkar Gujran (Riverbed Mine)	7.5	41871	03.05.24	Manual
17	Ludhiana	Kutbewal Arian (Riverbed Mine)	10.12	442649	02.05.25	Manual
18	SBS Nagar	Begowal	1.42	9504	04.05.23	Manual

Sr. No.	District	Name of Mine	Area (Ha)	Qty as per EC (MT/yr)	EC Valid upto	Method of mining
19	SBS Nagar	Arzi Derya Bramd Rail (1)	4.9	127422	05.11.27	Semi Mechanized
20	Jalandhar	Vehra	13.15	575181	03.05.25	Manual
21	Jalandhar	Danewal	10.12	442694	03.05.25	Manual
22	Jalandhar	Maun Sahib	18	787320	03.05.25	Manual
23	Jalandhar	Chak Budala	7.66	335048	03.05.25	Manual
24	Jalandhar	Pipli	4.451	194643	03.05.23	
25	Ferozepur	Bandala	1.62	70801	22.10.23	Manual
26	Ferozepur	Kamalwala-2	3.6	157584	21.10.23	Manual
27	Ferozepur	Jama Mega	4.45	194357	21.10.23	Manual
28	Gurdaspur	Raji Beli	14.5	636502	03.05.25	Manual
29	Gurdaspur	Gurchak	6.79	296994	03.05.25	Manual
30	Gurdaspur	Mugla	4.39	192049	30.09.23	Manual
31	Gurdaspur	Kishana	1.92	83980	30.09.23	Manual
32	Gurdaspur	Chak Ram Sahai	19.2	170000	19.2.23	Semi Mechanized
33	Hoshiarpur	Rara	12.94	565995	03.05.25	Manual
34	Hoshiarpur	Taggar Kalan	13.36	730458	03.05.25	Manual
35	Pathankot	Muthi	12.71	694918	03.05.25	Manual
36	Pathankot	Samrala	11.78	644072	03.05.25	Manual
37	Pathankot	Mamoon-1	88	528000	21.11.23	Semi Mechanized
38	Pathankot	Dulpat	11.6	100000	21.11.23	Semi Mechanized
39	Pathankot	Barsoon	12.4	100000	21.05.23	Semi Mechanized
Total			608.951	13096031		

Note: The Government may at any time amend the annexure

ANNEXURE-II

Mining Sites (in DSR) with Mechanical excavation permission by SEIAA

Sr. No.	District	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Note: The Government may at any time amend the annexure

ANNEXURE-III

Mining Sites (in DSR) with Semi-Mechanical excavation permission by SEIAA

Sr. No.	District	Name of Mine	Area (Ha)	Qty as per EC (MT/yr)	EC Valid upto	Method of mining
1						
2						
3						
4						
5						
6						
7						

