

Dr. Deepak Kumar Mandal

Ph. D

Professor



Life Member - Indian National Cartographic Association (INCA), Hyderabad; Indian Society of Remote Sensing (ISRS), Dehra Dun; Indian Institute of Geomorphologists (IGI), Allahabad; Geographical Society of India (GSI), Kolkata; Institute of Landscape, Ecology and Ekistics (ILEE), Kolkata; Association of North Bengal Geographers (ANBG), Siliguri; Indian Science Congress Association (ISCA), Kolkata

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Subject of Specialization: Fluvial Geomorphology, Pedology, Cartography, RS & GIS

Areas of Research Interest: Geomorphology, Geo-informatics, Hydrology.

No. of Ph.D. students: (a) Supervised: 09 (b) Ongoing: 05

No. of M.Phil. students: (a) Supervised: 03 (b) Ongoing: 03

No. of Publications: (a) Journal(s): 43 (b) Book Authored/ Edited: 04 (c) Book/ Chapters: 27

Achievement & Awards: Awarded UGC-NET JRF & SRF (CU)

Professional Experiences: Research/Consultancy Projects Completed

Administrative Experiences: Head, Department of Geography & Applied Geography, North Bengal University, from 2006-2008 and 2014-2016

Research Projects

Research Projects Completed (International Level)

- Evolution of the fluvial system in the monsoon climate, (as Co-PI with Prof. S. Sarkar), Indian National Science Academy & Polish Academy of Sciences, 2004-2007, 2nd Phase.
- Anthropogenic factors and extreme floods forming the landscape and margin of Eastern Himalaya, (as Co-PI with Prof. S. Sarkar), sponsored jointly by Indian National Science Academy & Polish Academy of Sciences, Phase I, 2008-2011.

Research/Consultancy Projects Completed (National Level)

- Preparation of contour map of Jalpaiguri town and its adjacent areas for the acute water logging and drainage problems, (as Co-PI with Prof. S. Sarkar), sponsored by the Irrigation and Waterways Department, Govt. of West Bengal (724 (9) 2P-160, dt. 23.03.2001).

- Survey Work at Proposed Site of Petroleum Product Terminal at Siliguri, (as Co-PI with Prof. S. Sarkar), sponsored by Numaligarh Refinery Limited, Govt. of India (CRPO/005069, dt. 13.05.2004).
- Preparation of Master Plan for Flood and Drainage Management of Balurghat Municipality, (as Co-PI with Prof. S. Sarkar), Uttar Banga Unnayan Parisad, Govt. of West Bengal.
- Demonstration of Block level GIS and capacity building for development planning in Jalpaiguri District, (as Co-PI with Prof. S. Sarkar), sponsored by the DST, Govt. of India, No. ES/11/875/2004, dt. 23.12.2005.
- Sustainable Rural Livelihood Empowerment Project for Northern Disadvantaged districts of West Bengal under NAIP, (as Co-PI with Prof. S. Sarkar), World Bank funded ICAR sponsored programme, No. NAIP (SRLS-C) III (2)/8/2008, dt. 21.05.2008, 2008-2013.
- Co-investigator, Preparation of contour map for drainage management in English bazar municipality, Malda, Sponsored by Malda municipality, Malda, Govt. of West Bengal, Memo No. 2375/IV-2/11-12, dt. 07.02.2012.
- Flood occurrences and its related problems in and around Siliguri, Funded by the University of North Bengal, Ref. No. 4364/R-2015, dt. 23.12.2015.
- Co-investigator, UGC SAP DRS-I programme on Geo-hazards in Sub-Himalayan West Bengal, 2009-2014.
- Co-investigator, UGC SAP DRS-II programme on Disaster Management with focus on Sub-Himalayan North Bengal, 2016-2021.

Research Projects Continuing (International Level)

- Anthropogenic factors and extreme floods, forming the landscape and margin of Eastern Himalaya (as Co-PI with Prof. S. Sarkar) sponsored jointly by Indian National Science Academy & Polish Academy of Sciences, 2nd Phase, 2012-2016.

