

Curriculum Vitae

Dr. Bibhash Sarma



Abstract: Presently a faculty of Civil Engineering Department in Assam Engineering College and actively involved in guiding M.Tech and PhD students in their research works. He also served in Unilever Company as Assistant Manager, Regional Engineering College Silchar (now NIT Silchar) and Jorhat Engineering College as faculty. He has experiences of working as consultant in the field of flood mitigation, river bank protection, river and lake hydrology, hydro-power generation and Master Plan preparation for river basins. His fields of interest also include reservoir planning and operation, and system analysis applications in water resources. He has delivered invited lectures in many platforms like IITs, NITs, different state and central govt agencies, conferences and short-term courses.

Being a member of “Technical Advisory Committee”, Water Resources Department, Govt. of Assam, scrutinizes many project proposals; visited lot of flood and erosion affected areas and suggested solutions. He served as member of many Expert Committees formed by Govt. of Assam for solution of critical problems. He is associated with the editorial team of few technical journals and have published more than fifty research papers in National and International Journals and in the Proceedings of International Conferences. He is also known as a poet and regularly publishing poems in Assamese magazines and newspapers. There are two books on poems authored by him.

1. **Name** : Dr. Bibhash Sarma
2. **Present Designation** : Professor, Civil engineering Department,
Assam Engineering College, Guwahati
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College, Guwahati, Guwahati-781013, Assam, India
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6. Service Experience:

- a) Faculty in Civil Engineering Department, Assam Engineering College, Guwahati (from 1997 to till date)
- b) Faculty in Civil Engineering Department, Jorhat Engineering College, Jorhat (from January, 1997 to May, 1997)
- c) Faculty in Civil Engineering Department, Regional Engineering College, Silchar (Now known as National Institute of Technology Silchar) (from 1991 to 1996)
- d) Management Trainee in Doom Dooma India Ltd. (Hindusthan Lever), Doom Dooma, Tinsukia Dist. (from 1990 to 1991)

7. Academic qualification:

Bachelor of Engineering (Civil Engineering) from Gauhati University

Master of Engineering (Civil Engineering: Watershed Management & Flood Control) from Gauhati University

Ph.D in Civil Engineering (Hydrology) from IIT Roorkee

8. Publications:

Reviewed Journal Publications

- 1) Jyotismita Taye, Bibhash Sarma, and Abhijit D. Lade (2021), Book Chapter on “Optimal Cropping Pattern of Kulsi River Basin, Assam, India Using Simulation and Linear Programming Model” (Pg:77-90), Water Resources Management and Reservoir Operation Hydraulics, Water Resources and Coastal Engineering, Water Science and Technology Library, Volume 107; Editors: Ramakar Jha · Vijay P. Singh · Vivekanand Singh · L. B. Roy · Roshni Thendiyath
- 2) Krishna Kamal Das and Bibhash Sarma (2021), “Morphometric Study and Prioritization of Sub-Watershed of Kulsi River Basin using GIS”, Journal of

Emerging Technologies and Innovative Research (ISSN : 2349-5162), Volume 8 Issue 12 , December-2021, Pg: 313-318

