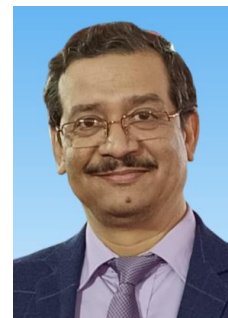


Brief Biography of Dr. Souvik Ghosh

Dr. Souvik Ghosh is a Professor (Agricultural Extension) and former Head, Department of Agricultural Extension, Visva-Bharati University, Santiniketan, West Bengal; formerly Senior Scientist at ICAR-Indian Institute of Water Management, Bhubaneswar; positioned as Visiting Scientist at Department of Economics, College of Agriculture and Biological Sciences, South Dakota State University, USA during 2016. He is the Fellow of National Academy of Agricultural Sciences (NAAS), West Bengal Academy of Science and Technology (WAST), Indian Society of Extension Education (ISEE), and Society for Community Mobilization for Sustainable Development (MOBILIZATION). His publications include 135 research papers (35 in the high IF journals) and 55 technical articles in national and international journals, 10 books, 17 research/extension bulletins, 10 training manuals, 22 book chapters, 28 chapters in training manuals, 13 technical/extension folders/brochures and 25 full-length papers in proceedings of international and national conferences, seminars, etc. His outstanding work done in the field of Agricultural Extension Education and Research has brought many national level awards and recognitions. The significant contributions include development of climate smart extension model to promote climate resilient innovations, frameworks for assessment of farmers collectives and rural livelihoods, innovative extension methodology for assessment and refinement of agricultural water management technologies from stakeholders' perspectives, extension techniques to scaling-up water productivity in agriculture through demonstrative units, and training of farmers and extension functionaries, innovative extension concepts of water users group dynamics and links between irrigation, agriculture and farm livelihood to promote suitable water use efficient technologies through targeted extension advisory services, methods to assess the effect of participatory irrigation management reform in India. He has completed eight projects as PI and 22 projects as Co-PI. He has guided 08 and 21 Ph.D. and M.Sc. scholars' thesis till date.



Awards and Honours: Amitabha Mukhopadhyay Memorial Gold Medal Award 1995 of Palli Siksha Bhavana (Institute of Agriculture), Visva-Bharati University; Gold Medal (Director's Medal) 1996-97, National Dairy Research Institute; ICAR Award for Team Research 2003-04; Young Scientist Award 2005 of Indian Society of Extension Education (ISEE); Institution Award 2006 of Institution of Engineers (India)- Orissa State Centre, Bhubaneswar; Proficiency Award 2008 of Indian Institute of Water Management, Bhubaneswar; Indira Gandhi Rajbhasha Puraskar 2010-11 (First Prize) of Ministry of Home Affairs, Govt. of India; Young Scientist Award 2011 of Society of Extension Education, Agra, Uttar Pradesh; Lal Bahadur Shastri Outstanding Young Scientist Award 2011 of ICAR; Presidential Appreciation Award 2017 of Society for Community Mobilization for Sustainable Development; Dr. K.N. Singh Memorial Award 2017 of ISEE; BKJF-INCSW Sookshma Sinchai Puraskar 2018, Central Water Commission, Govt. of India; Prof. Y.P. Singh Memorial Award 2018 of ISEE; Professional Recognition Award 2023, Department of Extension Education, Institute of Agricultural Sciences, Banaras Hindu University; Dr. O.P. Dahama Memorial Award 2022-23 of ISEE.

Academic Identity:

Vidwan ID: 44849

<https://vidwan.inflibnet.ac.in/profile/44849>

Google Scholar ID: GXmhtqMAAAAJ&hl

<https://scholar.google.com/citations?user=GXmhtqMAAAAJ&hl=en>

Orcid ID: 0000-0002-2161-2984

<https://orcid.org/0000-0002-2161-2984>

Scopus ID: 55478985000

<https://www.scopus.com/authid/detail.uri?authorId=55478985000>

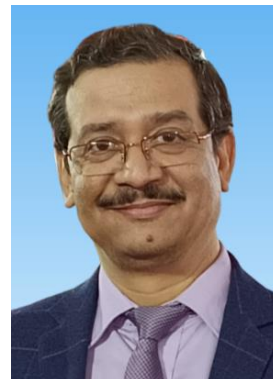
Web of Science Researcher ID: AAU-3758-2020