Note: The Government may at any time amend the annexure

ANNEXURE-IV

Mining Sites (in DSR) with Manual Excavation Permission by SEIAA

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
DISTRICT FAZILKA							
1	Badha	3.64	145650	31.03.2023	manual	Sand	Total Sites =19 Nos. of B1 Sites= 01 Nos. of B2 Sites= 18
2	Badha	0.20	7993	31.03.2023	manual	Sand	
3	Behak Hasta Uttar/ghurka.	1.89	69838	31.03.2023	manual	Sand	
4	Navi Basti Salemshah	2.63	105833	31.03.2023	manual	Sand	
5	Mahatam Nagar	1.18	43881	31.03.2023	manual	Sand	
6	Abdul Khaliq urf Miana Basti	4.22	151222	31.03.2023	manual	Sand	
7	Ganjuana, Shikarpur urf Kawan wali	5.56	165631	31.03.2023	manual	Sand	
8	Mohar Singh wala Hithar	2.03	77556	31.03.2023	manual	Sand	
9	Sukhera Bodla	2.04	77085	31.03.2023	manual	Sand	
10	Chak Gareeban Sandar	1.89	74954	31.03.2023	manual	Sand	
11	Amir Khas	1.93	72445	31.03.2023	manual	Sand	
12	Thara Singh wala Uttar	2.02	76322	31.03.2023	manual	Sand	
13	Mohar Singh wala Hithar	1.82	73713	31.03.2023	manual	Sand	
14	Sukhera Bodla	1.28	49541	31.03.2023	manual	Sand	
15	Sukhera Bodla	1.69	64977	31.03.2023	manual	Sand	
16	Thara Singh wala Uttar	2.56	94281	31.03.2023	manual	Sand	
17	Mohar Singh wala	0.37	14727	31.03.2023	manual	Sand	
18	Mohar Singh wala	1.57	63393	31.03.2023	manual	Sand	
19	Mohar Singh wala	4.86	198936	31.03.2023	manual	Sand	
	Total	**43.38**	**1627978**				
DISTRICT LUDHIANA							
1	Chakli Kasab	40.67	1878954	20.04.2023	manual	Sand	Total Sites =57 Nos. of B1 Sites= 22 Nos. of B2 Sites= 35
2	Dhulewal	32.75	670786	20.04.2023	manual	Sand	
3	Dhulewal	3.97	55024	20.04.2023	manual	Sand	
4	Dhulewal	5.65	46115	20.04.2023	manual	Sand	
5	Dhulewal	1.08	14304	20.04.2023	manual	Sand	
6	Dhulewal	1.37	33546	20.04.2023	manual	Sand	
7	Garhi Fazal	7.81	215650	20.04.2023	manual	Sand	
8	Burj Matewara	0.49	23079	20.04.2023	manual	Sand	
9	Burj Matewara	24.83	1169493	20.04.2023	manual	Sand	
10	Rour	53.47	2518437	20.04.2023	manual	Sand	
11	Burj Matewara	10.00	471000	20.04.2023	manual	Sand	
12	Rour	3.68	173328	20.04.2023	manual	Sand	
13	Sasrali Colony	1.28	50441	20.04.2023	manual	Sand	
14	Sasrali Colony/Boont	20.05	572909	20.04.2023	manual	Sand	
15	Boont	18.73	882183	20.04.2023	manual	Sand	
16	Boont	3.64	153157	20.04.2023	manual	Sand	
17	Churwal	1.51	70668	20.04.2023	manual	Sand	
18	Sujatwal	3.71	173628	20.04.2023	manual	Sand	
19	Sujatwal	1.22	57096	20.04.2023	manual	Sand	
20	Sujatwal/Jamaal pur Lily	2.92	136656	20.04.2023	manual	Sand	
21	Sujatwal/Jamaal pur Lily	10.08	471744	20.04.2023	manual	Sand	
22	Jamaalpur Lily	3.77	176436	20.04.2023	manual	Sand	
23	Jamaalpur Lily	8.45	395460	20.04.2023	manual	Sand	
24	Jamaalpur Lily	1.91	89388	20.04.2023	manual	Sand	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
25	Jamaalpur Lily	9.99	467532	20.04.2023	manual	Sand	
26	Jamaalpur Lily/Kasabad	10.65	498420	20.04.2023	manual	Sand	
27	Jamaalpur Lily/Kasabad	10.97	513396	20.04.2023	manual	Sand	
28	Kasabad	0.68	27369	20.04.2023	manual	Sand	
29	Kasabad	15.68	733824	20.04.2023	manual	Sand	
30	Kasabad		0	20.04.2023	manual	Sand	
31	Kasabad		0	20.04.2023	manual	Sand	
32	Kasabad	0.65	30420	20.04.2023	manual	Sand	
33	Kasabad	0.24	11232	20.04.2023	manual	Sand	
34	Talwandi Kalan	1.11	51948	20.04.2023	manual	Sand	
35	Manewal	32.95	1512405	20.04.2023	manual	Sand	
36	Talwandi Naubad	21.36	647080	20.04.2023	manual	Sand	
37	Gorsian Khan Mohammad	2.27	104193	20.04.2023	manual	Sand	
38	Hujra	8.82	184876	20.04.2023	manual	Sand	
39	Maddepur	20.59	671316	20.04.2023	manual	Sand	
40	Parjan Biharipur	32.49	1212917	20.04.2023	manual	Sand	
41	Kannian Hussaini	2.71	31097	20.04.2023	manual	Sand	
42	Kannian Hussaini	1.66	61463	20.04.2023	manual	Sand	
43	Kannian Hussaini	2.79	90496	20.04.2023	manual	Sand	
44	Kannian Hussaini	4.49	116614	20.04.2023	manual	Sand	
45	Hayatewal	10.44	250654	20.04.2023	manual	Sand	
46	Hayatewal	8.22	142740	20.04.2023	manual	Sand	
47	Hayatewal	22.69	308357	20.04.2023	manual	Sand	
48	Baghian	3.68	166704	20.04.2023	manual	Sand	
49	Baghian	0.31	11609	20.04.2023	manual	Sand	
50	Dhananshu	2.02	92112	20.04.2023	manual	Sand	
51	Dhananshu	1.77	80712	20.04.2023	manual	Sand	
52	Koomkalan	2.30	105570	20.04.2023	manual	Sand	
53	Baliewal	2.33	106248	20.04.2023	manual	Sand	
54	Baliewal	2.70	123120	20.04.2023	manual	Sand	
55	Baliewal	1.17	53352	20.04.2023	manual	Sand	
56	Baliewal	2.30	104880	20.04.2023	manual	Sand	
57	Bhukhari Khurd	2.04	93024	20.04.2023	manual	Sand	
	Total	**506.11**	**19106162**				
DISTRICT PATHANKOT							
1	Muthi, samrala, sarota	43.49	690824	31.03.2023	manual	RBM	Total Sites =36 Nos. of B1 Sites= 22 Nos. of B2 Sites= 14
2	Muthi, samrala, sarota	53.22	966150	31.03.2023	manual	RBM	
3	Muthi, samrala, sarota	0.98	20014.7	31.03.2023	manual	RBM	
4	Muthi, samrala, sarota	0.65	11800	31.03.2023	manual	RBM	
5	Bhadrali, shehar, chann	101.17	2247989	31.03.2023	manual	RBM	
6	Jammu	32.93	813002	31.03.2023	manual	RBM	
7	Jammu	12.39	305894	31.03.2023	manual	RBM	
8	Kharkara, Chak hari rai	61.78	4384692	31.03.2023	manual	RBM	
9	Meira kalan	90.22	3002508	31.03.2023	manual	RBM	
10	Chattwal	12.40	265833	31.03.2023	manual	RBM	
11	Barsoon, chattwal	22.84	435241	31.03.2023	manual	RBM	
12	Barsoon	22.90	484060	31.03.2023	manual	RBM	
13	Barsoon, Mamoon	19.50	464492	31.03.2023	manual	RBM	
14	Mamoon	3.10	66458.1	31.03.2023	manual	RBM	
15	Kharkra Tarf Narot	4.50	211410	31.03.2023	manual	RBM	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
16	Siunti Jaswan Narote	8.47	410270	31.03.2023	manual	RBM	
17	Siunti, Tarf Narot Jaimal Singh	2.92	141439	31.03.2023	manual	RBM	
18	Sarota	7.11	304900	31.03.2023	manual	RBM	
19	Muthi	10.80	463139	31.03.2023	manual	RBM	
20	Jhumbar Narot Jaimal Singh	10.60	480816	31.03.2023	manual	RBM	
21	Jaswan	5.65	255369	31.03.2023	manual	RBM	
22	Siunti	7.20	325426	31.03.2023	manual	RBM	
23	Siunti	4.65	225237	31.03.2023	manual	RBM	
24	Kharkhara Taraf Narot Jaimal Singh	4.70	220806	31.03.2023	manual	RBM	
25	Shahpurgopi	34.50	1676700	31.03.2023	manual	RBM	
26	Samrala	0.53	15783	31.03.2023	manual	RBM	
27	Kot Bhatian	8.07	346067	31.03.2023	manual	RBM	
28	Muthi	1.78	78983	31.03.2023	manual	RBM	
29	Pindi Parolian	8.42	361077	31.03.2023	manual	RBM	
30	Siunti Taraf Narot Jaimal Singh	0.80	36158	31.03.2023	manual	RBM	
31	Siunti Taraf Narot Jaimal Singh	2.84	137564	31.03.2023	manual	RBM	
32	Siunti Tarf Narot Jaimal Singh	14.29	648194	31.03.2023	manual	RBM	
33	Gol	1.90	92340	31.03.2023	manual	RBM	
34	Gol	0.44	21384	31.03.2023	manual	RBM	
35	Mairan Kalan	4.91	204423	31.03.2023	manual	RBM	
36	Bhadrali	32.80	1588766	31.03.2023	manual	RBM	
	Total	**655.45**	**22405208.8**				
DISTRICT RUPNAGAR							
1	Bela dhani	0.31	7140.17	31.03.2023	manual	RBM	Total Sites =95 Nos. of B1 Sites= 39 Nos. of B2 Sites= 56
2	Bela dhani	0.37	8522.14	31.03.2023	manual	RBM	
3	Bela dhani	0.35	8061.48	31.03.2023	manual	RBM	
4	Bela dhani	2.04	46986.9	31.03.2023	manual	RBM	
5	Bela Dhani, Palasi,Sangatpur	1.26	25808	31.03.2023	manual	RBM	
6	Bela dhani, Plassi, Sangatpur	1.77	36254.1	31.03.2023	manual	RBM	
7	Plassi	1.56	31952.8	31.03.2023	manual	RBM	
8	Plassi	0.70	14337.8	31.03.2023	manual	RBM	
9	Bhanam	1.02	23493.5	31.03.2023	manual	RBM	
10	Bhanam	1.43	32936.9	31.03.2023	manual	RBM	
11	Bela ramgarh	1.31	30173	31.03.2023	manual	RBM	
12	Bela ramgarh	0.49	11286.1	31.03.2023	manual	RBM	
13	Patti Tek Singh	1.78	45573.7	31.03.2023	manual	RBM	
14	Patti Tek Singh	1.40	35844.5	31.03.2023	manual	RBM	
15	Harshabela	8.09	227843	31.03.2023	manual	RBM	
16	Palsari	1.17	29955.7	31.03.2023	manual	RBM	
17	Palsari	9.34	215126	31.03.2023	manual	RBM	
18	Kalitran	6.81	174358	31.03.2023	manual	RBM	
19	Kalitran, Bela Ramgarh	3.72	95243.9	31.03.2023	manual	RBM	
20	Bela Ramgarh	2.14	49290.2	31.03.2023	manual	RBM	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
21	Bela Ramgarh	2.78	64031.2	31.03.2023	manual	RBM	
22	Bela Ramgarh	1.30	29942.6	31.03.2023	manual	RBM	
23	Harshbela, Mahain	1.62	33181.7	31.03.2023	manual	RBM	
24	Harshbela, Mahain	0.43	8807.5	31.03.2023	manual	RBM	
25	Harshbela, Mahain	0.90	18434.3	31.03.2023	manual	RBM	
26	Dasgran, Mahain	1.22	24988.7	31.03.2023	manual	RBM	
27	Harshbela	8.97	206604	31.03.2023	manual	RBM	
28	Harshbela	4.91	113091	31.03.2023	manual	RBM	
29	Harshbela	7.59	174819	31.03.2023	manual	RBM	
30	Burj, Ballowal, Badhal, Mehandali, Kalan, Lodhiour	4.30	121103	31.03.2023	manual	RBM	
31	Burj, Ballowal, Badhal, Mehandali, Kalan, Lodhiour	15.35	432310	31.03.2023	manual	RBM	
32	Gajjpur,Chandanpur, Khari	9.47	193970	31.03.2023	manual	RBM	
33	Mallewal, Jindapur	10.83	305011	31.03.2023	manual	RBM	
34	Tapprian, Rasidpur, Maulana	17.57	494833	31.03.2023	manual	RBM	
35	Maulana, Sultanpur	6.79	156393	31.03.2023	manual	RBM	
36	Surewal, Sehjowal	7.42	146553	31.03.2023	manual	RBM	
37	Surewal, Sehjowal	5.38	106261	31.03.2023	manual	RBM	
38	Bainspur Bhangal	4.57	90262.3	31.03.2023	manual	RBM	
39	Binspur, Bhangl	2.87	56685.5	31.03.2023	manual	RBM	
40	Binspur, Bhangl	15.58	307721	31.03.2023	manual	RBM	
41	Majari Daghaur	4.91	109100	31.03.2023	manual	RBM	
42	Nangal	1.80	39995.9	31.03.2023	manual	RBM	
43	Majari, Daghaur	1.92	47402.5	31.03.2023	manual	RBM	
44	Bhallri Majari Nangran Kalmot	6.26	154552	31.03.2023	manual	RBM	
45	Majari , Bhalri, NangranKalmot	21.99	542907	31.03.2023	manual	RBM	
46	Haripur, Vallan	28.37	630103	31.03.2023	manual	RBM	
47	Haripur, Vallan	8.03	178348	31.03.2023	manual	RBM	
48	Haripur, Vallan	4.04	99742.8	31.03.2023	manual	RBM	
49	Algran, Boothgarh	4.16	102705	31.03.2023	manual	RBM	
50	swara	2.36	58265.6	31.03.2023	manual	RBM	
51	Sainsowal	6.51	160724	31.03.2023	manual	RBM	
52	Aalowal	1.44	62899	31.03.2023	manual	Sand	
53	Aalowal	3.32	145018	31.03.2023	manual	Sand	
54	Malewal	4.23	184766	31.03.2023	manual	RBM	
55	Malana	8.26	374674	31.03.2023	manual	RBM	
56	Tapparian	0.31	14582	31.03.2023	manual	RBM	
57	Rasidpur	1.21	52853	31.03.2023	manual	RBM	
58	Malana	2.64	119750	31.03.2023	manual	RBM	
59	Sultanpur	3.13	136718	31.03.2023	manual	RBM	
60	Nangra Kalmot	6.83	288568	31.03.2023	manual	RBM	
61	Nangra Kalmot	11.24	474890	31.03.2023	manual	RBM	
62	Nangra Kalmot	5.29	223503	31.03.2023	manual	RBM	
63	Nangra Kalmot	3.14	132665	31.03.2023	manual	RBM	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
64	Nangra Kalmot	10.76	454610	31.03.2023	manual	RBM	
65	Nangra Kalmot	2.85	120413	31.03.2023	manual	RBM	
66	Nangra Kalmot	3.10	130975	31.03.2023	manual	RBM	
67	Nangra Kalmot	8.77	370385	31.03.2023	manual	RBM	
68	Nangra Kalmot	12.85	542913	31.03.2023	manual	RBM	
69	Nangra Kalmot	32.85	1387913	31.03.2023	manual	RBM	
70	Nangra Kalmot	26.48	1118780	31.03.2023	manual	RBM	
71	Nangra Kalmot	1.25	52813	31.03.2023	manual	RBM	
72	Nangra Kalmot	5.97	252233	31.03.2023	manual	RBM	
73	Nangra Kalmot	7.45	314763	31.03.2023	manual	RBM	
74	Nangra Kalmot	5.68	240107	31.03.2023	manual	RBM	
75	HARSABELA	8.64	364934	31.03.2023	manual	RBM	
76	HARSABELA	0.55	23238	31.03.2023	manual	RBM	
77	Massewal	0.98	40670	31.03.2023	manual	RBM	
78	Daboor	0.69	28463	31.03.2023	manual	RBM	
79	Dollowal	2.82	115620	31.03.2023	manual	RBM	
80	Agampur	0.60	25200	31.03.2023	manual	RBM	
81	Agampur	0.39	16380	31.03.2023	manual	RBM	
82	Agampur	0.44	18270	31.03.2023	manual	RBM	
83	Lodhipur	1.02	41471	31.03.2023	manual	RBM	
84	Chandpur	1.01	44450	31.03.2023	manual	RBM	
85	Majari	9.41	397573	31.03.2023	manual	RBM	
86	Majari	0.46	19435	31.03.2023	manual	RBM	
87	Majari	0.26	10985	31.03.2023	manual	RBM	
88	Nangra Kalmot	14.34	602280	31.03.2023	manual	RBM	
89	Nangra Kalmot	27.24	1144080	31.03.2023	manual	RBM	
90	Nangra Kalmot	46.06	1934520	31.03.2023	manual	RBM	
91	Nangra Kalmot	2.02	84840	31.03.2023	manual	RBM	
92	Nangra Kalmot	5.68	238560	31.03.2023	manual	RBM	
93	Nangra Kalmot	12.72	534240	31.03.2023	manual	RBM	
94	Nangra Kalmot	27.63	1160460	31.03.2023	manual	RBM	
95	HARSABELA	20.57	869083	31.03.2023	manual	RBM	
	Total	**619.83**	**21270579.49**				
DISTRICT SAS NAGAR							
1	NAGLA	0.43	8260	30.04.2023	manual	Sand	Total Sites = 06 Nos. of B1 Sites= 01 Nos. of B2 Sites= 05
2	NAGLA	0.92	26954	30.04.2023	manual	Sand	
3	NAGLA	1.45	16203	30.04.2023	manual	Sand	
4	JODHPUR	0.98	17608	30.04.2023	manual	Sand	
5	RAJAPUR	0.77	35093	30.04.2023	manual	Sand	
6	KHIZRABAD	18.2	797160	30.04.2023	manual	GRAVEL	
	Total	**22.75**	**901278**				
DISTRICT SBS NAGAR							
1	Arazi Darya Bramad Rai	2.68	125424	30.04.2023	manual	Sand	Total Sites = 78 Nos. of B1 Sites= 24 Nos. of B2 Sites= 54
2	Arazi Darya Bramad Rai	13.62	637416	30.04.2023	manual	Sand	
3	Arazi Darya Bramad Rai	1.88	87984	30.04.2023	manual	Sand	
4	Arazi Darya Bramad Rai	1.99	93132	30.04.2023	manual	Sand	
5	Arazi Darya Bramd BelaTajowal	1.19	55692	30.04.2023	manual	Sand	
6	Arazidarya Bramad Paragpur	9.44	326926	30.04.2023	manual	Sand	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
7	Arazidarya Bramad Paragpur	9.2	430560	30.04.2023	manual	Sand	
8	Arazidarya Bramad Paragpur	17.05	797940	30.04.2023	manual	Sand	
9	Mubrakpur	7.07	330876	30.04.2023	manual	Sand	
10	SARANGPUR PANJ PEDA	3.76	171862	30.04.2023	manual	Sand	
11	SARANGPUR PANJ PEDA	10.66	226163	30.04.2023	manual	Sand	
12	DUGRI	10.18	476424	30.04.2023	manual	Sand	
13	DUGRI	1.4	65520	30.04.2023	manual	Sand	
14	DUGRI	3.04	94848	30.04.2023	manual	Sand	
15	Khoja Bet	5.85	268515	30.04.2023	manual	Sand	
16	AULIAPUR & Banga Bet	4.7	215730	30.04.2023	manual	Sand	
17	AULIAPUR	0.52	23868	30.04.2023	manual	Sand	
18	AULIAPUR	1.3	59670	30.04.2023	manual	Sand	
19	AULIAPUR	2.31	79686	30.04.2023	manual	Sand	
20	MANDHALA	1.15	12751	30.04.2023	manual	Sand	
21	MANDHALA	4.7	86856	30.04.2023	manual	Sand	
22	MANDHALA	4.82	153652	30.04.2023	manual	Sand	
23	MANDHALA	4.04	116344	30.04.2023	manual	Sand	
24	MANDHALA	6.01	127725	30.04.2023	manual	Sand	
25	BEHLOOR KHURD	10.92	129468	30.04.2023	manual	Sand	
26	BEHLOOR KHURD	2.38	99503	30.04.2023	manual	Sand	
27	PHUL MAKODI	1.71	78694	30.04.2023	manual	Sand	
28	PHUL MAKODI	3.09	50614	30.04.2023	manual	Sand	
29	PHUL MAKODI	1.04	10221	30.04.2023	manual	Sand	
30	SAIDPUR KHURD	0.82	11385	30.04.2023	manual	Sand	
31	SAIDPUR KHURD	5.34	48316	30.04.2023	manual	Sand	
32	SAIDPUR KHURD	1.11	38788	30.04.2023	manual	Sand	
33	HUSSAINPUR	2.11	25670	30.04.2023	manual	Sand	
34	HUSSAINPUR	7.3	42720	30.04.2023	manual	Sand	
35	HUSSAINPUR	0.69	2763	30.04.2023	manual	Sand	
36	HUSSAINPUR	4.26	106278	30.04.2023	manual	Sand	
37	HUSSAINPUR	14.76	238669	30.04.2023	manual	Sand	
38	HUSSAINPUR	1.24	39911	30.04.2023	manual	Sand	
39	HUSSAINPUR	1.65	1271	30.04.2023	manual	Sand	
40	HUSSAINPUR	0.22	3168	30.04.2023	manual	Sand	
41	HUSSAINPUR	1.26	19986	30.04.2023	manual	Sand	
42	HUSSAINPUR	6.48	186611	30.04.2023	manual	Sand	
43	HUSSAINPUR	2.16	38586	30.04.2023	manual	Sand	
44	RATNANA	10.46	384991	30.04.2023	manual	Sand	
45	RATNANA	9.3	257796	30.04.2023	manual	Sand	
46	RATNANA	1.79	61197	30.04.2023	manual	Sand	
47	BAIRSAL	0.94	30689	30.04.2023	manual	Sand	
48	BAIRSAL	4.75	128744	30.04.2023	manual	Sand	
49	TALWANDI SHIBU	5.3	192623	30.04.2023	manual	Sand	
50	TALWANDI SHIBU	4.76	219912	30.04.2023	manual	Sand	
51	TALWANDI SHIBU	0.61	28182	30.04.2023	manual	Sand	
52	TALWANDI SHIBU	3.78	168815	30.04.2023	manual	Sand	
53	TALWANDI SHIBU	0.23	10626	30.04.2023	manual	Sand	
54	LALEWAL	0.37	17094	30.04.2023	manual	Sand	
55	LALEWAL	0.8	36960	30.04.2023	manual	Sand	