- 3) Dipankar Sharma and Bibhash Sarma (2021) “Morphometric Analysis of Deepor Beel Basin Using GIS”, International Journal for Research in Engineering Application & Management (IJREAM), ISSN:2454-9150, Volume 06, Issue 12, March 2021, Pp:176-184
- 4) Jahanur Rahman and Bibhash Sarma (2019) “Assessment of Crop Water Requirement and Irrigation Scheduling of Dhanshiri Basin”, Journal of Emerging Technologies and Innovative Research (ISSN : 2349-5162), Volume 6 Issue 1, January-2019
- 5) Jahanur Rahman and Bibhash Sarma (2019) “Optimal Cropping Pattern for Dhanshiri Basin for Food Sustainability” International Journal of Engineering and Applied Sciences (IJEAS) ISSN: 2394-3661, Volume-6, Issue-9, September 2019
- 6) Hirendra Nath Deka, Bibhash Sarma (2018) “Evaluation of Morphometric Parameters of Gai River Basin, India using GIS”, Journal of Emerging Technologies and Innovative Research (JETIR), www.jetir.org, ISSN-2349-5162, July 2018, Volume 5, Issue 7, pp: 712-719
- 7) Krishna Kamal Das and Bibhash Sarma (2018) “Assessment of Water Demands and Availability of Kulsri River Basin”, International Journal for Research in Engineering Application & Management (IJREAM) ISSN : 2454-9150, Vol-04, Issue-05, Aug 2018, pp: 75-81
- 8) Krishna Kamal Das and Bibhash Sarma (2018) “Assessment of Crop Water Requirements for Kulsri River Basin”, International Journal for Research in Engineering Application & Management (IJREAM) ISSN : 2454-9150, Vol-04, Issue-04, June 2018, pp: 141-147
- 9) Dipankar Sharma and Bibhash Sarma (2018) “Prioritization of Jiya Dhol Basin Using GIS”, International Journal of Science and Research (IJSR), ISSN (Online): 2319-7064, Index Copernicus Value (2016): 79.57 | Impact Factor (2017): 7.296, pp:743-749
- 10) Dipankar Sharma and Bibhash Sarma (2018) “Morphometric Analysis of Jiya Dhol Basin in GIS Framework” International Research Journal of Engineering and Technology (IRJET) Volume: 05 Issue: 07, July-2018 www.irjet.net, e-ISSN: 2395-0056, p-ISSN: 2395-0072, pp:787-796
- 11) Krishna Kamal Das and Bibhash Sarma (2018) “Irrigation Planning for Kulsri River Basin for Maximizing Net Benefit” International Journal for Research in Engineering Application & Management (IJREAM) ISSN : 2454-9150 Vol-04, Issue-03, June 2018, pp: 594-600
- 12) Bhaswati Dutta, Bibhash Sarma (2018), ‘Correlation Study and Regression Analysis of Ground Water Quality Assessment of Nagaon Town of Assam, India’, International Journal of Engineering Research & Technology (IJERT), ISSN: 2278-0181, Vol.7, Issue 06, June-2018, pp319-330.
- 13) Bhaswati Dutta, Bibhash Sarma (2018), ‘Assessment of Water Quality Index of the Kolong River of Nagaon District of Assam, India’, Journal of Engineering Research

