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Designation: Professor of Geography

Academic Qualifications: M.A., M. Phil., Ph.D.

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Research Interests: Fluvial and Flood Geomorphology
Palaeohydrology
Quaternary Geomorphology
Landscape Evolution

Courses teaching/taught: Fluvial Geomorphology
Geomorphology - Theoretical and Applied
Statistical Methods in Geography
Principles of Geomorphology
Introduction to Computer programming
Hazard Management : Natural

Citations: 820

H Index: 12

Awards:

- S. S. Merh Award in Quaternary Geology – Geological Society of India, Bangalore (2000)
- National Mineral Award – Ministry of Mines, Government of India, New Delhi (2002)
- Prof. V. K. Joag Award – University of Pune, Pune (2007)

Books/Edited Volumes Published

- 1] Singhvi A. K. and Kale, V. S. (2009). *Palaeoclimate Studies in India: Last Ice Age to the Present*. Indian National Science Academy, New Delhi
- 2] Sharma H. S. and Kale, V. S. (2009). (Edited): *Geomorphology of India*. Prayag Pustak Bhawan, Allahabad.
- 3] Kale, V. S., Gregory, K. J., and Joshi, V. U. (2004)(Edited). *Progress in Palaeohydrology: Focus on Monsoonal Areas*. Special Issue v. 64(4).of the Journal Geological Society of India, Bangalore
- 4] Kale V. S. and Gupta, A. (2001). *Introduction to Geomorphology*, Orient Longman Limited, Calcutta.
- 5] Kale, V. S. (1998)(Edited): *Flood Studies in India*. Memoir No. 41. Geological Society of India, Bangalore.
- 6] Wadia, S., Korisettar, R. and Kale, V.S. (1995)(Edited): *Quaternary Environments and Geoarchaeology of India*. Memoir No. 32, Geological Society of India, Bangalore.
- 7] Dikshit, K.R., Kale, V.S. and Kaul, M.N. (1994)(Edited): *India: Geomorphological Diversity*, Rawat Publications, Jaipur

Research Projects – As Principal Investigator

Sr. No.	Project title	Funding Agency
1	Solutions for Environmental Contrasts in Coastal Areas (SECOA): Cases studies of Mumbai and Chennai Metropolitan Regions. (2009 to 2013)	European Commission, Brussels – (Ongoing)
2	Reconstruction of Late Quaternary Fluvio-sedimentary response of Kaveri and Palar Rivers: Based on Chronostratigraphy, Digital (2007-2010) Geomorphometry and Remote Sensing Analysis	UoP-ISRO Cell (Completed)
3	Fluvial dynamics and environmental changes in the catchments of historical tanks/lakes in the rainshadow zone of western Maharashtra: Based on sedimentological and stratigraphical studies	BCUD, University of Pune (Completed)
4	The significance of past hydrological events: using existing ¹⁴ C data to reconstruct Holocene fluvial activity in tropical regions (India).	INQUA, Southampton University, UK (Completed)
6	Evaluation of Flood Hydrology in the Upper Tapi Basin using palaeoflood and historical records. (1992-1994)	Department of Science and Technology, New Delhi (Completed)
7	Studies on Status of Flora and Fauna in and around Sardar Sarovar Project.	Department of Environment, Government of Maharashtra (Completed)
8	Palaeo and Modern Flood Geomorphology of Central Narmada Basin (1991-1994)	Department of Science and Technology, New Delhi (Completed)

Membership of Academic Institutions

1. Geological Society of India, Bangalore (Fellow, Life Member)
2. Indian Association of Hydrologists, Roorkee (Life Member)
3. Indian Institute of Geomorphologists, Allahabad (Life Member)
4. Institute of Indian Geographers, Pune (Life Member)
5. National Association of Geographers, New Delhi (Life Member)
6. Indian Society for Prehistoric and Quaternary Studies (Life Member)
7. The Deccan Geographical Society, Pune (Life Member)
8. International Association of Geomorphologists (Member)
9. The Indian Society of Remote Sensing (Life Member)
10. Global Continental Paleohydrology - GLOCOPH -INQUA Commission (Member)