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
56	LALEWAL	4.04	186648	30.04.2023	manual	Sand	
57	LALEWAL	0.68	31416	30.04.2023	manual	Sand	
58	LALEWAL & KHOJA	5.43	250866	30.04.2023	manual	Sand	
59	KHOJA	1.84	85008	30.04.2023	manual	Sand	
60	KHOJA	4.58	211596	30.04.2023	manual	Sand	
61	KHOJA	1.47	67914	30.04.2023	manual	Sand	
62	KHOJA	0.47	21714	30.04.2023	manual	Sand	
63	KHOJA	6.35	293370	30.04.2023	manual	Sand	
64	KHOJA	7.33	338646	30.04.2023	manual	Sand	
65	KHOJA	1.02	47124	30.04.2023	manual	Sand	
66	KHOJA	24.09	1112958	30.04.2023	manual	Sand	
67	BURJ TEHAL DAS	0.81	37908	30.04.2023	manual	Sand	
68	BURJ TEHAL DAS	0.61	28548	30.04.2023	manual	Sand	
69	BURJ TEHAL DAS	0.34	15912	30.04.2023	manual	Sand	
70	BURJ TEHAL DAS	0.42	19656	30.04.2023	manual	Sand	
71	BURJ TEHAL DAS	8.71	341049	30.04.2023	manual	Sand	
72	Chandpur Rurki 366	95.48	4869480	30.04.2023	manual	RBM	
73	Chandpur Rurki 366	0.4	20400	30.04.2023	manual	RBM	
74	Chandpur Rurki 366	5.4	275400	30.04.2023	manual	RBM	
75	Chandpur Rurki 366	1.4	71400	30.04.2023	manual	RBM	
76	Chandpur Rurki 366	1.45	73950	30.04.2023	manual	RBM	
77	Chandpur Rurki 366	3.15	160650	30.04.2023	manual	RBM	
78	Majran Jattan 412	0.3	13860	30.04.2023	manual	Sand	
		415.96	**16350288**				
DISTRICT TARN TARAN							
1	Ram Singh Wala, Chakk Toot	49.15	1420491	30.04.2023	manual	Sand	Total Sites = 20 Nos. of B1 Sites= 14 Nos. of B2 Sites= 06
2	Chakk toot	11.96	345658	30.04.2023	manual	Sand	
3	Chakk toot, Jhugian Peer Baksh	8.97	259800	30.04.2023	manual	Sand	
4	Kot Budha, Jalloke	37.5	1081907	30.04.2023	manual	Sand	
5	Kot Budha, Jalloke	21.4	617408	30.04.2023	manual	Sand	
6	Jalloke	4.89	141081	30.04.2023	manual	Sand	
7	Sabhra	5.67	146898	30.04.2023	manual	Sand	
8	Sabhra	19.24	548317	30.04.2023	manual	Sand	
9	Ghullewala	2.95	82983	30.04.2023	manual	Sand	
10	Ghullewala	5.54	141673	30.04.2023	manual	Sand	
11	Sabhra	88.6	2287347	30.04.2023	manual	Sand	
12	Sabhra	22.3	575709	30.04.2023	manual	Sand	
13	Mundapind	7.66	173154	30.04.2023	manual	Sand	
14	Dhunda, Manakdeke	35.49	890089	30.04.2023	manual	Sand	
15	Dhunda	8.81	199150	30.04.2023	manual	Sand	
16	Dhunda	3.48	87278	30.04.2023	manual	Sand	
17	Jalalabad	16.62	416830	30.04.2023	manual	Sand	
18	Rakh Gagrewal	4.75	131670	30.04.2023	manual	Sand	
19	Bhalojla	0.64	16051	30.04.2023	manual	Sand	
20	Booh	2.83	128369	30.04.2023	manual	Sand	
	Total	**358.46**	**9691863**				

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mining permitted upto	Method of mining	Mineral Type (Sand/ RBM)	Remarks
	Grand Total	2620.93	91352357				