- and Application, www.ijera.com, ISSN: 2248-9622, Vol 8, Issue 6 (Part-IV), June 2018, pp29-38
- 14) Sanjay Kumar Sharma, Young-Joo Kwak , Rakesh Kumar and Bibhash Sarma (2018) “Analysis of Hydrological Sensitivity for Flood Risk Assessment”, *ISPRS International Journal of Geo-Information* 2018, 7(2), 51; doi:10.3390/ijgi7020051, (Special Issue Geographic Information Science and Spatial Analysis in Water Resources), EISSN 2220-9964 Published by MDPI AG, Basel, Switzerland
 - 15) Dipsikha Devi, Nilutpal Phukan and Bibhash Sarma (2018), ‘A Study of Erosional Depositional Activity and Land Use Mapping of Majuli River Island Using Landsat Data’, (© Springer Nature Singapore Pte Ltd. 2018, V. P. Singh et al. (eds.), Hydrologic Modeling, Water Science and Technology Library 81, https://doi.org/10.1007/978-981-10-5801-1_14
 - 16) Priyanka Kotoky, Bibhash Sarma (2018), ‘Mapping of Ground Water Quality of the Guwahati City of Assam, India Using Geographic Information System’, Souvenir cum Technical Volume, Theme- Potential Effects of Contaminated Water on Health Mitigation Options, 14th Foundation Day, Senior Engineers’ Forum, Guwahati (N.E. Region), 20th Feb 2018, pp92-100.
 - 17) Priyanka Kotoky, Bibhash Sarma, ‘Comparison of Treatment Efficiencies of the Water Treatment Plants of Guwahati City of Assam, India’ *International Journal of Engineering Research and Technology*, Volume 6, Issue 5, May 2017, www.ijert.org, PP 17-25, ISSN 2378-0181.
 - 18) Priyanka Kotoky, Bibhash Sarma, Enny Dowerah Kotoky, ‘Fluoride Contamination of Groundwater of the Hatigaon Area of Assam, India and the Variation of Fluoride Content Levels with the Depth of Wells’, *International Journal of Science & Engineering Development Research (IJS DR)*, Volume 2 Issue 4, April-2017, PP: 509 – 516, www.ijedr.org, ISSN: 2455-2631
 - 19) Priyanka Kotoky, Bibhash Sarma, ‘Assessment of Water Quality Index of the Brahmaputra River of Guwahati City of Kamrup District of Assam, India’ *International Journal of Engineering Research and Technology (IJERT)*, Volume 6, Issue 3, March 2017, www.ijert.org, PP 536-540, ISSN 2278-0181
 - 20) Priyanka Kotoky, Bibhash Sarma, ‘Assessment and Mapping of Fluoride Contamination of Groundwater of the Hatigaon Area of Assam, India Using Geographic Information System’ *International Journal of Science and Research (IJSR)*, Volume 6, Issue 4, April 2017, www.ijer.net, PP 1692-1698, ISSN 2319-7064.
 - 21) Bharati Medhi Das, M.M Das, Bibhash Sarma, ‘Solution of Unsteady Flow Equations in High Pressure Pipe’, *International Journal of Innovative Research in Science, Engineering and Technology*, Volume 6, Issue 3, March- 2017, www.ijirset.com, ISSN 2347-6710 (Print) & ISSN 2319-8753 (Online).
 - 22) Bharati Medhi Das, M.M Das, Bibhash Sarma, ‘Error Analysis of Friction Factor Formulae with Respect to Colebrook-White Equation’, *International Journal of Science and Research (IJSR)*, Volume 6, Issue 3, March- 2017, www.ijer.net, ISSN (Online): 2319-7064.

- 23) Bharati Medhi Das, Bibhash Sarma, 'Solution of Non-Linear Unsteady Flow Equations in Surge Tank', International Journal of Engineering Research and Technology, Volume 4, Issue 9, September 2016, PP 8-17, ISSN 2349-4395 (Print) & ISSN 2349-4409 (Online).
- 24) Bharati Medhi Das, M.M Das, Bibhash Sarma, 'Evaluation of Numerical Methods of Solution and Resistance Equations Applicable to Unsteady Flow Situation in Surge Tank', International Research Journal of Engineering and Technology (IRJET), Volume 3, Issue 10, Oct- 2016, www.irjet.net, ISSN 2393-0072 (Print) & ISSN 2395-0056 (Online).
- 25) Lakshmi Rani Konwar, Madan Mohan Das, Bibhash Sarma, 'The Study of Resistance in Unsteady Flow in Surge', International Journal of Research and Scientific Innovation (IJRSI) | Volume III, Issue VI, June 2016 | ISSN 2321–2705, Pg 1-3
- 26) Lakshmi rani Konwar, Bibhash Sarma, 'Study of Resistance in Steady Gradually Varied Flow Profiles', International Journal of Research in Science and Technology, (<http://www.ijrst.com>), (IJRST) 2016, Vol. No. 6, Issue No. II, Apr-Jun e-ISSN: 2249-0604; p-ISSN: 2454-180X, IRA Publications, Pg. 143-148
- 27) L.R. Konwar and Sarma, B. (2015) "Analysis and Verification of Resistance Co-Efficient with Different Flow Parameters Having Different Bed Conditions to Open Channel Flow", International Advanced Research Journal in Science, Engineering and Technology (Impact Factor 1.918), Volume 2, Issue 8, August 2015, DOI 10.17148/IARJSET.2015.2822, ISSN (Online)2393-8021, ISSN (Print) 2394-1588
- 28) Deka, A.P., and Sarma, B. (2015) "Micro Watershed Management of West Gotanagar" International Journal of Multidisciplinary Research Centre, Volume 1, Issue 5, Oct 2015, ISSN 2454-3659
- 29) Sarma, B. (2014) "An Improved Multireservoir Multiyield Preliminary Screening Model". International Journal of Innovative Technology and Adaptive Management, (ISSN 2347-3622) December, 2013
- 30) Sarma, B.; Das, K. K.; Sharma, S.K. (2014) "Sizing of A Multi-Purpose Reservoir System Using Combined Optimization-Simulation Model" Asian Academic Research Journal of Multidisciplinary, Volume 1, Issue 18 (February 2014) ISSN: 2319 – 2801)