Selected List of Publications

Journal

1. 1992: *Soil Salinity – A hindrance of double cropping in the Ichhamati-Bidyadhari interfluvial area, West Bengal*, Indian Journal of Landscape Systems, Institute of Landscape Ecology & Ekistics (ILEE), Kolkata, Vol. 15, No. I, pp. 51-57, ISSN 0971-4170
2. 1993: *Effect of pre-mature reclamation in the Ichhamati-Bidyadhari interfluvial area, West Bengal*, Indian Journal of Landscape Systems, Institute of Landscape Ecology & Ekistics (ILEE), Kolkata, Vol. 16, No. II, pp. 111-119, ISSN 0971-4170
3. 1995: *Trend of flood damages in India*, Indian Journal of Landscape Systems, Institute of Landscape Ecology & Ekistics (ILEE), Kolkata, Vol. 18, No. II, pp. 165-169, ISSN 0971-4170
4. 1997: *Hydrological characteristics and their effect on habitats in the Ichhamati-Bidyadhari interfluvial area, West Bengal*, Geographical Thought, University of North Bengal, Raja Rammohunpur, First edition, pp. 43-58.
5. 2000: *Physical quality of life index in Calcutta*, Environmental Science, National Environmental Science Academy (NESA), New Delhi, Vol. 17, pp. 23-26.
6. 2004: *Role of RS and GIS on the study of Groundwater potential of Doon valley area*. Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 24, pp. 57-65, ISSN 0972-8392.
7. 2004: *Generation of Web Map for Traffic Control*, Geographical Review of India, The Geographical Society of India, Kolkata, Vol. 66, No. 4, pp. 398-402, ISSN 0375-6386
8. 2006: *Groundwater exploration in Doon valley area by using Remote Sensing techniques and GIS tools*. Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 26, pp. 82-93, ISSN 0972-8392.
9. 2007: *A study on Land Evaluation of Rajganj Block based on Remote Sensing Techniques and GIS tools*, Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 27, pp. 102-113, ISSN 0972-8392.
10. 2008: *History of Indian Remote Sensing*, Geographical Thoughts, University of North Bengal, Vol. 6, pp. 29-40.
11. 2008: *Applications of Remote Sensing and GIS for Groundwater Inventory in Doon Valley area*, Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 28, pp. 103-108, ISSN 0972-8392.
12. 2009: *Groundwater inventory by using Remotely Sensed data and GIS tools in eastern Doon valley area, Uttaranchal, India*, Geographical Thoughts, University of North Bengal, Vol. 7, pp. 13-24, ISSN 2229-466X.
13. 2009: *Generation of 3D Models in Doon Valley area by using Remote Sensing techniques and GIS tools*, Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 29, pp. 144-152, ISSN 0972-8392.
14. 2010: *Magnitude of Natural Disasters over Leh in Jammu and Kashmir*, Geographical Thoughts, University of North Bengal, Vol. 8, pp. 10-16, ISSN 2229-466X
15. 2010: *Economic potentials of quarrying activities and resultant threats – A case study of Lower Balason river*, (with L. Tamang), Geographical Thoughts, University of North Bengal, Vol. 8, pp. 44-49, ISSN 2229-466X
16. 2010: *Changing Fluvial Characteristics of Lower Balason river, West Bengal*, (with L. Tamang), Geographical Review of India, The Geographical Society of India, Kolkata, Vol. 72, No. 1, pp. 10-19, ISSN 0375-6386