Note: The Government may at any time amend the annexure

Executive Engineer / Ropar
Divisional Mining & Geology Division
VIRD Punjab

ANNEXURE-V

Mining Sites (in DSR) with No Excavation permission by SEIAA

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mineral Type (Sand/ RBM)
DISTRICT HOSHIARPUR				
1	Motla	0.54	25272	SAND
2	Motla	1.25	58500	SAND
3	Kolian	0.48	22464	SAND
4	Halerdadal Pat	3.03	141804	SAND
5	Mehtabpur	4.49	210132	SAND
6	Mehtabpur Sadullapur kalota	23.78	1112904	SAND
7	Sadullapur kalota	9.14	427752	SAND
8	Jahidpur	9.48	443664	SAND
9	Muradpur	3.50	71068	SAND
10	Muradpur Dhanoa	4.46	207390	SAND
11	Dhanoa	0.42	7421	SAND
12	Dhanoa	0.75	28598	SAND
13	Muradpur wadhaya	6.68	310620	SAND
14	Wadhaya	0.98	45570	SAND
15	Chhourian	2.30	58466	SAND
16	Bhikhowal	0.29	13485	SAND
17	Bhikhowal	10.80	458266	SAND
18	Bhikhowal	2.91	100779	SAND
19	Bhikhowal Nandew al	5.35	145220	SAND
20	Nandewal	1.48	68820	SAND
21	Saidowal	3.50	155698	SAND
22	Saidowal	5.14	156950	SAND
23	Daimpur	1.96	91140	SAND
24	Daimpur Bhoja Passi bet	2.78	129270	SAND
25	Daimpur Bhoja Passi bet	10.65	495225	SAND
26	Daimpur Bhoja Passi bet	0.79	36735	SAND
27	Bhoja Passi bet	3.78	175770	SAND
28	Rajpur	12.96	602640	SAND
29	Rajpur Chak Suleman	19.36	610188	SAND
30	Chak Suleman Mewanmiani	12.93	593487	SAND
31	Mewanmiani	13.97	641223	SAND
32	Mewanmiani	2.93	134487	SAND
33	Mewanmiani	49.47	2270673	SAND
34	Kulla	12.93	435689	SAND
35	Kulla	2.54	95098	SAND
36	Kulla	4.96	232128	SAND
37	Kulla	8.23	359486	SAND
38	Kulla	18.15	849420	SAND
39	Kulla	11.10	519480	SAND
40	Fatha	8.19	383292	SAND
41	Fatha	0.73	34164	SAND

Mining Sites (in DSR) with No Excavation permission by SEIAA

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mineral Type (Sand/ RBM)
42	Habib chak	2.73	103063	SAND
43	Habib chak	7.81	365508	SAND
44	Rarra	1.82	85176	SAND
45	Rarra	2.30	107640	SAND
46	Nasrala Choe	28.00	638400.00	SAND
47	Nasrala Choe	11.90	217056.00	SAND
48	Nasrala Choe	4.71	85910.40	SAND
49	Nasrala Choe	8.56	156134.40	SAND
50	Nasrala Choe	3.63	66211.20	SAND
51	Nasrala Choe	14.48	264115.20	SAND
52	Nasrala Choe	5.31	96854.40	SAND
53	Nasrala Choe	0.62	11308.80	SAND
54	Mehalwali Choe	2.50	46200.00	SAND
55	Mehalwali Choe	1.61	29752.80	SAND
56	Mehalwali Choe	14.55	268884.00	SAND
57	Mehalwali Choe	12.21	225640.80	SAND
58	Mehalwali Choe	15.97	295125.60	SAND
59	Mengarwal Choe	11.51	267607.50	SAND
60	Mengarwal Choe	5.11	95046.00	SAND
61	Rajni Devi Choe	4.31	80683.20	SAND
62	Rajni Devi Choe	2.50	46800.00	SAND
63	Naueshra Simbli	0.81	35113.50	RBM
64	Sandhwal	2.63	107304.00	RBM
65	Saidpur	6.07	239916.75	SAND
66	Rara,	6.07	254029.50	SAND
67	Tahli	3.79	158611.50	SAND
68	Rara	18.00	753300.00	SAND
69	Jahidpur	6.42	268677.00	SAND
70	Jahidpur	2.42	101277.00	SAND
	Total	**507.51**	**18431784.19**	
DISTRICT KAPURTHALA				
71	Mand Dhilwan	4.66	39356.5	SAND
72	Kammewal-1	0.96	27129.6	SAND
73	Kammewal-2	2.33	65845.8	SAND
74	Sabk Desal-1	0.91	25716.6	SAND
75	Sabk Desal-2	0.3	8478	SAND
76	Amritpur	1.37	38716.2	SAND
77	Mand Dhunda-1	5.73	161929.8	SAND
78	Mand Dhunda-2	0.88	11190.96	SAND
79	Mand Dhunda-3	0.36	10173.6	SAND
80	Bhaini Bahadur	0.25	7065	SAND
81	Passan Kadim	7.19	203189.4	SAND
82	Bhim Jadid	16.06	453855.6	SAND
83	Mand Gujjarpur	0.59	16673.4	SAND

Mining Sites (in DSR) with No Excavation permission by SEIAA

Sr. No.	Name of Mine	Area (Ha)	Total Reserve (MT)	Mineral Type (Sand/ RBM)
84	Mand Raipur Araiyan	4.07	92014.56	SAND
	Total	**45.66**	**1161335.02**	
	Grand Total	**553**	**19593119**	

Note: The Government may at any time amend the annexure

ANNEXURE-VI

Pubic Mining Sites(PMS) and Excavation method permission by SEIAA

Sr. No.	District	Name of Mine	Area (Ha)	Quantity as per approved Mining Plan (MT)	Method of mining
1	Fazilka	Chak Gariban Sander	2.19	44267	Manual
2	Fazilka	Badha-1	1.818	39263	Manual
3	Fazilka	Badha-2	0.2023	2902	Manual
4	Fazlika	Thara Singh Wala-1	1.24	14010	Manual
5	Fazlika	Thara Singh Wala- 2			Manual
6	Ludhiana	Gorsian Khan Mohhamad	23.1	943326	Manual
7	Ludhiana	Jamalpur Laily and Sujatwal	3.77	68312	Manual
8	Ludhiana	Dhanasu/Bhukhri Khurd	3.81	21767	Manual
9	Ludhiana	Talwandi Kalan	1.8	13338	Manual
10	Ludhiana	Kannian Hussaini	4.87	45900	Manual
11	Ludhiana	Kasabaad-1	11.24	157216	Manual
12	Ludhiana	Kasabaad-2			Manual
13	Ludhiana	Koom Kalan	2.3	9810	Manual
14	SAS Nagar	TANGRI 1	0.43	4525	Manual
15	SAS Nagar	TANGRI 5	0.77	9982	Manual
16	Tarntarn	Jaloke	3.41	48633	Manual
17	Tarntarn	Jaloke -2	1.37	17914	Manual
18	Tarntarn	Sabhra -1	3.08	38889	Manual
19	Tarntarn	Sabhra-2	4.61	61826	
20	Rupnagar	Sultanpur	7.45	58092	Manual
21	Rupnagar	Malana	7.17	68316	Manual
22	Rupnagar	Mallewal	4.74	52554	Manual
23	Rupnagar	Aalowal -1	4.7	28471	Manual
24	Rupnagar	Aalowal - 2			Manual
25	SBS Nagar	Khoja	6.35	91716	Manual
26	SBS Nagar	Burj Tehal Dass	8.71	142314	Manual
27	SBS Nagar	Phool Makouri	10.96	57460	Manual
28	SBS Nagar	Saidpur			Manual
29	SBS Nagar	Auliapur	1.3	17956	Manual
30	Jalandhar	Maun Sahib	12.62	551999	Manual
		Total	**134.01**	**2610758**	

Note: The Government may at any time amend the annexure

ANNEXURE-VII

Commercial Mining Sites (CMS) & quantity as per approved mining plan or EC

Sr. No.	District	Name of Mine	Area (Ha)	Qty as per EC/MP (MT/yr)	Qty for 3 Yrs (MT)	Validity upto	Method of mining
Cluster-I							
1	Ludhiana	Akuwal	20.65	903231	2709693	02.05.24	Semi Mechanized
	Sub Total		**20.65**	**903231**	**2709693**		
Cluster-II							
2	Ludhiana	Boont	24.28	1062007	3186021	03.05.24	Semi Mechanized
	Sub Total		**24.28**	**1062007**	**3186021**		
Cluster-III							
3	Ludhiana	Kutbewal Arian	10.12	442649	1327947	02.05.25	Manual
	Sub Total		**10.12**	**442649**	**1327947**		
Cluster-IV							
4	SBS Nagar	Begowal	1.42	9504	9504	04.05.23	Manual
5	SBS Nagar	Arzi Derya Bramd Rail (1)	4.9	127422	127422	05.11.27	Manual
	Sub Total		**6.32**	**136926**	**136926**		
Cluster-V							
6	Jalandhar	Vehra	13.15	575181	1725543	03.05.25	Manual
	Sub Total		**13.15**	**575181**	**1725543**		
Cluster-VI							
7	Ropar	Majri	4.98	38871	116613	31.03.23	Manual
	Sub Total		**4.98**	**38871**	**116613**		
Cluster-VII							
8	Pathankot	Kharkhara	16.48	566583	1699749	31.03.23	Manual
	Sub Total		**16.48**	**566583**	**1699749**		
Cluster-VIII							
9	Pathankot	Chak Hari Rai	47.2	334000	1002000	31.03.23	Manual
10	Pathankot	Mira Kalan	26.72	530264	1590792	31.03.23	Manual
	Sub Total		**73.92**	**864264**	**2592792**		
Cluster-IX							
11	Pathankot	Bela Mastgarh	9.51	124913	374739	31.03.23	Manual
	Sub Total		**9.51**	**124913**	**374739**		
Grand Total			**179.41**	**4714625**	**13870023**		