Conference/Seminar/Workshop Publications:

- 31) Sarma, B., and Srivastava, D.K. (2003). "Dynamic programming models for inter-basin water transfer." In: Singh, V.P. and Yadava, R.N. (Ed), *Water Resources System Operation, Proceedings of the International Conference on Water and Environment (WE-2003)*, Dec. 15-18, Bhopal, India.
- 32) Sarma, B., and Srivastava, D.K. (2005) "Simulation study of a river linking project." *Proc. of the International Conference on Hydrological Perspectives for Sustainable Development (HYPESD-2005)*, Indian Institute of Technology Roorkee, Feb.23-25, 2005, pp 598-608.
- 33) Sharma, Nayan, and Sarma, B. (2003). "Inter-basin water transfer - A critical study on basic approach with special reference to the Brahmaputra basin." *Proc. of the*

- National Seminar on River Link Water Management-Its Necessity and Feasibility in East and Northeast India With or Without Bangladesh.* Centre for Research in Indo-Bangladesh Relations, ICCR, Dec. 6, Kolkata.
- 34) Sarma, B. (2005) "Inter-Basin Water Transfer With Special Reference to Manas-Sankosh-Tista-Ganga link". *National seminar on "Problems and Prospects in Linking the Indian Rivers"*, Indian Science Congress Association, Guwahati Chapter 28th March, 2005.
 - 35) Sarma, B. (2005) "Research and Development Needs for Water Resources". *Souvenir on 21st Water Resources Day, 31st May 2006*, The Institution of Engineers (India), Assam State Centre.
 - 36) Sarma, B. (2007) "An Improved Multireservoir Multiyield Preliminary Screening Model". *Proc. of the National Workshop on Reservoir Planning and Operation. Assam Engineering College, Dec 19, Guwahati.*
 - 37) Sarma, B. (2010) "Master Plan for Basin Development". *Souvenir on 25th Water Resources Day, 26th May 2010*, The Institution of Engineers (India), Assam State Centre.
 - 38) Sarma, B. (2011) "Water Supply and Relevant Issues". *Souvenir on 26th Water Resources Day, 30th May 2011*, The Institution of Engineers (India), Assam State Centre.
 - 39) Sarma, B.; Das, K. K.; Patwari, N. N. (2013) "Sizing of Kulsri Reservoir System Using Non-Linear Optimization and Simulation". *Proc. of Assam International Water Conference-2013, 21-22 February, 2013; Guwahati, Pg1-13.*
 - 40) Sarma, B., and Srivastava, D.K. (2013). "Modeling Approach for Inter-Basin Water Transfer" *Souvenir on World Water Day 2013*, The Institution of Engineers (India), Assam State Centre, 22nd March
 - 41) Sarma, B.; Das, K. K.; Sharma, S.K. (2014) "Planning of A Multi-Purpose Reservoir System Using System Analysis Techniques" *Proc. of National Conference on Sustainable Infrastructure Development (NCSID), 13-14 March 2014, National Institute of Technical Teachers Training and Research, Sector 26, Chandigarh, Chitkara University, Pg 164-170*
 - 42) Sarma, B. (2014) "Sizing of Kynshi Reservoir System using System Analysis techniques" *Proc. of 'CIVIONICS' National Conference on "Recent Advancements and Innovations In Civil Engineering' 27th ,28th ,29th June 2014, Organized by Department of Civil Engineering, Technocrats Institute Of Technology (Excellence), Anand Nagar, P.B. No. 24, Post-Piplani, BHEL, Bhopal-21*
 - 43) Sarma, B. (2014) "Geosynthetics for River Bank Protection: A Case Study" *Proc. of 'CIVIONICS' National Conference on "Recent Advancements and Innovations In Civil Engineering' 27th ,28th ,29th June 2014, Organized by Department of Civil Engineering, Technocrats Institute Of Technology (Excellence), Anand Nagar, P.B. No. 24, Post-Piplani, BHEL, Bhopal-21*
 - 44) Barman, S. and Sarma, B. (2015) "Micro Hydro Power Project: A Possible Solution of Power Crisis for Sustainable Development of Assam" *Proc. of Water Resources Day, 22nd March 2015*, The Institution of Engineers (India), Assam State Centre.