17. 2011: *Geophysical analysis of causes and consequences of landslides in Darjeeling Himalaya, West Bengal*, Geographical Thoughts, University of North Bengal, Vol. 9, pp. 33-42, ISSN 2229-466X
18. 2011: *A study on flood scenario of Koch Bihar District based on sample survey*, (with S.K. Shil Sharma), Geographical Thoughts, University of North Bengal, Vol. 9, pp. 99-110, ISSN 2229-466X
19. 2011: *Bed material extraction and its effects on fluvial characteristic in Lower Balason river in Darjeeling District, West Bengal*, (with L. Tamang), Geo-Analyst, Vol. 1, No. 2, pp. 49-54, ISSN 2249-2909
20. 2011: *Identification of land use and land cover categories in Eastern Doon Valley area based on Remotely Sensed Digital Data and GIS tools*, Geo-Analyst, Vol. 1, No. 2, pp. 1-7, ISSN 2249-2909
21. 2011: *Mapping of Drainage Systems in Eastern Doon Valley area based on Remotely Sensed Digital Data and GIS tools*, Indian Journal of Landscape Systems, Institute of Landscape Ecology & Ekistics (ILEE), Special Volume on "Ecological Problems in Geography" Kolkata, Vol. 34, No. II, pp. 727-736, ISSN 0971-4170
22. 2011: *Identification of Ground Water Potential zone in and around Dehra Doon using Index Overlay Method*, Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 31, pp. 190-196, ISSN 0972-8392
23. 2012: *Geolithological characteristics of Eastern Doon Valley by using Remote Sensing Techniques and GIS Tools*, Indian Journal of Landscape Systems, Institute of Landscape Ecology & Ekistics (ILEE), Kolkata, Vol. 35, No. I, pp. 579-590, ISSN 0971-4170
24. 2012: *Low energy houses: A new concept of environmental sustainability*, Journal of Geo-Environment Observer, Siliguri Geo-Environmental Welfare Society, Vol. I, No. 1, pp. 15-22, ISSN 2277-6141
25. 2012: *Earthquake induced disaster in Sikkim Himalayas*, Geographical Thoughts, University of North Bengal, Vol. 10, pp. 50-56, ISSN 2229-466X
26. 2013: *Sustainable Development: A Myths or a Reality*, Geographical Thoughts, University of North Bengal, Vol. 11, pp. 23-29, ISSN 2229-466X
27. 2013: *River Linking and Flood Management of Mahananda River Basin in West Bengal*, The Journal of Bengal Geographer, Foundation of Social Science Researcher, January, pp. 1-15, www.ssresearcher.com ISSN 2319-619X
28. 2014: *Temporal variability of Hydrological Characteristics in the Lower Balason River, Darjeeling District, West Bengal, India*, (with L. Tamang), Indian Journal of Spatial Science, Kolkata, Vol. 5.0, No. 2, Winter issue, pp. 21-32 (www.indiansss.org), EISSN: 2249-4316, ISSN: 2249-3921
29. 2014: *Global Change of Climate and its impact in the Himalayas*, Geographical Thoughts, University of North Bengal, Vol. 12, pp. 6-18, ISSN 2229-466X
30. 2015: *Bed material extraction and its effects on the forms and the processes of the Lower Balason River in the Darjeeling Himalayas, India*, Geographia Polonica, Institute of Geography and Spatial Organization, Polish Academy of Sciences, Warsaw, Poland, Vol. 88, No. 3, pp. 393-405, ISSN: 0016-7282 (print) 2300-7362 (online)
