

Brief Bio-data

1. Name: Shailendra Kr Singh
2. Date of Birth: 5th, July, 1965
3. Current Position and Address (Include Email and Contact Number): Principal Scientist, NRM, CSIR-CIMFR, Barwa Road, Dhanbad-826015
Mobile: 8084505368; email: mr.shiloo11@gmail.com
4. Educational qualifications: (Graduation and above):

Sl. No.	Degree	Year	University/ Institute	Subject
1	B.Sc (H)	1984	Patna	Botany (H), Zoology, Chemistry
2	M.Sc.	1988	Purvanchal, UP	Botany
3	M.Tech	1992	ISM	Env. Sc. & Engg.
4	Ph.D.	2021	AcSIR, Ghaziabad (UP) (Pre-submission completed)	An assessment & characterization of dust in & around JCF region with emphasis on control measures

5. Work experience:

Designation	Institute/company	From	To	Nature of Work
Scientist/Engg.	Envirotech Consultants, New Delhi	28.05.1992	05.06.1993	EIA/EMP
Sr. Analyst	Sriram Inst. of Ind. Res., New Delhi	01.12.1993	28.02.1995	EIA/EMP, Certifi.
JPF	CMRI, Barwa Road, Dhanbad	22.08.1995	31.03.1998	EIA/EMP (HW)
RA (CSIR)	CMRI, Barwa Road, Dhanbad	01.04.1998	01.07.1999	EIA/EMP (HW)
Scientist, Gr IV (I)	CMRI, Barwa Road, Dhanbad	02.07.1999	01.07.2004	EIA/EMP (FF)
Scientist, Gr IV (II)	CMRI, Barwa Road, Dhanbad	02.07.2004	01.07.2009	EIA/EMP (FF)
Sr. Scientist	CSIR-CIMFR, Barwa Road, Dhanbad	02.07.2009	01.07.2014	EIA/EMP (Air, FF)
Pr. Scientist	CSIR-CIMFR, Barwa Road, Dhanbad	02.07.2014	Till date	EIA/EMP (Air)

6. Work Area(s)/ Specialization: Environment Impact Assessment & its Management (Air Quality Management)

7. Major contributions: (Max. 100 words):

Industrialization has led to the air pollution problems in the society. It has become more focussed after Covid 19 pandemic. Recently WHO has also accepted the fact that the spread of the virus for Covid 19 is air borne. For all this catastrophe, anthropogenic activity is greatly responsible. Mining is one man-made activity that has major air pollution repercussions. Nearly 70,0000 people die every year due to air pollution (WHO, 2012) which has compounded to nearly 12,00000 in 2019 (WHO, 2020). After Covid 19 pandemic, the unexpected death toll endorses air pollution from killer to a disaster status. India and China are the major defaulters. To a much greater extent, China has succeeded in controlling air pollution but India has to do a lot more to cope-up with this menace. In 2010, the concentration of PM₁₀ and PM_{2.5} in Delhi was nearly 75 times that of New York. For Jharia coalfields region, the conditions are deplorable. In 2018 (Greenpeace report), the Dhanbad city was graded as no. 1 in terms of air pollutants. Controlling air pollution is a daunting task.

The blackspot on mining industry is to be suitably addressed. The assignment was taken up by Natural Resource and Environment Management (NREM), CSIR-CIMFR. The results indicated that PM₁₀ (coarse particulates) mining is the largest while for PM_{2.5} (fine particulates), the traffic contributed the most. It should be noted that the contribution to mortality affecting lungs, blood pressure and sugar leading to heart attacks is maximum by fine particulates because particles <2.5 μ enters the lung directly up to alveoli causing death of alveolar cells affecting O₂ exchange. Decrease in O₂ causes breathlessness and death.

Other major contribution includes income generation in the tribals in Dumka, under societal mission, patents, dust arresting systems etc.