- 45) Deka, A.P., Sarma, B. and Kashyap, T.L. (2015) "Management of a Micro-Watershed in a Hilly Area in Guwahati" Proc. of *Water Resources Day, 22nd March 2015*, The Institution of Engineers (India), Assam State Centre.
- 46) Sarma, B. and Choudhury, J.A. (2015) "Design of an Urban Drainage System", Proc. Of Assam Water Conference-2015, Guwahati, 6-7 February, 2015
- 47) Pathak, A. and Sarma, B. (2015) "An Experimental Study on Behaviour of Single Spur Dyke" Proc. Of Assam Water Conference-2015, Guwahati, 6-7 February, 2015
- 48) Sarma, B. and Devi D. (2015) "A Study on Channel Migration and Flood Mapping on Subansiri Basin in Assam", Disaster Management: Issues and Challenges, Proceedings of National Seminar, PCPS Girls Polytechnic, Bamunimaidam with ASDMA, 3-4 November, 2015 (ISBN No. 8187800097)
- 49) Dipsikha Devi, Bibhash Sarma, 'Simulation Study of Subansiri Lower Reservoir', CESDOC2016, 1st International Conference on Civil Engineering for Sustainable Development- Opportunities and Challenges', 19-21 Dec 2016, Assam Engineering College, Guwahati, Assam
- 50) Krishna K. Das, Bibhash Sarma, 'Application of Simulation-Optimization Model in Reservoir Planning', CESDOC2016, 1st International Conference on Civil Engineering for Sustainable Development- Opportunities and Challenges', 19-21 Dec 2016, Assam Engineering College, Guwahati, Assam
- 51) Rahman, Sultana Hadia and Sarma, Bibhash. "Optimal Design of SuklaIrrigaion Canal", HYDRO 2020 INTERNATIONAL 25th International Conference on Hydraulics, Water Resources and River Engineering, National Institute of Technology Rourkela, Odisha, India.
- 52) Rahman, Sultana Hadia and Sarma, Bibhash. "Optimization of Sukla Irrigation Canal", International Conference on Sustainable Water Resources Management (SWARM 2020), Assam Engineering College, Guwahati, India and Indian Institute of Technology Guwahati, Assam, India.
- 53) Das, Krishna Kamal and Sarma, Bibhash. "River Basin Development", International Conference on Sustainable Water Resources Management (SWARM 2020), Assam Engineering College, Guwahati, India and Indian Institute of Technology Guwahati, Assam, India.

9. Member of Expert Committee

- (a) Acted as member of the Expert Committee on "Fluvial Morphology of River Brahmaputra, sediment Management with possibility of dredging by adopting Modern Technology" formed by Govt. of Assam and submitted report.
- (b) Acted as member of the Expert Committee on "Strategic Planning to Mitigate Drainage Problem of Greater Guwahati Airport area" formed by Govt. of Assam and submitted report.
- (c) Acted as member of the Expert Committee to examine the Detail Project Report of 24 MW Karbi Langpi Middle II Hydro Power Project (earlier Borpani Middle II H.E.P.) along with proposal suggested by APGCL consultant (AFRY) so as to ascertain the techno-

economic viability, safety & other issues pertaining to the said project and thereafter finalize the necessary tender documents for subsequent floating of bids.