Note: The Government may at any time amend the annexure

Annexure- VIII

The Pit Head price of sand and gravel in any Mining Site shall be as under:

Serial Number	Description	Rate per cubic feet (in Rupees) in any CMS	Rate per cubic feet (in Rupees) in any PMS
1	Royalty	0.73	0.73
2	District Mineral Foundation Fund	0.2	0.2
3	Environment Management Fund	0.07	0.07
4	Land Owner compensation	2	2
5	Cost of Excavation & loading and Profit Margin for Concessionaire in any CMS	2.4	N/A
6	Operational Cost of running the PMS site	N/A	2.4
7	IT &Weigh-bridge charges	0.1	0.1
8	Maximum sale price at pit head	5.5	5.5

NOTE:-

1. The amount against entries at Sr. No1- 3 and Rs. 0.08 against entry No.7 shall be deposited with the Government.

2787/3-2023/Pb. Govt. Press, S.A.S. Nagar

Annexure R-8

Detail of Mines in District Rupnagar

S.No.	Name of Mine	Tehsil	Type of Mine
1	Sultanpur	Chamkaur Sahib	Public Mining Site
2	Mallewal	Chamkaur Sahib	Public Mining Site
3	Malana	Chamkaur Sahib	Public Mining Site
4	Aalowal	Ropar	Public Mining Site
5	Nangra Kalmot-1	Nangal	Commercial Mining Site
6	Nangra Kalmot-2	Nangal	Commercial Mining Site
7	Majri	Nangal	Commercial Mining Site
8	Chandpur	Sri Anandpur Sahib	Commercial Mining Site
9	Dollowal	Sri Anandpur Sahib	Commercial Mining Site
10	Nangra Kalmot-3	Nangal	Commercial Mining Site
11	Bhangal	Nangal	Commercial Mining Site

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

SUPERINTENDING ENGINEER/PATIALA, DRAINAGE CUM MINING CIRCLE, WATER RESOURCES DEPARTEMNT PUNJAB, PATIALA

OFFICE ORDER

No 9821/ Date 27.08.2023

After discussion with Executive Engineer/Ropar, need to put three number more check posts in area of Ropar and Shri Anandpur Sahib to check Form-Q issued by the crushers is felt, therefore below mentioned officers/employees for regular checking on check posts are deputed on additional duty along with their earlier duty till any further orders :-

Sr. No	Name of Sub Divisional Officer	Name of Junior Engineer	Area of Check post	Remarks
1	Sh. Navneet Singh, Sub Divisional Officer	Sh. Harinder Singh Junior Engineer, SAS Nagar Division	T-point Police Line, Ropar	These teams will ensure their presence on the deputed places from morning of 28/08/2023.
		Sh. Gagandeep Singh s/o Sh. Kuldip Singh, Junior Engineer, Mansa Division		
		Sh. Gagandeep Singh s/o Sh. Hardev Singh, Junior Engineer, Mansa Division		
2	Sh. Pardeep Kumar, Sub Divisional Officer	Sh. Kamaljit Singh Toor Junior Engineer, Sangrur Division	Village Raipur Jhajj, Jhajj Chownk	
		Sh. Gagandeep Singh, Junior Engineer, Sangrur Division		
		Sh. Rohit Gill, Junior Engineer, Patiala Division		
2	Sh. Gurditpal Singh, Sub Divisional Officer	Sh. Love Jindal, Junior Engineer, Sangrur Division	Khanpur Khui T-point	
		Harpinder Singh, Junior Engineer, Sangrur Division		
		Dhanpreet Singh, Junior Engineer, Patiala Division		

These orders are put in force with immediate effect. No extra allowance is payable in lieu of above mentioned work.

-sd-
Superintending Engineer/Patiala,
Drainage cum Mining Circle,
Water Resources Department Punjab,
Patiala

No 9822-26/ Date 27.08 2023

The copy of above :-

1. Chief Engineer/ Drainage cum Mining, Water Resources Department Punjab, Chandigarh.
2. Executive Engineer/Ropar, Drainage cum Mining and Geology division, Water Resources Department Punjab is instructed to do arrangements for stay of staff deputed from other districts and arrange CCTV cameras at above mentioned locations.

3. Executive Engineer, Shri Anandpur Sahib/SAS Nagar/Sangrur, Drainage cum Mining and Geology division, Water Resources Department Punjab to instruct above mentioned officers/employees to be present at their duty places.

-sd-
Superintending Engineer/Patiala,
Drainage cum Mining Circle,
Water Resources Department Punjab,
Patiala

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division

Annexure R-10

Detail of Checkposts Revenue received in District Rupnagar

S.No.	Name of Checkpost	Operational from	Total Revenue Received	Name of Junior Engineer Incharge
1	Kalwan to Nangal Road at Village Ailgran	Aug-22	64254807	Radhey Shyam
2	Kanpur Khuhi to Bhathri Road at Village Khera Kalmot	Aug-22	205574386	Radhey Shyam
3	Kiratpur to Rampur Road at Village Lohand	Aug-22	68750845	Vikesh Gupta
4	Ganguwal to Dabt Road at Village Ganguwal	Aug-22	25411950	Vikesh Gupta
5	Bharatgarh to Panjera Road at village Barapind	Aug-22	56588059	Sarabjeet Singh
6	Bharatgarh to Nalagarh Road at village Kakrala	Aug-22	2861849	Harmandeep Singh
7	Ghanauli to Nalagarh Road at village Bikkon	Aug-22	6386213	Aman Guliya
8	Left Bank of Sirsa Nadi, Village Manguwal	Aug-22	18988694	Lakhpreet Singh
		G.Total	**448816803**	

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

Annexure R-11

FIR against illegal mining in District Rupnagar (01.01.2018-15.08.2024)

Sr. No.	Date	FIR No.	Police Station	Tipper	Tractor	Trolly	Poclain	JCB
1	02.01.2018	1	Shri Chamkaur Sahib					
2	03.02.2018	20	Shri Chamkaur Sahib					
3	06.02.2018	23	Shri Chamkaur Sahib	2	3			1
4	16.03.2018	57	Shri Chamkaur Sahib					
5	15.04.2018	81	Shri Chamkaur Sahib					1
6	08.07.2018	120	Shri Chamkaur Sahib		1			
7	09.07.2018	121	Shri Chamkaur Sahib	1				
8	03.08.2018	140	Shri Chamkaur Sahib	2				1
9	19.01.2018	3	Singh Bhagwantpur	3				
10	22.01.2018	4	Singh Bhagwantpur	1			1	
11	09.02.2018	13	Singh Bhagwantpur				1	
12	10.02.2018	15	Singh Bhagwantpur				1	
13	10.03.2018	24	Singh Bhagwantpur					
14	28.03.2018	28	Singh Bhagwantpur		1			
15	21.01.2018	9	Sadar Rupnagar	2				
16	13.03.2018	26	Sadar Rupnagar		1			
17	28.04.2018	83	City Rupnagar	1				
18	10.05.2018	91	City Rupnagar		1			
19	09.08.2018	83	Sadar Rupnagar	1				1
20	18.10.2018	210	City Rupnagar		2			
21	21.10.2018	112	Sadar Rupnagar		2			
22	03.02.2018	21	Shri Anandpur Sahib					
23	04.02.2018	18	Kiratpur Sahib	1				
24	11.08.2018	24	Shri Anandpur Sahib	1	1		1	
25	23.04.2018	45	Kiratpur Sahib	3				
26	12.05.2018	52	Kiratpur Sahib	1				
27	12.05.2018	67	Shri Anandpur Sahib		2			
28	15.05.2018	55	Kiratpur Sahib					
29	04.06.2018	64	Kiratpur Sahib					
30	18.07.2018	76	Kiratpur Sahib	1				
31	13.09.2018	103	Kiratpur Sahib	2				
32	30.10.2018	138	Shri Anandpur Sahib					
33	30.10.2018	139	Shri Anandpur Sahib	2			1	1
34	19.03.2018	29	Nurpur Bedi		1			
35	29.05.2018	62	Nurpur Bedi	2			1	
36	12.06.2018	70	Nurpur Bedi		1			
37	12.06.2018	71	Nurpur Bedi					
38	17.06.2018	72	Nurpur Bedi	1	1			
39	05.09.2018	98	Nurpur Bedi					
40	13.12.2018	140	Nurpur Bedi					
41	17.01.2018	5	Nangal					
42	30.01.2018	11	Nangal	1			1	
43	07.02.2018	19	Nangal	1			1	
44	15.04.2018	50	Nangal				1	
45	16.04.2018	52	Nangal	1			1	
46	24.05.2018	80	Nangal					
47	11.06.2018	92	Nangal		1			
48	28.06.2018	104	Nangal					
49	14.09.2018	145	Nangal	1				1
50	21.09.2018	148	Nangal		1			
51	21.09.2018	149	Nangal					
52	08.11.2018	184	Nangal		1			
53	21.12.2018	211	Nangal					
54	20.01.2019	8	Nangal		1			
55	15.02.2019	23	Nangal					
56	06.03.2019	32	Nangal					
57	08.06.2019	79	Nangal		1		1	
58	06.08.2019	104	Nangal				1	
59	14.08.2019	105	Nangal					
60	24.11.2019	149	Nangal					
61	04.12.2019	155	Nangal					
62	26.12.2019	161	Nangal	1				