Research Publications (in Peer-reviewed International and National Journals)

- Kale, V. S. (2012). On the link between extreme floods and excess monsoon epochs in South Asia. *Climate Dynamics*, Vol. 39, pp. 1107-1122.
- Sengupta, S. and Kale, V. S. (2011). Evaluation of the role of rock properties in the development of potholes: A case study of the Indrayani knickpoint, Maharashtra, *Journal of Earth System Sciences*, Vol. 120, pp. 157-165.
- Kale, V. S., Achyuthan, H., Jaiswal, M. K. and Sengupta, S. (2010). Palaeoflood records from Upper Kaveri River, Southern India: Evidence for discrete floods during Holocene. *Geochronometria*, Vol., 37, pp 49-55.
- Hoffmann, T., Thorndycraf, V.R., Brown, A.G., Coulthard, T. , Damnati, B., Kale, V. S., Middelkoop, H. , Notebaert, B. and Walling, D.E. (2010). Human impact on fluvial regimes and sediment flux during the Holocene: Review and future research agenda. *Global and Planetary Change*, Vol. 72, pp. 87-98.
- Bhutiyan, M. R., Kale, V. S. and Pawar, N. J. (2010). Climate change and the precipitation variations in the northwestern Himalaya: 1866-2006. *International Journal of Climatology*. Vol. 30, pp. 535–548
- Kale, V. S. (2009). Palaeoflood records in Monsoon Asia: Evidence of Past Extreme Events. *Geographische Rundschau International*, Vol. 5, pp. 4-9.
- Jaiswal, M. K., Chen, Y. G., Kale, V. S. and Achyuthan, H. (2009). Residual luminescence in quartz from slack water deposits in Kaveri basin, South India: a single aliquot approach. *Geochronometria*, Vol. 33, pp. 1-8.
- Kale, V. S. and N. Shejwalkar (2008). Uplift along the western margin of the Deccan Basalt Province: Is there any geomorphometric evidence? *Journal of Earth System Science*, Vol. 117, pp. 959-971.
- Kale, V. S. (2008). Himalayan Catastrophe that Engulfed North Bihar, *Journal Geological Society of India*, Vol. 72, pp. 713-719
- Kale, V. S. (2008). A half-a-century record of annual energy expenditure and geomorphic effectiveness of the monsoon-fed Narmada River, central India. *Catena*, Vol. 75, pp. 154-163