<https://publons.com/researcher/AAU-3758-2020/>

Research Gate: <https://www.researchgate.net/profile/Souvik-Ghosh-17>

Curriculum Vitae

- 1. Name** : **Souvik Ghosh**
- 2. Date of Birth** : 01.11.1972
- 3. Place of Birth** : Rampurhat, Dist. Birbhum, West Bengal
- 4. Sex** : Male
- 5. Marital Status** : Married
- 6. Nationality** : Indian
- 7. Religion** : Hinduism
- 8. Present Office** : Department of Agricultural Extension
Palli-Siksha Bhavana (Institute of Agriculture),
Visva-Bharati (A Central University), Santiniketan
Sriniketan – 731236, Birbhum, West Bengal, India
- 9. Present Home** : “Ekanta-Aapon”, Bhubandanga
(Beside Gyanananda Ashram)
P.O.: Bolpur, Dist.: Birbhum-731204, West Bengal, India
- 10. E-mail** : ghosh_wtcer@yahoo.com; souvik.ghosh@visva-bharati.ac.in



11. Bio-sketch of Dr. Souvik Ghosh:

Dr. Souvik Ghosh is presently Professor (Agricultural Extension) at Department of Agricultural Extension, Palli Siksha Bhavana (Institute of Agriculture) and Honorary Director of the Agro-Economic Research Centre (MoA&FW), Visva-Bharati, Santiniketan. He joined the post of Professor on 27th June 2013 and served as Head of the Department of Agricultural Extension from 4th November 2016 to 3rd November 2019. He was positioned as Visiting Scientist at Department of Economics, College of Agriculture and Biological Sciences, South Dakota State University, USA during August to October 2016. Dr. Ghosh is a Fellow of National Academy of Agricultural Sciences (NAAS), New Delhi, West Bengal Academy of Science and Technology (WAST), Kolkata, Indian Society of Extension Education (ISEE), New Delhi and Society for Community Mobilization for Sustainable Development (MOBILIZATION), New Delhi.

Earlier Dr. Ghosh worked as Scientist and Senior Scientist at ICAR-Indian Institute of Water Management, Bhubaneswar during 2000-09 and 2009-13, respectively. He graduated as Gold Medalist in B.Sc. (Agril.) Hons. from Visva-Bharati in the year 1995 and passed M.Sc. (Dairying) in Dairy Extension Education with Director's Gold Medal at ICAR-National Dairy Research Institute, Karnal in 1997. After completion of Ph.D. (Agricultural Extension) from ICAR-Indian Agricultural Research Institute, New Delhi with distinction of Significant Post-Graduate Research in 2000, Dr. Ghosh joined Agricultural Research Service of ICAR on 10th July 2000.

Dr. Ghosh has completed eight projects as PI and 22 projects as Co-PI. He has guided eight Ph.D. Thesis and 21 M.Sc. Thesis works. A total of 320 publications of Dr. Ghosh includes 138 research papers (35 papers in the journals with NAAS score > 6.0 having Impact Factor of Clarivate Analytics) and 57 technical/ popular article in national and international journals and 10 books. For his book on “*वैश्वीकरण और भारतीय खाद्य सुरक्षा* - Globalisation and Indian Food Security (ISBN-978-81-910947-0-1), *Indira Gandhi Rajbhasha Puraskar* (First Prize) of Ministry of Home Affairs, Govt. of India conferred by His Excellency President of India at Vigyan Bhavan, New Delhi on 14th September 2012. His outstanding work done in the field of Agricultural Extension research has brought many laurels including Lal Bahadur Shastri Outstanding Scientist Award 2011 of ICAR, ICAR Outstanding Team Research Award 2006, BKJF-INCSW *Sookshma Sinchai Puraskar* 2018 of INCSW, Central Water Commission, Govt. of India, Dr. O.P. Dahama Memorial Award 2022-23 of Indian Society of Extension Education (ISEE), Prof. Y.P. Singh Memorial Award 2018 of ISEE, Dr. K.N. Singh Memorial Award 2017 of ISEE, Best Scientist Award of ICAR-Indian Institute of Water Management 2008, Institution Award 2006 of Institution of Engineers (India)- Orissa State Centre, ISEE Young Scientist Award 2005, etc.

Notable contributions of Dr. Ghosh include development of methodologies for integrated assessment of recommended agricultural water management technologies from multi-layer multi stakeholders’ perspectives, formulation of impact assessment framework for participatory irrigation management (PIM) reforms, evaluation of an irrigation system from the farmers’ perspectives following fuzzy logic, construction of water user group dynamics index, assessment of irrigation-agriculture-livelihood-poverty links in eastern Indian states, mapping of vulnerability on the basis of livelihood sensitivity, resilience and adaptation of farm households to climate change through climate smart agriculture, studies on various issues of agricultural extension management, communication, diversified farming and rural livelihoods.