8. No. of Research Publications:

- Papers in Journals: 09
- In conference proceedings: 20
- Invited lectures delivered: 02
- List of best 05 publications

- I. **Singh, S.K.**, Singh, R.K., Singh, R.S., Pal, D., Singh, K.K.K & Singh, P.K. "Screening potential plant species for arresting particulates in Jharia coalfield, India" *J. Sustainable Environment Research*, Springer Nature, Dec., 2019 (**SCI IF 4.98**)
- II. Chaulya, S.K., Singh, A.K., Singh, T.B., Mondal, G.C., Singh, S., **Singh, S.K.** & Singh, R.S. "Modelling for Air Quality Estimation for a Planned Coal Washery to Control Air Pollution" *J. of Environmental Modeling & Assessment*, 25, 775-791, June, 2020, Springer (**SCI IF 1.634**). doi:<https://doi.org/10.1007/s10666-020-09721-x>
- III. Chaulya, S.K., Chowdhury, A., Kumar, S., Singh, R.S., Singh, **S.K.**, **Singh, R.K.**, Prasad, G.M., Mandal, S. K. & Banerjee, G. "Fugitive dust emission control study for a developed smart dry fog system" *Journal of Environmental Management*, 285 (112116), May, 2021, Elsevier (**SCI IF 6.789**). doi: 10.1016/j.jenvman.2021.112116
- IV. **Singh, R.S.**, Tripathi, N. and Singh S.K. (2007). Impact of degradation on nitrogen transformation in a forest ecosystem of India. *Environmental Monitoring and Assessment (The Netherlands)*, 125, 165-173 (**IF 2.513**)
- V. Singh, S.K. & **Singh, R.S.** (1999). A Study on Municipal Solid Waste and Its Management Practices in Dhanbad-Jharia Coalfields. *Indian Journal of Env. Protection* 18 (II) 850-852

- Books/Chapters authored/edited: NA

9. List of 5 Major Contract R&D Projects:

- I. Environmental management of overburden dumps. CMPDIL, MOC, GOI (1999-2000)
- II. Carrying Capacity Based Planning of Damodar River Basin (MOEF&CC), 1996-2000
- III. Environment Management Capacity Building Technical Assistance Project, WB, 2001-2005
- IV. Integrated Ecological Studies in Similipal Biosphere Reserve. MOEF, GOI (2002-2005)
- V. Carbon sequestration through Revegetation in mined out areas, CMPDIL, MOC, GOI (2009-2012)

10. (a) Name of Patents/Copyrights applied /granted/commercialized:

Sl. No.	Title	Country	Filed on (Date)	Patent No.	Granted on (Date)	Names of other inventors
1.	A formulation for herbal face cream suitable for oily skin.	India	1028DEL2004	240420	10/05/2010	Singh RS, Pal D, Singh SK, Jagdish
2.	Blocks and Sand Manufacturing process using Mine Waste	India	26/10/2018	CBR NO. 28510	Under process	Chaulya SK, Singh RS, Singh SK, Singh KKK, Banerjee G, Singh PK, Singh RK, Chatterjee D, Saurabh K, Kumar V.

(b) Technologies/Products /knowhow/Services developed:

Sl. No.	Title	Period	Date	Industry/ Organiz.	Fees realized
1.	Dust Suppressing System	2017-19	Oct-Nov., 2019	Control System Solutions, Kolkata	7.0 lakhs

11. Honours/Awards/Recognitions/Fellowships/Scholarships/Professional Memberships received:

- a. Awards for patent filing
- b. Membership of Indian Association of Soil and Water Conservationists, Kaulagarh Road, Dehradun

12. Societal Contributions:

Jharkhand specially is a tribal dominated state. Reclamation techniques for usher (acidic) land is a major demand for tribals of Jharkhand to raise their economic well-being. Making amendments with organic manures for soil conditioning and suitable selection of fruits and vegetables with no use of chemicals is a major thrust of my work. This is in high demand as society is engrossed with diseases created by the use of pesticides and chemicals. State as well as centre is helping such NGO's working in the tribal areas to raise the productivity. 50 acres of land was procured on lease basis (by an NGO at Dhanbad) for 10 yrs. at Dumka district for this purpose and same has been applied for state govt. for financial grant. Meanwhile demarketing the species of fruits and vegetables is in progress on a trial basis at Dumka.

Literacy among tribals specially in the state like Jharkhand is a major thrust area in societal development programs. To make them self-sufficient, they are being educated with NGO'S help. One such school with 100% self-help status is established at Chetna Mahavidyalaya,

Sankardih, Nirsha, Dhanbad. From cultivation to forestry, from teaching to training all is being done by the tribals with fully self-help scheme. Magasaysay award winner like Rajendra Singh (Water Man), Social workers like Medha Patkar and Govindacharya visited the place.