- Kale, V. S. (2008). Palaeoflood hydrology in the Indian Context. *Journal Geological Society of India*, Vol. 71, pp. 56-66.
- Bhutiyan, M. R., Kale, V. S., and Pawar, N. J. (2008). Changing streamflow patterns in the river of northwestern Himalaya: Implications of global warming in the 20th century. *Current Science*, Vol. 95, pp. 618-625.
- Kale, V. S. and Hire, P. S. (2007). Temporal variations in the specific stream power and total energy expenditure of a monsoon river: The Tapi river, India. *Geomorphology*, Vol. 92, pp. 134-146.
- Kale, V. S. and N. Shejwalkar (2007). Western Ghat Escarpment Evolution in the Deccan Basalt Province: Geomorphic observations based on DEM analysis. *Journal Geological Society of India*, Vol. 70, pp. 459-473.
- Kale, V. S., (2007). Fluvio-sedimentary response of the monsoon-fed Indian rivers to Late Pleistocene-Holocene changes in monsoon strength: reconstruction based on existing ¹⁴C dates. *Quaternary Science Reviews*, Vol. 26, pp. 1610-1620.
- Bhutiyan, M. R., Kale, V. S., and Pawar, N. J. (2007). Long-Term Trends in Maximum, Minimum and Mean Annual Air Temperatures across the Northwestern Himalaya during the 20th Century. *Climatic Change*, Vol. 85, 159-177.
- Thomas, P. J., Juyal, N., Kale, V. S. and Singhvi, A. K. (2007). Luminescence chronology of Late Holocene extreme hydrological events in the Upper Penner River basin, South India. *Journal of Quaternary Science*, Vol. 22, pp. 747-753.
- Gupta, A., Kale, V. S., Owen, L. A. and Singhvi, A. K. (2007) . Late Quaternary Bedrock Incision in the Narmada River at Dardi Falls. *Current Science*, Vol. 93, pp. 564-567.
- Kale, V. S. (2007). Geomorphic effectiveness of extraordinary floods on three large rivers of the Indian Peninsula. *Geomorphology*, Vol. 85, pp. 306-316
- Pawar, N. J. and Kale, V. S. (2006). Waterfall tufa deposits from the Deccan Basalt Province, India: Implications for weathering of basalts in the semi-arid Tropics. *Zeitschrift für Geomorphologie*, NR 145, pp 17-36
- Kale, V. S. and Baker, V. R. (2006). An Extraordinary Period of Low-magnitude Floods Coinciding with the Little Ice Age: Palaeoflood Evidence from Central and Western India. *Journal Geological Society of India*, Vol. 68, pp. 477-483
- Kale, V. S. (2005). The sinuous bedrock channel of the Tapi River, Central India: Its form and processes. *Geomorphology*, Vol. 70, pp. 296-310.
- Joshi, V. U. and Kale, V. S. (2005). Anomalous Sinuosity in an Ephemeral Stream, Deccan Trap Region, India: The Role of Local Base Level. *Transactions, Japanese Geomorphological Union*, Vol. 26, pp. 1-12.
- Kale, V. S., Joshi, V. U. and Hire, P. S. (2004). Palaeohydrological Reconstructions Based on Analysis of a Palaeochannel and Toba Ash Associated Alluvial Sediments in the Deccan Trap Region, India. *Journal Geological Society of India*, Vol. 64, pp. 481-489.
- Kale, V. S. and Joshi, V. U. (2004). Evidence of formation of potholes in bedrock on human timescale: Indrayani river, Pune district, Maharashtra. *Current Science*, Vol.86, pp. 723-726.
- Kale, V. S. and Hire, P. S. (2004). Effectiveness of monsoon floods on the Tapi River, India: Role of channel geometry and hydrologic regime. *Geomorphology*, Vol. 57, pp. 275-291.
- Kale, V. S. and Subbarao, K. V. (2004). Some observations on the recession of the Western Ghat escarpment in the Deccan Trap region, India: Based on geomorphological evidence. *Transactions, Japanese Geomorphological Union*, Vol. 25, PP. 231-245.