31. 2015: *Targeting and management of ground water resources by using Remotely Sensed Digital data and GIS tools in Doon Valley, Uttaranchal*, Indian Cartographer, Indian National Cartographic Association (INCA), Hyderabad, Vol. 35, pp. 400-405, ISSN 0972-8392
32. 2015: *Problems and prospects of Interlinking of Indian Rivers*, Geographical Thoughts, University of North Bengal, Vol. 13, pp. 29-41, ISSN 2229-466X
33. 2015: *A study of bank erosion of River Mahananda at the foothills of Darjeeling Himalaya (with P. Sarkar)*, Geographical Thoughts, University of North Bengal, Vol. 13, pp. 109-122, ISSN 2229-466X
34. 2016: *Sediment Sorting and Distribution along Lower Balason River, Darjeeling District, West Bengal (with L. Tamang)*, Geographical Review of India, The Geographical Society of India, Kolkata, Vol. 78, No. 2, pp. 119-131, ISSN 0375-6386
35. 2016: *Causes of Embankment Breaching in the River Mahananda at Champasari in Darjeeling district, west Bengal*, (with P. Sarkar) Geographical Thoughts, University of North Bengal, Vol. 14, pp. 23-29, ISSN 2229-466X
36. 2016: *Forest Degradation and forest change detention using Remote Sensing and GIS in Jalpaiguri and Alipurduar District (Duars) of West Bengal*, (with T. Das) Geographical Thoughts, University of North Bengal, Vol. 14, pp. 191-199, ISSN 2229-466X
37. 2016: *Geospatial data acquisition through sensor aided Mobile UAV System and Photogrammetric Post-processing*, (with Rajorshi Sarkar) Geographical Thoughts, University of North Bengal, Vol. 14, pp. 200-2016, ISSN 2229-466X
38. 2018: *Impact of urbanization on fluvial system – A case study of River Mahananda in Siliguri region, West Bengal*, (with P. Sarkar) International Journal of Research and Analytical Reviews (IJRAR), Vol. 5, Issue 4, November, pp. 440-452, E-ISSN 2348-1269, P-ISSN 2349-5138
39. 2019: *Assessment of Stream Bank Erosion Hazard Potential through BANCS Model: A Case Study of Mahananda River at the foothills of the Darjeeling Himalayas*, (with P. Sarkar), Indian Journal of Spatial Science, Kolkata, Vol. 10, No. 1, Spring issue, pp. 39-46 (www.indiansss.org), EISSN: 2249-4316, ISSN: 2249-3921
40. 2019: *Issues and Challenges of the Forest Villagers and Joint Forest Management: A case study of Alipurduar District, West Bengal*, (with T. Das), Indian Journal of Spatial Science, Kolkata, Vol. 10, No. 2, Spring issue, pp. 20-30 (www.indiansss.org), EISSN: 2249-4316, ISSN: 2249-3921
41. 2019: *Changing trends of agricultural land use scenario in Uttar Dinajpur District, West Bengal*, (with G. Sarkar), Wesleyan Journal of Research, Bankura, West Bengal, Vol 12 (June), pp. 1-13 (<http://www.wesleyanjournal.in>), ISSN: 0975-1386
42. 2021: *Drought investigation using Standard Precipitation Index (SPI) in Birbhum District*, (with J. Alam, P. Saha and S. K. Bhattacharya) Geographical Thoughts, University of North Bengal, Vol. 19, pp. 12-23, ISSN 2229-466X