63	27.02.2019	13	Nurpur Bedi	1				
64	22.04.2019	43	Nurpur Bedi					
65	25.04.2019	50	Nurpur Bedi					
66	02.07.2019	82	Nurpur Bedi	2				
67	06.08.2019	93	Nurpur Bedi					
68	06.08.2019	94	Nurpur Bedi					
69	01.10.2019	122	Nurpur Bedi					
70	02.11.2019	133	Nurpur Bedi					
71	02.01.2019	1	Shri Anandpur Sahib					
72	21.04.2019	42	Kiratpur Sahib	3			1	
73	25.05.2019	53	Kiratpur Sahib	1				1
74	02.07.2019	65	Shri Anandpur Sahib					
75	03.07.2019	64	Kiratpur Sahib	2				
76	03.07.2019	65	Kiratpur Sahib	1				
77	18.07.2019	70	Kiratpur Sahib		1			1
78	16.09.2019	90	Kiratpur Sahib					
79	27.11.2019	114	Kiratpur Sahib					
80	11.12.2019	117	Shri Anandpur Sahib					
81	11.12.2019	118	Shri Anandpur Sahib					
82	23.01.2019	11	Sadar Rupnagar					
83	18.04.2019	71	City Rupnagar	1				
84	17.06.2019	58	Sadar Rupnagar		1			
85	14.09.2019	158	City Rupnagar	1				
86	26.10.2019	102	Sadar Rupnagar					
87	08.11.2019	114	Sadar Rupnagar					
88	06.12.2019	85	Singh Bhagwantpur	4			1	
89	30.03.2019	27	Shri Chamkaur Sahib	1				
90	21.04.2019	44	Shri Chamkaur Sahib					
91	17.08.2019	108	Shri Chamkaur Sahib					
92	25.11.2019	177	Shri Chamkaur Sahib	1				
93	02.12.2019	180	Shri Chamkaur Sahib					
94	10.12.2019	184	Shri Chamkaur Sahib					
95	26.12.2019	196	Shri Chamkaur Sahib					
96	24.02.2020	21	Nangal					
97	26.02.2020	22	Nangal	1				
98	16.03.2020	29	Nangal				1	
99	23.05.2020	89	Nangal					
100	05.06.2020	97	Nangal	1				
101	11.06.2020	107	Nangal	1				
102	11.06.2020	110	Nangal	1	1			
103	13.06.2020	111	Nangal				1	
104	18.06.2020	121	Nangal					
105	24.07.2020	152	Nangal					
106	01.08.2020	159	Nangal					
107	18.08.2020	179	Nangal				1	
108	25.08.2020	186	Nangal					
109	05.09.2020	191	Nangal	1				
110	15.09.2020	202	Nangal					
111	04.10.2020	212	Nangal					
112	06.10.2020	213	Nangal	2			1	
113	08.11.2020	230	Nangal					
114	19.12.2020	255	Nangal	1			1	
115	29.12.2020	261	Nangal	2				
116	29.12.2020	262	Nangal	3				
117	30.01.2020	10	Shri Anandpur Sahib	4			3	
118	16.03.2020	23	Shri Anandpur Sahib					
119	16.03.2020	23	Kiratpur Sahib	1				
120	16.03.2020	24	Kiratpur Sahib	2				1
121	17.03.2020	25	Kiratpur Sahib				1	
122	16.04.2020	44	Shri Anandpur Sahib	3				
123	17.04.2020	45	Shri Anandpur Sahib	3				
124	14.05.2020	56	Shri Anandpur Sahib	1			1	1
125	13.06.2020	80	Shri Anandpur Sahib	3				
126	13.06.2020	81	Shri Anandpur Sahib	1				
127	17.06.2020	78	Kiratpur Sahib					1
128	17.06.2020	79	Kiratpur Sahib					

129	03.07.2020	97	Shri Anandpur Sahib	1				
130	17.07.2020	100	Kiratpur Sahib					
131	24.07.2020	104	Kiratpur Sahib	5				
132	24.08.2020	132	Kiratpur Sahib					
133	28.08.2020	136	Shri Anandpur Sahib					
134	28.08.2020	135	Kiratpur Sahib					
135	28.08.2020	137	Kiratpur Sahib					
136	29.08.2020	138	Kiratpur Sahib					
137	03.09.2020	140	Kiratpur Sahib					
138	19.10.2020	157	Shri Anandpur Sahib				4	
139	18.11.2020	171	Kiratpur Sahib	1				
140	25.11.2020	173	Kiratpur Sahib					
141	29.12.2020	182	Kiratpur Sahib	1				
142	29.12.2020	183	Kiratpur Sahib					
143	02.01.2020	1	Nurpur Bedi		1			
144	02.01.2020	2	Nurpur Bedi		1			
145	02.01.2020	3	Nurpur Bedi					1
146	17.02.2020	17	Nurpur Bedi	1				
147	15.03.2020	32	Nurpur Bedi	1				1
148	07.07.2020	91	Nurpur Bedi	1				
149	28.07.2020	114	Nurpur Bedi					
150	05.08.2020	143	Nurpur Bedi	1				
151	06.08.2020	146	Nurpur Bedi	1			1	
152	13.08.2020	159	Nurpur Bedi	1				
153	24.08.2020	166	Nurpur Bedi					
154	03.09.2020	172	Nurpur Bedi					
155	29.09.2020	186	Nurpur Bedi	1				
156	04.11.2020	204	Nurpur Bedi		1			
157	24.11.2020	214	Nurpur Bedi					
158	10.12.2020	217	Nurpur Bedi					
159	20.12.2020	221	Nurpur Bedi					1
160	31.12.2020	231	Nurpur Bedi					
161	01.01.2020	1	Sadar Rupnagar				2	
162	14.07.2020	106	Sadar Rupnagar	4				
163	20.07.2020	107	Sadar Rupnagar					
164	14.08.2020	122	Sadar Rupnagar	1			1	
165	15.08.2020	123	Sadar Rupnagar					
166	15.08.2020	124	Sadar Rupnagar					
167	22.08.2020	128	Sadar Rupnagar					1
168	24.08.2020	240	City Rupnagar		1			
169	27.08.2020	136	Sadar Rupnagar					
170	28.08.2020	139	Sadar Rupnagar					
171	07.12.2020	209	Sadar Rupnagar					1
172	10.12.2020	211	Sadar Roopnagar					
173	05.02.2020	9	Singh Bhagwantpur					
174	05.02.2020	10	Singh Bhagwantpur					
175	06.02.2020	11	Singh Bhagwantpur					
176	03.06.2020	49	Singh Bhagwantpur					
177	24.06.2020	59	Singh Bhagwantpur					
178	26.08.2020	83	Singh Bhagwantpur					
179	30.12.2020	124	Singh Bhagwantpur		1			
180	21.02.2020	19	Shri Chamkaur Sahib					
181	25.05.2020	89	Shri Chamkaur Sahib					
182	13.06.2020	105	Shri Chamkaur Sahib					
183	13.06.2020	106	Shri Chamkaur Sahib					
184	13.06.2020	107	Shri Chamkaur Sahib					
185	29.06.2020	111	Shri Chamkaur Sahib				1	
186	05.07.2020	115	Shri Chamkaur Sahib	1				1
187	12.08.2020	141	Shri Chamkaur Sahib					1
188	23.02.2021	24	Sadar Rupnagar					
189	24.02.2021	25	Sadar Rupnagar					
190	08.03.2021	32	Sadar Rupnagar	1				1
191	20.03.2021	37	Sadar Rupnagar					
192	17.04.2021	48	Sadar Rupnagar		1			
193	08.05.2021	68	Sadar Rupnagar		2			1
194	19.05.2021	72	Sadar Rupnagar					1

195	14.09.2021	121	Sadar Rupnagar					
196	30.11.2021	137	Sadar Rupnagar					
197	01.04.2021	16	Singh Bhagwantpur					
198	15.12.2021	94	Singh Bhagwantpur					
199	05.01.2021	2	Shri Chamkaur Sahib					
200	04.08.2021	83	Shri Chamkaur Sahib					
201	07.01.2021	4	Nangal					
202	08.01.2021	5	Nangal	2				
203	14.03.2021	33	Nangal				3	
204	24.03.2021	40	Nangal					
205	01.04.2021	41	Nangal					
206	10.04.2021	48	Nangal					
207	10.04.2021	49	Nangal					
208	15.04.2021	50	Nangal					
209	16.04.2021	51	Nangal					
210	04.05.2021	69	Nangal	3				
211	26.05.2021	78	Nangal		1			
212	28.05.2021	82	Nangal					2
213	24.07.2021	112	Nangal		1			
214	30.07.2021	114	Nangal					
215	08.09.2021	138	Nangal	1				
216	03.12.2021	173	Nangal					
217	08.12.2021	174	Nangal					
218	27.12.2021	185	Nangal					
219	01.04.2021	37	Nurpur Bedi				1	
220	28.09.2021	133	Nurpur Bedi					
221	03.10.2021	135	Nurpur Bedi					
222	07.10.2021	138	Nurpur Bedi					
223	09.10.2021	139	Nurpur Bedi		1			
224	21.11.2021	152	Nurpur Bedi	4			1	
225	30.12.2021	165	Nurpur Bedi					
226	19.01.2021	3	Shri Anandpur Sahib	1			1	
227	01.04.2021	39	Kiratpur Sahib					
228	17.04.2021	46	Kiratpur Sahib		1			1
229	22.05.2021	70	Kiratpur Sahib					
230	30.05.2021	70	Shri Anandpur Sahib		3			1
231	06.06.2021	79	Kiratpur Sahib					
232	05.10.2021	126	Shri Anandpur Sahib					1
233	08.10.2021	127	Shri Anandpur Sahib					
234	19.10.2021	133	Kiratpur Sahib					
235	24.11.2021	145	Shri Anandpur Sahib	1			1	
236	17.12.2021	149	Kiratpur Sahib					
237	28.12.2021	158	Kiratpur Sahib				2	4
238	25.01.2022	6	Shri Chamkaur Sahib				1	1
239	07.04.2022	21	Shri Chamkaur Sahib		1			
240	18.04.2022	24	Shri Chamkaur Sahib		1			
241	02.05.2022	26	Shri Chamkaur Sahib		1			
242	06.05.2022	29	Shri Chamkaur Sahib					
243	28.06.2022	48	Shri Chamkaur Sahib	1	1		1	
244	11.08.2022	62	Shri Chamkaur Sahib		1			
245	22.08.2022	64	Shri Chamkaur Sahib		1			1
246	10.09.2022	67	Shri Chamkaur Sahib					
247	10.09.2022	68	Shri Chamkaur Sahib	4				
248	11.09.2022	69	Shri Chamkaur Sahib					
249	14.10.2022	77	Shri Chamkaur Sahib		1			
250	01.04.2022	18	Singh Bhagwantpur		1			
251	01.08.2022	55	Singh Bhagwantpur					1
252	12.08.2022	59	Singh Bhagwantpur	2				
253	17.08.2022	60	Singh Bhagwantpur		2			
254	21.08.2022	62	Singh Bhagwantpur	1	1			2
255	31.08.2022	63	Singh Bhagwantpur		1			
256	05.09.2022	65	Singh Bhagwantpur	1				
257	02.12.2022	90	Singh Bhagwantpur	1	1			
258	08.04.2022	22	Sadar Roopnagar		1			
259	10.06.2022	37	Sadar Roopnagar				1	
260	29.07.2022	54	Sadar Roopnagar	1				