- Kale, V. S., Mishra, S. and Baker, V. R. (2003). Sedimentary records of palaeofloods in the bedrock gorges of the Tapi and Narmada Rivers, central India. *Current Science*, Vol. 84, pp. 1072-1079.
- Kale, V. S. (2003). Geomorphic effects of monsoon floods on Indian rivers. *Natural Hazards*, Vol. 28, pp. 65-84.
- Kale, V. S. (2002). Fluvial Geomorphology of Indian Rivers – An Overview. *Progress in Physical Geography*, Vol. 26, pp. 400-433.
- Kale, V. S., Singhvi, A. K., Mishra, P. K. and Banerjee, D. (2000). Sedimentary records and luminescence chronology of late Holocene palaeofloods in the Luni River, Thar Desert, northwest India. *Catena*, Vol. 40, pp. 337-358.
- Kale, V. S. (1999): Long-period fluctuations in monsoon floods in the Deccan Peninsula, India, *Journal of Geological Society of India*, Vol. 53, pp. 5-15.
- Kale V. S., Hire, P. and Baker, V.R. (1997): Flood hydrology and geomorphology of the monsoon-dominated rivers: The Indian Peninsula. *Water International*, Vol. 21, pp. 259-265.
- Joshi, V. U. and Kale, V. S. (1997): Colluvial deposits in northwest Deccan, India: their significance in the interpretation of late Quaternary history. *Journal of Quaternary Science*, Vol. 12, pp. 391-403.
- Kale, V. S., Mishra, S. and Baker, V. R. (1997): A 2000-Year palaeoflood record from Sakarghat on Narmada, central India. *Journal Geological Society of India*. Vol. 50, pp. 283-288.
- Kale, V. S. (1997): Flood Studies in India - A brief Review. *Journal Geological Society of India*. Vol. 49, pp. 359-370.
- Kale, V.S., Baker, V. R. and Mishra, S. (1996): Multi-channel patterns of bedrock rivers: An example from the central Narmada basin, India. *Catena*, Vol. 26, pp. 85-98.
- Ely, L.L., Enzel, Y., Baker, V.R., Kale, V.S. and Mishra, S. (1996): Changes in the magnitude and frequency of late Holocene monsoon floods on the Narmada River, central India. *Geological Society of America Bulletin*, Vol. 108, pp. 1134-1148.
- Rajaguru, S.N., Gupta, A., Kale, V.S., Mishra, S, Ganjoo, R.K., Ely, L.L., Enzel, Y. and Baker, V.R. (1995): Channel form and processes of the flood-dominated Narmada River, India, *Earth Surface Processes and landforms*, Vol. 20, pp. 407-421.
- Kale, V.S., Ely, L.A., Enzel, Y. and Baker, V.R. (1994): Geomorphic and hydrologic aspects of monsoon floods on the Narmada and Tapi Rivers in central India. *Geomorphology*, Vol. 10, pp. 157-168.
- O' Connor, J.E., Ely, L.L., Wohl, E.E., Stevens, L.E., Melis, T.S., Kale, V.S. and Baker, V.R. (1994): A 4500-year record of large floods on the Colorado river in the Grand Canyon, Arizona, *The Journal of Geology*, Vol. 102, pp. 1-9.
- Kale, V. S. (1993): A Review of Physical Geography in South Asia. *Singapore Journal of Tropical Geography*, Vol. 14, pp. 212-228.
- Kale, V.S., Mishra, S., Baker, V.R., Rajaguru, S.N., Enzel, Y. and Ely, L.L. (1993): Prehistoric flood deposits on the Choral River, central Narmada, India. *Current Science*, Vol. 65, pp. 877-878.
- Kale, V.S. and Awasthi, A. (1993): Morphology and formation of armored mud balls on Revadana Beach, western India. *Journal of Sedimentary Petrology*, Vol. 63, pp. 809-813.
- Rajaguru, S.N., Kale, V.S. and Badam, G. L. (1993): Quaternary fluvial systems in upland Maharashtra. *Current Science*, Vol. 64, pp. 817-822.