43. 2022: Assessment of livelihood vulnerability in the riparian region of the Tista River, West Bengal, India (with R. Mitra) in *GeoJournal*, <https://doi.org/10.1007/s10708-022-10645-0>

Publication in Book/ Chapter

44. 1990: *Data sources and quantitative analysis*, in “Cartography for the development of outlying States and Islands of India”. National Atlas and Thematic Mapping Organization (NATMO), Kolkata, Part – I, pp. 132-134.
45. 1993: *Sedimentation and hydrological characteristics of the Ichhamati-Bidyadhari interfluvial area, West Bengal*, in “Environmental Hazards and their mitigations”, IGI, Kolkata, pp. 26-30.
46. 1996: *Man-made environmental hazards in the Ichhamati-Bidyadhari interfluvial area*, in “Sustainable development and Environment”, Ed. By A. K. De, N. C. Dutta, A. K. Mitra and T. R. Sinha, Cosmo Publications, New Delhi, pp. 240-256, ISBN 81-7020-837-8
47. 2000: *Global Warming: its causes, effects and remedial measures*, in “Environment and Toxicology”, Ed. by R. K. Roy, Cosmo Publications, New Delhi, pp. 77-85.
48. 2000: *Ichhamati-Bidyadhari interfluvial area: a study in the perspective of drainage evolution with the help of Remote Sensing techniques*, in “Geomorphology and Remote Sensing”, Ed. by V. C. Jha, acb Publications, Kolkata, pp. 300-307, ISBN 81-87500-01-8
49. 2007: *Constitutional Rights for Tribal Communities in North East India*, in “Natural Resource Management and Sustainable Development in North East India”, Ed. By Nursadh Ali, Mittal Publications, New Delhi, pp. 147-171, ISBN 81-8324-192-1
50. 2010: *Management of Rain-induced Floods in India*, in Geo-hazards in “Sub-Himalayan North Bengal”, Edited by S. Sarkar, UGC-SAP DRS-I, Monograph-I, University of North Bengal, pp. 88-94, ISBN 978-81-921692-0-0
51. 2010: *Human Induced Activities: An Anthropogenic threats to Balason Watershed in Darjeeling District, West Bengal*, (with L. Tamang), in “Geo-hazards in Sub-Himalayan North Bengal”, Edited by S. Sarkar, UGC-SAP DRS-I, Monograph-I, University of North Bengal, pp. 143-148, ISBN 978-81-921692-0-0
52. 2011: *Management of Flood Disaster in West Bengal*, in Disaster: Perception and Mitigation, Edited by S. Sarkar, UGC-SAP DRS-I, Monograph-II, University of North Bengal, pp. 36-44, ISBN 978-81-921692-1-7
53. 2011: *A Geographical Analysis of Industrial Backwardness in North-East India*, in “Industry, Trade and Economic Development – with Special Reference to North-East India”, Ed. By Ram Krishna Mandal and A. Ibotombi Singh, Mittal Publications, New Delhi, pp. 81-101, ISBN 81-8324-331-2
54. 2011: *Potentiality of Hydel Power Generation and its Effect on Industrial Development in North-East India*, in “Industry, Trade and Economic Development – with Special Reference to North-East India”, Ed. By Ram Krishna Mandal and A. Ibotombi Singh, Mittal Publications, New Delhi, pp. 1-27, ISBN 81-8324-331-2
55. 2012: *Ground Water Targeting by using Remotely Sensed Digital data and GIS tools in Eastern Doon valley*, in “Applications of Remote Sensing and GIS in Resource Management”, Ed. By D. K. Mandal, North Bengal University Press, Raja Rammohunpur, pp. 220-245, ISBN 978-81-921692-2-4
56. 2012: *A Study on the changes in channel geometry of the river Ganga using Satellite data and GIS tools: a case study of District Malda, West Bengal*, (with S. Saha) in “Applications of Remote Sensing and GIS in Resource Management”, Ed. By D. K. Mandal, North Bengal University Press, Raja Rammohunpur, pp. 69-75, ISBN 978-81-921692-2-4
57. 2012: *Water Supply and Sanitation Scenario in India*, (with S. Saha) in ‘Rural Development and Minority Group in India’, Ed. By Somenath Halder and Sanjoy Saha, Sopan, Kolkata, pp. 54-80, ISBN 978-93-82433-10-1
58. 2012: *Planning for Drinking Water Security in India*, in ‘Rural Development and Minority Group in India’, Ed. By Somenath Halder and Sanjoy Saha, Sopan, Kolkata, pp. 81-112, ISBN 978-93-82433-10-1
59. 2012: *Integration of Remote Sensing and GIS for Resource Management*, in “Applications of Remote Sensing and GIS in Resource Management”, Ed. By D. K. Mandal, North Bengal University Press, Raja Rammohunpur, pp. 263-273, ISBN 978-81-921692-2-4
60. 2012: *Principles of sustainable land use planning and development in North Bengal*, in Resource utilization, land use in relation to environmental impact in India, Edited by Sriparna Sarkar and Rubi Sanyal, N. L. Publishers, Shiv Mandir, Siliguri, pp. 157-168, ISBN 978-81-86860-68-7
61. 2012: *Landslide Hazards in Lower Darjeeling Himalaya: A case study in Ambootia Landslide*, (with M. Roy) in “Mapping: Hazards and Disasters”, Edited by S. Sarkar, UGC-SAP DRS-I, Monograph-III, University of North Bengal, pp. 59-69, ISBN 978-81-921692-3-1
62. 2013: *Causes and Effects of Global Warming on Geomorphological Processes*, in ‘Sustainable livelihood, environment and development’, Edited by S. Rohatgi, North Bengal University Press, Raja Rammohunpur, pp. 93-98, ISBN 978-81-921692-4-8
63. 2014: *Human interferences and its impact in the Himalayas*, in ‘Living with Hazards’, Edited by S. Sarkar, UGC-SAP DRS-I, Monograph-IV, University of North Bengal, ISBN 978-81-921692-6-2, pp. 154-161.
64. 2014: *Urbanisation Process and its associated problems in India*, in Population, Urbanisation and Changing State of Environment, Ed. By Nuruzzaman Kasemi and Tarun Das, NSPS, Jalpaiguri, pp. 28-39.
65. 2017: *Influence of Mass Media and cultural changes of Forest Villagers in Alipurduar District of West Bengal, India*, (with T. Das) in “Global issues in contemporary art, culture and society”, Ed. By Shyam Sundar Pradhan, Dasgupta and Co. Pvt. Ltd., Kolkata, pp. 117-137, ISBN 978-81-8211-143-1