261	10.09.2022	69	Sadar Roopnagar					1
262	23.09.2022	76	Sadar Roopnagar					
263	05.10.2022	186	City Roopnagar	1				
264	25.10.2022	85	Sadar Roopnagar					
265	15.11.2022	91	Sadar Roopnagar					
266	26.12.2022	105	Sadar Roopnagar					
267	13.01.2022	4	Shri Anandpur Sahib	1			1	
268	28.01.2022	12	Shri Anandpur Sahib				2	
269	26.03.2022	25	Shri Anandpur Sahib					
270	18.04.2022	38	Kiratpur Sahib	1				
271	19.04.2022	40	Kiratpur Sahib					1
272	19.04.2022	34	Shri Anandpur Sahib	1				
273	25.04.2022	43	Kiratpur Sahib				1	
274	01.05.2022	45	Kiratpur Sahib	1				
275	03.05.2022	41	Shri Anandpur Sahib		3			1
276	06.05.2022	48	Kiratpur Sahib					
277	22.05.2022	51	Shri Anandpur Sahib		1			1
278	05.06.2022	60	Shri Anandpur Sahib				1	
279	05.08.2022	91	Shri Anandpur Sahib		1			
280	07.08.2022	95	Shri Anandpur Sahib		1			1
281	19.08.2022	85	Kiratpur sahib					1
282	10.09.2022	91	Kiratpur sahib	1				
283	10.10.2022	100	Kiratpur sahib					
284	31.10.2022	135	Shri Anandpur Sahib	5				
285	07.12.2022	156	Shri Anandpur Sahib					1
286	07.12.2022	122	Kiratpur sahib					
287	14.12.2022	125	Kiratpur sahib					
288	02.02.2022	9	Nurpur Bedi				1	
289	17.02.2022	14	Nurpur Bedi	1			1	
290	23.02.2022	16	Nurpur Bedi					
291	14.03.2022	22	Nurpur Bedi				1	
292	30.03.2022	29	Nurpur Bedi					
293	19.04.2022	37	Nurpur Bedi					
294	20.04.2022	39	Nurpur Bedi	2			1	
295	20.04.2022	40	Nurpur Bedi					
296	23.04.2022	42	Nurpur Bedi					
297	02.06.2022	59	Nurpur Bedi					1
298	18.06.2022	64	Nurpur Bedi					1
299	09.07.2022	80	Nurpur Bedi					
300	18.07.2022	83	Nurpur Bedi					1
301	25.07.2022	88	Nurpur Bedi					
302	03.08.2022	94	Nurpur Bedi					
303	04.08.2022	95	Nurpur Bedi		1			1
304	09.08.2022	99	Nurpur Bedi					
305	22.08.2022	102	Nurpur Bedi					
306	13.08.2022	103	Nurpur Bedi					
307	13.08.2022	104	Nurpur Bedi					
308	13.08.2022	105	Nurpur Bedi		2			
309	22.08.2022	110	Nurpur Bedi					
310	22.09.2022	128	Nurpur Bedi					
311	30.09.2022	131	Nurpur Bedi				1	
312	11.10.2022	133	Nurpur Bedi					
313	15.10.2022	136	Nurpur Bedi		3			
314	15.10.2022	137	Nurpur Bedi					
315	20.10.2022	141	Nurpur Bedi				2	
316	20.10.2022	142	Nurpur Bedi	2				
317	21.10.2022	144	Nurpur Bedi					
318	22.10.2022	145	Nurpur Bedi	1			1	
319	22.10.2022	146	Nurpur Bedi	3			2	
320	02.11.2022	156	Nurpur Bedi				1	
321	05.12.2022	173	Nurpur Bedi	1			1	
322	09.12.2022	175	Nurpur Bedi					
323	12.12.2022	177	Nurpur Bedi					
324	28.12.2022	181	Nurpur Bedi					
325	28.01.2022	8	Nangal				1	
326	15.03.2022	21	Nangal					

327	25.03.2022	25	Nangal					
328	23.04.2022	49	Nangal					
329	03.05.2022	55	Nangal	6			1	
330	12.05.2022	61	Nangal					
331	18.05.2022	65	Nangal					
332	15.06.2022	80	Nangal		2			1
333	01.08.2022	97	Nangal					
334	04.08.2022	99	Nangal					
335	05.08.2022	100	Nangal					
336	12.08.2022	107	Nangal					
337	20.09.2022	125	Nangal	2			1	
338	01.10.2022	131	Nangal	1			1	
339	12.10.2022	138	Nangal	1				
340	20.10.2022	142	Nangal				1	
341	20.10.2022	143	Nangal					
342	27.10.2022	147	Nangal				2	
343	02.11.2022	150	Nangal					
344	23.11.2022	157	Nangal					
345	16.12.2022	166	Nangal				1	
346	28.12.2022	170	Nangal	6			1	
347	04.01.2023	1	Sadar Roopnagar					
348	22.01.2023	3	Sadar Roopnagar		1			
349	03.02.2023	9	Sadar Roopnagar	1			1	
350	22.03.2023	29	Sadar Roopnagar					
351	13.04.2023	37	Sadar Roopnagar	1				1
352	14.05.2023	43	Sadar Roopnagar					
353	05.08.2023	71	Sadar Roopnagar	2				
354	13.09.2023	68	Singh Bhagwantpur	2			2	
355	20.12.2023	108	Kiratpur Sahib					
356	29.12.2023	117	Sadar Rupnagar				1	1
357	20.03.2023	15	Singh Bhagwantpur		2	1		
358	02.08.2023	67	Sadar Rupnagar				1	
359	10.08.2023	74	Sadar Rupnagar					1
360	14.09.2023	84	Sadar Rupnagar					
361	23.09.2023	87	Sadar Rupnagar					
362	28.09.2023	89	Sadar Rupnagar					
363	05.10.2023	94	Sadar Rupnagar					
364	28.11.2023	106	Sadar Rupnagar					
365	06.01.2023	1	Shri Chamkaur Sahib		2	5		
366	02.02.2023	10	Shri Chamkaur Sahib					1
367	14.02.2023	16	Shri Chamkaur Sahib					1
368	03.09.2023	80	Shri Chamkaur Sahib		4			1
369	12.09.2023	66	Singh Bhangwantpur		1			
370	23.11.2023	113	Shri Chamkaur Sahib			4		1
371	15.12.2023	120	Shri Chamkaur Sahib	2				
372	03.01.2023	1	Shri Anandpur Sahib					
373	14.04.2023	44	Shri Anandpur Sahib	3			1	
374	03.05.2023	55	Shri Anandpur Sahib					
375	19.05.2023	63	Shri Anandpur Sahib					
376	22.05.2023	65	Shri Anandpur Sahib				1	
377	11.06.2023	44	Kiratpur Sahib					
378	24.08.2023	105	Shri Anandpur Sahib					
379	14.09.2023	76	Kiratpur Sahib					
380	03.09.2023	108	Shri Anandpur Sahib				1	
381	08.11.2023	133	Shri Anandpur Sahib					
382	19.11.2023	99	Kiratpur Sahib	3			2	
383	09.12.2023	105	Kiratpur Sahib					
384	11.12.2023	144	Shri Anandpur Sahib				1	1
385	28.12.2023	153	Shri Anandpur Sahib					
386	13.01.2023	6	Nangal	1			2	
387	14.01.2023	7	Nangal				1	
388	10.03.2023	24	Nangal	5			4	
389	04.03.2023	20	Nangal	1			1	
390	20.03.2023	29	Nangal	3			2	
391	23.03.2023	31	Nangal					
392	04.04.2023	40	Nangal	5			1	

393	15.04.2023	45	Nangal					1
394	23.04.2023	47	Nangal	1			1	
395	28.04.2023	49	Nangal					
396	06.06.2023	71	Nangal	2			1	
397	28.06.2023	85	Nangal	1			4	
398	03.07.2023	88	Nangal				1	
399	05.07.2023	89	Nangal					1
400	08.07.2023	91	Nangal					
401	14.07.2023	92	Nangal		1			
402	15.07.2023	93	Nangal					1
403	27.07.2023	102	Nangal	1				1
404	27.07.2023	103	Nangal		9		1	
405	09.08.2023	116	Nangal	2			1	
406	23.08.2023	125	Nangal	1			1	
407	23.08.2023	126	Nangal	1			1	
408	22.08.2023	124	Nangal		2		2	
409	26.08.2023	119	Nurpur Bedi				1	
410	27.08.2023	129	Nangal	4			2	
411	27.08.2023	130	Nangal				1	
412	29.08.2023	133	Nangal	3			1	
413	06.09.2023	123	Nurpur Bedi					
414	12.09.2023	139	Nangal	1			1	
415	12.09.2023	138	Nangal					
416	20.09.2023	142	Nangal	1			1	
417	26.09.2023	144	Nangal					
418	29.09.2023	146	Nangal					
419	01.10.2023	147	Nangal					
420	05.10.2023	150	Nangal		1			
421	07.10.2023	151	Nangal		1			1
422	09.10.2023	134	Nurpur Bedi	3				
423	11.10.2023	154	Nangal	1			1	
424	13.10.2023	156	Nangal					
425	17.10.2023	158	Nangal					
426	17.10.2023	159	Nangal					
427	01.11.2023	162	Nangal					
428	16.11.2023	167	Nangal					
429	17.11.2023	168	Nangal					
430	08.12.2023	149	Nurpur Bedi					
431	08.12.2023	150	Nurpur Bedi					
432	12.12.2023	175	Nangal					
433	20.12.2023	179	Nangal					
434	20.12.2023	180	Nangal					
435	21.12.2023	183	Nangal					
436	28.12.2023	186	Nangal					
437	31.12.2023	158	Nurpur Bedi					
438	19.01.2023	11	Nurpur Bedi					
439	11.01.2023	7	Nurpur Bedi	1			2	
440	14.01.2023	9	Nurpur Bedi					
441	24.01.2023	15	Nurpur Bedi	1			1	
442	27.01.2023	16	Nurpur Bedi		1			1
443	27.01.2023	17	Nurpur Bedi				1	
444	13.03.2023	32	Nurpur Bedi					
445	03.04.2023	40	Nurpur Bedi					
446	15.04.2023	47	Nurpur Bedi					
447	18.04.2023	48	Nurpur Bedi					
448	22.04.2023	49	Nurpur Bedi					
449	03.05.2023	54	Nurpur Bedi				1	
450	07.05.2023	56	Nurpur Bedi	2			1	
451	15.05.2023	65	Nurpur Bedi					
452	19.06.2023	80	Nurpur Bedi					
453	19.07.2023	98	Nurpur Bedi					
454	28.07.2023	102	Nurpur Bedi	1				
455	02.09.2023	120	Nurpur Bedi					
456	06.09.2023	124	Nurpur Bedi	6			1	
457	22.09.2023	130	Nurpur Bedi					
458	28.09.2023	131	Nurpur Bedi				1	