- Baker, V.R. Strom, R.G., Gulick, V.G., Kargel, J.S. Komatsu, G. and Kale, V.S. (1991): Ancient oceans, ice sheets and the hydrological cycle on Mars. *Nature*, Vol. 352, pp. 589-594.
- Kale, V.S. (1990): Morphological and hydrological Characteristics of some allochthonous river channels, western Deccan Trap Upland region, India. *Geomorphology*, Vol. 3, pp. 31-43.
- Korisettar, R., Venkatesan, T.R., Mishra, S. Rajaguru, S.N., Somayajulu, B.L.K., Tandon, Gogate, V.D., Ganjoo, R.K. and Kale, V.S. (1989): Discovery of tephra bed in the Quaternary alluvial sediments of Pune District, Maharashtra, Peninsular India, *Current Science*, Vol. 58, pp. 564-567.
- Kale, V.S. and Rajaguru, S.N. (1988 b): Morphology and denudation chronology of the coastal and upland rivers basins of western Deccan Trappean landscape, India: A collation. *Zeitschrift fur Geomorphologie*, NF 32, pp. 311-327.
- Pawar, N.J., Kale, V.S., Atkinson, T.C. and Rowe, P.J. (1988): Early Holocene waterfall tufa from semi-arid Maharashtra Plateau, India. *Journal Geological Society of India*, Vol. 32, pp. 513-515.
- Kale, V.S., Pawar, N.J., Atkinson, T.C. and Rowe, P.J. (1988): On the age of the lower coarse member of Upper Bhima Formation (UBF). *Current Science*, Vol. 57, pp. 803-804.
- Kale, V.S. and Rajaguru, S.N. (1987): Late Quaternary alluvial history of the northwestern Deccan Upland region. *Nature*, Vol. 325, pp. 612-614.
- Kale, V.S., Rajaguru, S.N. and Rajagopalan, G. (1986): Late Holocene evidence of neotectonics in Upper Vashishthi valley, western Maharashtra. *Current Science*, Vol. 55, pp. 1240-1241.
- Kale, V.S., Ganjoo, R.K., Rajaguru, S.N. and Salahuddin (1986): A link channel occupational site of Acheulian man from Upper Krishna valley, Karnataka. *Current Science*, Vol. 55, pp. 1073-1075.
- Kale, V.S. and Rajaguru, S.N. (1986): A parametric approach to terrain analysis and geomorphic regionalization of Pravara River Basin, Maharashtra. *Journal Geological Society of India*, Vol. 27, pp. 369-378.
- Rajaguru, S.N. and Kale, V.S. (1985): Changes in the fluvial regime of Western Maharashtra Upland rivers during Late Quaternary. *Journal Geological Society of India*, Vol. 26, pp. 16-27.
- Kale, V.S., Kshirsagar, A.A. and Rajaguru, S.N. (1984): Late Pleistocene beach rock from Uran, Maharashtra. *Current Science*, Vol. 53, pp. 317-319.
- Kale, V.S. and Rajaguru, S.N. (1983b): Mid-Holocene fossil wood from Colva, Goa. *Current Science*, Vol. 52, pp. 778-779.
- Kale, V.S., Kshirsagar, A.A. and Mitragotri, V.A. (1983a): Late Quaternary fossil bone from Goa. *Current Science*, Vol. 52, pp. 95-96.

Book Chapters in International Books

- Thomas, M. F. and Kale, V.S. (2011). Tropical Environments. In: *Handbook of Geomorphology*. K. J. Gregory and A. Goudie (Eds.) Sage Publications, London, UK, pp. 447-468.
- Kale, V. S. (2010). The Western Ghat: The Great Escarpment of India. In: *Geomorphological Landscapes of the World*. Piotr Migon (Ed.), Springer, New York, USA, pp. 257-264.

- Kale, V. S., Gupta, A. and Singhvi, A. K. (2003). Late Pleistocene-Holocene Palaeohydrology of Monsoon Asia. In: *Palaeohydrology: Understanding Global Change*. Gregory, K. J. and Benito, G. (Eds.), John Wiley and Sons, Chichester, UK. pp. 213-232.
- Baker, V. R. and Kale, V.S. (1998): The role of extreme flood events in shaping bedrock channels. In – *Bedrock Channel over Rocks*. K. Tinkler and E. Wohl (Eds.), American Geophysical Union, Geophysical Monograph 107, pp 153-165.
- Deodhar, L. A. and Kale, V. S. (1998): Downstream adjustments in allochthonous rivers: Western Deccan Tarp Upland Region, India. In - *Varieties of Fluvial Forms*. A. J. Miller and A. Gupta (Eds.) John Wiley and Sons, New York, pp. 295-315.
- Gupta, A., Kale, V. S. and Rajaguru, S. N. (1998): The Narmada River, India - Through space and time. In - *Varieties of Fluvial Forms*. A. J. Miller and A. Gupta (Eds.) John Wiley and Sons, New York, pp. 113-143.
- Kale, V.S., Ely, L.L., Enzel, Y. and Baker, V.R. (1996): Palaeo and historical flood hydrology, Indian Peninsula. In - *Global Continental Changes: the Context of Palaeohydrology*, J. Branson, A.G. Brown and K.J. Gregory (Eds.), London Geological Society Special Publication No. 115, pp. 155-163.