(d) Acted as member of the Technical Expert Team for implementation of the scheme “Protection of Kokrajhar Medical College and Hospital campus at Besorgaon from the erosion of river Gaurang on its left bank (L/B)”.

(e) Presently acting as a member of the Expert Committee on “Closing of sub-channels of River Brahmaputra to protect erosion and to confine the stream in to a single channel in between Koliabhomora and Saraighat Bridge” formed by Govt. of Assam.

10. Member of Editorial Board/Reviewer's Team/University Boards/Professional Body/Expert Committee

(a) Member of Editorial Board/Reviewer's Team IRA Publications for

i. International Journal of Advances in Engineering Research (e-ISSN:2231-5152, p-ISSN: 2454-1796)

ii. International Journal of Research in Science & Technology (e-ISSN: 2249-0604, p-ISSN:2454-180X)

(b) Board Member for International Journal of Multidisciplinary Research and Modern Education, R&D Modern Research Publication, Perambalur, Tamilnadu, India (Website: www.rdmodernresearch.org)

(c) Member, Board of Studies (BoS), The Assam Royal Global University, Guwahati

(d) Indian Society for Technical Education

(e) Institution of Engineers, India

(f) Acted as Academic Advisor, Kaziranga University

11. Completed consultancy works: (only few are mentioned)

a) Evaluation study of Master Plans prepared by Brahmaputra Board during Xth Plan funded by Ministry of Water Resources, Govt. of India

b) River model study for the scheme “Protection of Borbeel, Muwamari and Goroimari from the erosion of river Brahmaputra” for WRD, Assam

c) Evaluation study of many flood mitigation and river bank protection schemes in Assam, for Water Resources Department, Govt. of Assam

d) Soil investigation, planning and design of Dibrugarh town protection embankments for Water Resources Department, Govt. of Assam, funded by Asian Development Bank.

e) Fixation of drainage alignment and design of drainage in Sewali Path, Hatigaon, Guwahati for Meghmallar Pvt. Ltd.

f) Surveying of Baskandi Thermal Power Project site, Baskandi, Cachar

g) The Deepor Beel catchment and drainage system, for Green Tribunal on behalf of WRD, Govt of Assam

- h) Solution plan for the drainage problem related to Ghograpar Damodar Dham Bijulighat road in front of under construction Nalbari Medical College
- i) Hydro-geological studies and artificial recharge to ground water in and around Assam Bio Refinery Pvt Ltd, Numaligarh, Golaghat district, Assam
- j) Design of drainage filter system at Asian Development Bank(ADB)-funded anti-erosion project site in Assam's Kamrup district near Dhakhala hill
- k) DPR for construction of embankment with anti-erosion measures on both banks of river Saralbhangra branch from Jorshimlaguri to Lokhnabari
- l) Construction material testing for different reputed companies working in North-East India

12. Organized:

- a) National Workshop on Reservoir Planning and Operation, Sponsored by Dept. of Science and Technology, Govt. of India, NEEPCO Ltd. and Assam Engineering College, Dec 19, 2007 Guwahati.
- b) DHI sponsored training programme for middle level engineers of Water Resources Department, Govt. of Assam
- c) CESDOC-2016, 1st International Conference on Civil Engineering for Sustainable Development Opportunities and Challenges, December 2016, Assam Engineering College, Guwahati
- d) CESDOC-2018, 2nd International Conference on Civil Engineering for Sustainable Development Opportunities and Challenges, December 2018, Assam Engineering College, Guwahati

13. Authored book on Literature:

- (a) "BOKULE GONDHOWA BAT-TOWEDI", a collection of 49 Assamese poems, published by "Kallol Prakash, Guwahati-9, 1988
- (b) "BELI POKA ROWD", an anthology of one hundred and eight Assamese poems, published by Sudipta Creations, Six Mile, Guwahati, Assam, 2021