459	22.10.2023	137	Nurpur Bedi					
460	27.12.2023	154	Nurpur Bedi		1			1
461	27.12.2023	155	Nurpur Bedi					
462	27.12.2023	156	Nurpur Bedi				1	
463	10.01.2024	4	Nangal		1			
464	23.01.2024	9	Nangal					
465	09.02.2024	14	Nangal					
466	11.02.2024	15	Nangal					
467	11.02.2024	16	Nangal					
468	10.02.2024	8	Nurpur Bedi					
469	12.02.2024	17	Nangal					
470	16.02.2024	16	Chamkaur Sahib	11			3	
471	16.02.2024	6	Shri Anandpur Sahib					
472	24.02.2024	10	Nurpur Bedi					
473	03.03.2024	13	Nurpur Bedi					1
474	19.03.2024	16	Shri Anandpur Sahib				3	
475	08.04.2024	22	Nurpur Bedi			-	3	
476	30.04.2024	52	Shri Anandpur Sahib					
477	02.05.2024	30	Nurpur Bedi					
478	16.05.2024	60	Shri Anandpur Sahib					1
479	14.05.2024	52	Nangal					1
480	15.05.2024	32	Sadar Rupnagar					
481	19.05.2024	56	Nangal		1			
482	30.05.2024	40	Kiratpur Sahib					
483	30.05.2024	36	Nurpur Bedi					
484	28.05.2024	66	Shri Anandpur Sahib	11			3	
485	16.06.2024	45	Nurpur Bedi	2				
486	25.06.2024	56	Kiratpur Sahib					
487	27.06.2024	58	Kiratpur Sahib					-
488	14.07.2024	86	Nangal				1	
489	15.07.2024	88	Nangal	1			1	
490	24.07.2024	91	Nangal		1		-	
Total				**249**	**97**	**10**	**137**	**65**
							G.Total	**558**

Executive Engineer, Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

		Annexure R-12
Penalty imposed on Vehicles as per Rule 74/75 of PMMR 2013 District Rupnagar (From 01.11.2022-15.08.2024)		
Sub-Division	**Total Challan issued**	**Amount Recovered**
Shri Anandpur Sahib	33	46,50,000/-
Nurpur Bedi	61	1,05,11,700/-
Nangal	47	46,50,000/-
Ropar	102	1,09,79,800/-
Morinda	32	22,70,000/-
Shri Chamkaur Sahib	23	37,08,550/-
G.Total	**298**	**3,75,70,050/-**

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD, Punjab

O/o Executive Engineer, Drainage cum Mining & Geology SubDivision, Sri Anandpur Sahib

No. 01/Checking roster Date 22/08/2023

OFFICE ORDER

To curb Illegal mining, following staff are hereby deputed for holding a checkpoint (naaka) at Khanpur khui from 23/08/2023 to 01/09/2023 (from 8pm to 8am).

Sr. No.	Date	Name of Junior Engineer
1.	23/08/2023	Sandeep Singh
2.	24/08/2023	Radhe
3.	25/08/2023	Deepak Kumar
4.	26/08/2023	Abhishek Saini
5.	27/08/2023	Sohail Goyal
6.	28/08/2023	Gaganpreet Singh
7.	29/08/2023	Harjeet Singh
8.	30/08/2023	Manreet Singh
9.	31/08/2023	Vinay
10.	01/09/2023	Bahadur Singh

SDO, Drainage cum Mining & Geology Sub division, Nangal will ensure presence of2 number security personnel with above staff from 8pm to 8am.

-sd-
Executive Engineer
Drainage cum
Mining& Geology
Division Sri
Anandpur Sahib

Endr. No. 02-14/Checking roster Date 22/08/2023

The copy of this forwarded to following for necessary action and immediate compliance of above-

1. All Sub Divisional Officers under Drainage cum Mining & Geology Division, SriAnandpur Sahib.
2. All concerned employees.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab

-sd-
Executive Engineer
Drainage cum
Mining& Geology
Division Sri
Anandpur Sahib

SUPERINTENDING ENGINEER/PATIALA, DRAINAGE CUM MINING CIRCLE, WATER RESOURCES DEPARTEMNT PUNJAB, PATIALA

OFFICE ORDER

No 9827/ Date 27.08.2023

Flying Squad teams are hereby constituted in district Ropar to check illegal mining and crusher's activities. The below mentioned officers /employees in the teams are deputed on additional duty along with their earlier duty till any further orders. These teams will regularly keep check on illegal mining activities, K-1 permit, checking of soil on works under progress by National Highway and checking around areas surrounding crushers :-

Sr. No	Name of officers/employees	Area/Name of Tehsil	Remarks
1.	Sh. Lakhvir Singh, Sub Divisional Officer Sh. Narutam, Junior Engineer, SAS Nagar Division	Area of Tehsil Shri Anandpur Sahib	These teams will ensure their presence on the deputed places from morning of 28/08/2023.
2	Sh. Mohit Siag, Sub Divisional Officer Sh, Abhay Kumar, Junior Engineer, SAS Nagar Division	Area of Tehsil Nangal	
3	Sh. Varun Garg, Sub Divisional Officer Sh, Gurjant Singh, Junior Engineer, Patiala Division	Area of Tehsil Ropar	

These orders are put in force with immediate effect. No extra allowance is payable in lieu of above mentioned work.

-sd-
Superintending Engineer/Patiala,
Drainage cum Mining Circle,
Water Resources Department Punjab,
Patiala

No 9828-31/ Date 27.08.2023

The copy of above :-

1. Chief Engineer/ Drainage cum Mining, Water Resources Department Punjab, Chandigarh.
2. Executive Engineer/Ropar, Drainage cum Mining and Geology division, Water Resources Department Punjab.
3. Executive Engineer, Patiala/SAS Nagar, Drainage cum Mining and Geology division, Water Resources Department Punjab to instruct above mentioned officers/employees to be present at their duty places.

Executive Engineer / Ropar
Drainage cum Mining & Geology Division
Punjab

-sd-
Superintending Engineer/Patiala,
Drainage cum Mining Circle,
Water Resources Department Punjab,
Patiala

2023:PHHC:163063

206 **IN THE HIGH COURT OF PUNJAB AND HARYANA AT CHANDIGARH**

CRM-M-44082-2023
Date of Decision: 19.12.2023

Aajamdeen ...Petitioner

vs.

State of Punjab ...Respondent

Coram : Hon'ble Mr. Justice N.S.Shekhawat

Present : Mr. Amandeep Saini, Advocate, for the petitioner.

Mr.M.S.Bajwa, Deputy Advocate General, Punjab.

***

N.S.Shekhawat J. (Oral)

The petitioner has filed the present petition under Section 438 Cr.P.C. with a prayer to grant anticipatory bail to him in case FIR No.102 dated 27.07.2023 under Sections 21(1), 4(1) of Mines and Minerals (Regulation of Development) Act 1957, registered at Police Station Nangal, District Rupnagar.

Learned counsel for the petitioner submits that in compliance of the order dated 04.09.2023 passed by this Court, the petitioner has joined the investigation.

Learned counsel for the State has submitted that the petitioner has joined the investigation and is no longer required for further investigation.

In view of the statement made by learned State counsel, the present petition is allowed and the interim order dated 04.09.2023, passed by this Court, is made absolute. The petitioner shall continue to join investigation, as and when called by the Investigating Officer and shall also abide by the conditions as provided under Section 438(2) of the Cr.P.C.

(N.S.SHEKHAWAT)
JUDGE

19.12.2023
hemlata

Whether speaking/reasoned : Yes/No
Whether reportable : Yes/No

Annexure R-16

Detail of Environment Clearance of Commercial Mining Sites in District Rupnagar

S.No.	Name of Mine	Tehsil	Status of EC
1	Nangra Kalmot-1	Nangal	EC granted by SEIAA and transferred in the name of concessionaire.
2	Nangra Kalmot-2	Nangal	TOR granted by SEIAA
3	Majri	Nangal	EC granted by SEIAA and transferred in the name of concessionaire.
4	Chandpur	Sri Anandpur Sahib	EC granted by SEIAA and transferred in the name of concessionaire.
5	Dollowal	Sri Anandpur Sahib	EC granted by SEIAA and transferred in the name of concessionaire.
6	Nangra Kalmot-3	Nangal	EC granted by SEIAA and transferred in the name of concessionaire.
1	Bhangal	Nangal	EC granted by SEIAA and transferred in the name of concessionaire.

Executive Engineer / Ropar
Drainage-cum-Mining & Geology Division
WRD Punjab