

Abridged Curriculum Vitae

Dr. Vinod K. Sharma

Expert/ adviser: Engineering Geologist,
Water Resources, Govt. of Bihar,
Former Dy. D.G., Geological Survey of India (GSI) and
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Personal Profile

- Dr.V.K.Sharma, studied Applied Geology at University of Roorkee (Now Indian institute of Technology- Roorkee), in 1977 and at Center of Advanced Studies in Geology, Lucknow University, India, he evolved a Geotechnical model for Landslide Susceptibility in Himalaya, which earned him Ph.D. (2011).
- He worked in the Geological Survey of India (1981-2016) for over 35 years in different capacities, specializing in engineering geology, landslide investigations and landslide susceptibility mapping essentially in Himalayan terrain. Supervised geotechnical investigations and exploratory programs for various dam projects, tunnels, communication routes, nuclear waste disposal sites, river linking projects and thermal power plants etc. in different terrain conditions.
- Dr Sharma participated in many post-disaster recovery and reconstruction operations (e.g. Kashmir earthquake 2005, Nepal (*Gurkha*) earthquake 2015, Leh(Ladakh) mud flow 2010, Almora Landslide 2010, Uttarakhand disaster 2013 etc including leadership of post-disaster recovery programme of Uttarakhand. He steered the post disaster studies, with scientific rigor, to suggest reconstruction and rehabilitation plans to the stakeholders.
- As head of the Mission on 'multidisciplinary and fundamental geosciences programs' of the Geological Survey, He supervised multifarious investigations that subsume landslide investigations and susceptibility mapping, hydro-projects, geo-environment, climate change and Himalayan tectonics etc. in the Northern Region.
- Studied many heritage site/monuments for their hazard assessment and risk reduction programs besides natural stones and their deterioration due to climate change scenario.
- Participated in technical sessions of Heritage Stone Task Group of International Association of Engineering Geology (IAEG) held under the aegis of Geological Society of America (GSA) at Baltimore (USA), 2015 and in European Geosciences Union (EGU) General Assembly-2017 at Vienna (Austria) to present work on Indian stones and rock-cut monuments.
- As member of Indian delegation visited Uganda (2014) for hydropower development of River Nile in African Rift valley system with a due diligence process to advise the Govt. on line of credit and selection of feasible dam alignments on the river.
- Dr. Sharma, is a Life Member of Indian Society of Engineering Geology (ISEG), served as **Editor**, *Journal of Engineering Geology* (2009-10) and Vice President (2016-17). Member of Indian Science Congress Association (ISCA), Indian Society of Rock Mechanics and Tunnelling Technology (ISMRTT), International Association of Engineering Geology and Environment (IAEG) and Geological Society of America (GSA). He is a member of various

expert groups/task force, editorial committee, Bureau of Indian Standard (BIS) committees etc.

- He authored over hundred technical papers/reports that published in peer reviewed journals, International conferences, seminars and workshops. He has made focused research on landslides, geotechnical investigations of civil projects, and protection of monuments at risk with geo-hazards and of late on natural and building stones.
- Currently, Dr Sharma is engaged as an Expert Adviser: Engineering Geologist, Water Resource Department, Govt. of Bihar at Patna and a member of Review panel of various irrigation and flood control projects in the state and research on natural stones, heritage sites and associated geo-hazards.

List of Books/Review/Record edited

- Special volume of '**Journal of Engineering Geology**' Volume XXXVI, Nos.1- 4 (ISSN: 0970-5317), (Seminar proceeding on '*Challenges in Engineering Geology*', 3-5 December, 2008, Hyderabad, India). The special volume contained 52 research articles on engineering geology and landslides disaster. Published by Indian Society of Engineering geology. **Editor.**
- Records of the Geological Survey of India. (Member, **Editorial board**)
- Journal of Engineering Geology, Indian Society of Engineering Geology (**Member, Editorial board**)

Motivational statement (Expressing achievements within HSS and proposed activities to enrich the group)

In view of the great variety of building and ornamental stones used in heritage buildings, there is a need to prepare an international inventory of those stones that have been significant in human culture along with the recognition of geological provinces with a view to use such stones in the event of damage and deterioration in heritage monuments. Many of the cultural heritage sites and natural stones used in heritage buildings are increasingly exposed to multitude of disasters caused by natural and human induced phenomenon, climate change scenario etc. These disasters effect the heritage components and inflict damage to natural stones, sculptures and other heritage objects that are of global significance to society.

Therefore, the heritage stone studies be augmented with their risk assessment owing to such situations. This also calls for closer coordination between professionals, academia and institutions dealing with heritage sites, museums and such agencies. Appropriate mitigation and adaptation strategies to reduce various risks to natural stones may be taken into consideration which will add values to the object of the commission.

With this background, my **future activities** would be focused to incessantly work for (i)'Thematic discussions' on delineating significant geological provinces and associated heritage buildings stones (ii) Inventory of heritage stones and their specific characteristics, provinces etc focusing UNESCO world heritage sites and (ii) Highlighting deterioration of natural stones, buildings and heritage sites etc. on account of climate change scenarios and other geo-hazards and challenges to deal with such situations of societal significance.

Achievements within the HSS

(A) Participation in HSS activities

Participated in technical sessions of Heritage Stone Task Group of International Association of Engineering Geology (IAEG) held under the aegis of Geological Society of America (GSA) at Baltimore (USA), 2015 and in European Geosciences Union (EGU) General Assembly-2017 at Vienna (Austria) to present work on Indian stones and rock-cut monuments. Proactively participated in **Splinter Group Meeting (SGM)** of the HSS at Vienna held during EGU.

(B) Publications (limited to Heritage stones)

1. S. Kumar and **Sharma,V.K.** 1988. Jageshwar Temple- a Geo-environmental appraisal, *proceeding IGC-1998*, Allahabad, Vol. 1, pp. 417-419.
2. **V.K. Sharma** and Jaiswal, P. 2004. Landslide zonation mapping along a tract of cultural importance in Central Himalaya (abs). Proc. 32nd Geological congress, Florence, Italy.
3. **V.K.Sharma**, Pankaj Kumar and Hemant Kumar, Geotechnical Appraisal of Rock-cut Temples at Masrur, Dist.Kangra, Himachal Pradesh. The 12th International Conference of *International Association for Computer Methods and Advances in Geomechanics (IACMAG)*.1-6 October, 2008, Goa, India.pp.4801-4806.
4. **V.K. Sharma**, 2015. Heritage stones in India, Paper No 152-15, presented in Geological Society of America annual meeting, 1-4 Nov.2015, Baltimore, USA.
5. **V.K.Sharma**, 2017. Heritage stones and their deterioration in rock-cut monuments in India, European Geosciences Union General Assembly-2017, Vienna, 23-28 April,2017, presentation in session on Natural stone research.
6. **V.K.Sharma** and Barry J. Cooper, 2018. Indian Charnockite: a potential Global Heritage Stone. Proceedings Workshop on Heritage Stone, Salamanca, Spain, 2-4 october,2018.
7. **SHARMA, Vinod**, COOPER, Barry J. and MORRISSEY, Laura, 2018, Charnockite: important heritage stone from India, Paper No. 201-4, GSA Annual Meeting in Indianapolis, Indiana, USA.