66. 2017: *Flood Management and Mitigation in Koch Bihar District, west Bengal*, (with S. Shil Sharma) in “Remote Sensing and GIS in Environmental Management”, Edi. By D. K. Mandal, North Bengal University Press, Raja Rammohunpur, pp. 20-27, ISBN 978-81-921692-8-6
67. 2017: *Scenario of human interference on River Mahananda in Siliguri Region*, (with P. Sarkar & K. Chakraborty) in “Population Growth, Urbanisation and Land Utilisation”, Edi. By I. Lepcha, North Bengal University Press, Raja Rammohunpur, pp. 100-112, ISBN 978-81-921692-5-5
68. 2018: *Identification of Landslide prone areas in Tista Catchment through Landslide Susceptibility Mapping, West Bengal*, (with K. Chakraborty, R. Mitra & S. Saha) in Disaster Management in Sub-Himalayan North Bengal, UGC-SAP DRS-II Monograph I, Edited by S. Sarkar, North Bengal University Press, Raja Rammohunpur, pp. 1-11, ISBN 978-81-921692-9-3
69. 2020: *Bank erosion vulnerability zonation: A case study of River Mahananda in Darjeeling Himalaya*, (with P. Sarkar) in “Applications of Geospatial Technology in Geomorphology and Environment”, Edi. By D. K. Mandal & R. Roy, North Bengal University Press, Raja Rammohunpur, pp. 42-57, ISBN 978-81-921692-8-6
70. 2020: *Study on topographical condition and meandering lower course and its impact of the Raidak-I and Turturi Interfluve* (with R. Mitra & G. Hossain) in “Applications of Geospatial Technology in Geomorphology and Environment”, Edi. By D. K. Mandal & R. Roy, North Bengal University Press, Raja Rammohunpur, pp. 123-139, ISBN 978-81-921692-8-6

Books Edited

1. *Applications of Remote Sensing and GIS in Resource Management*; Proceeding of the UGC Sponsored National Seminar; University of North Bengal, North Bengal University Press, Raja Rammohunpur, 2012, 297p, ISBN 978-81-921692-2-4
2. *Applications of Geospatial Technology for Sustainable Development*; Proceeding of the UGC Sponsored National Seminar, University of North Bengal, North Bengal University Press, Raja Rammohunpur, 2015, 414p, ISBN 978-81-921692-7-9
3. *Remote Sensing and GIS in Environmental Management*; Proceeding of the UGC Sponsored National Seminar, University of North Bengal, North Bengal University Press, Raja Rammohunpur, 2016, ISBN 978-81-921692-8-6
4. *Applications of Geospatial Technology in Geomorphology and Environment*, Proceeding of the 31st IGI Conference and National Seminar, University of North Bengal, North Bengal University Press, Raja Rammohunpur, 2020, (R. Roy as Jt. Editor), ISBN 978-81-925799-3-1