Dr. Ghosh coordinated many National level trainers’ trainings sponsored by Ministry of Water Resources and Ministry of Agriculture, Government of India for states’ line departments, irrigation departments, NGOs officials of different states as well as 10 farmers’ trainings each of seven days duration on scaling-up of water productivity at different locations in which more than thousand farmers were trained. He delivered more than hundred invited lectures in farmers’ and trainers’ training programmes. His presence as invited/guest speakers in different forums and events organized by ICAR institutes, Central and State Agricultural Universities, Central and State Government organizations as well as international organizations show his recognition as an expert in the discipline of Agricultural Extension. He has also been involved in many other assignments like external expert in selection committees, editors in editorial committees of professional society’s journals, reviewer in the national and international journals, etc. He has made significant contributions for advancing the cause of Agricultural Extension Education and Research.

12. Educational Qualifications (Commencing with first degree level):

Degree	Name of the university/ institution	Year	Marks (%) /Grade	Division	Distinction (if any)
Ph.D. (Agricultural Extension)	Indian Agricultural Research Institute (IARI), New Delhi	2000	OGPA 3.98/4.00	First	Significant Post-Graduate Research of IARI 2000-01
M.Sc. (Dairying) Dairy Extension Education	National Dairy Research Institute (NDRI), Karnal	1997	82.0% (OGPA 8.2/10)	First in First Class	Gold Medalist
B.Sc. (Agril.) Hons.	Visva-Bharati, Santiniketan	1995	77.4%	First in First Class	Gold Medalist

13. Professional / Employment:

Designation	Institute/ Organization	Period
Director (Honorary)	Agro-Economic Research Centre (MoA&FW), Visva Bharati, Santiniketan	27-05-2025 till date
Professor (Agricultural Extension)	Deptt. of Agril. Extension, <i>Palli Siksha Bhavan</i> (Institute of Agriculture), Visva-Bharati University, Sriniketan	04-11-2019 till date
Head of the Department and Professor	Deptt. of Agril. Extension, <i>Palli Siksha Bhavan</i> (Institute of Agriculture), Visva-Bharati University, Sriniketan	04-11-2016 to 03-11-2019
Professor (Agricultural Extension)	Deptt. of Agril. Extension, <i>Palli Siksha Bhavan</i> (Institute of Agriculture), Visva-Bharati University, Sriniketan	01-11-2016 to 03-11-2019
Visiting Scientist	Department of Economics, College of Agriculture and Biological Sciences, South Dakota State University, Brookings, SD, USA.	01-09-2016 to 31-10-2016
Professor (Agricultural Extension)	Deptt. of Agril. Extension, Agril. Economics and Agril. Statistics, <i>Palli Siksha Bhavan</i> (Institute of Agriculture), Visva-Bharati University, Sriniketan	27-6-2013 to 30-9-2016
Senior Scientist (Agricultural Extension)	Indian Institute of Water Management (formerly Directorate of Water Management), Bhubaneswar	10-7-2009 to 26-6-2013
Scientist-SS (Agricultural Extension)	Directorate of Water Management (formerly Water Technology Centre for Eastern Region), Bhubaneswar	10-7-2004 to 9-7-2009
Scientist (Agricultural Extension)	Water Technology Centre for Eastern Region (ICAR), Bhubaneswar	10-7-2000 to 9-7-2004

14. Fellowships:

Fellowships	<ul style="list-style-type: none"> □ Senior Research Fellowship during Ph.D. at IARI, New Delhi (1997-2000) □ Junior Research Fellowship during M.Sc. at NDRI, Karnal (1995-1997) □ University Merit Scholarship during B.Sc. (Ag.) Hons. at Visva-Bharati, Santiniketan, West Bengal (1991-1995)
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15. Awards / Recognitions:

Awards	<p><i>National / Professional Societies / Institutional Award:</i></p> <ul style="list-style-type: none"> ▪ Fellow of the National Academy of Agricultural Sciences (NAAS), New Dehi with effect from 1st January 2025. ▪ Fellow of the West Bengal Academy of Science and Technology (WAST), Kolkata with effect from 1st January 2025. ▪ Visiting Scientist at Department of Economics, College of Agriculture and Biological Sciences, South Dakota State University, Brookings, SD, USA (September 1 to October 31, 2016). ▪ <i>Indira Gandhi Rajbhasha Puraskar</i> (First Prize) of Ministry of Home Affairs, Govt. of India conferred by His Excellency President of India, Shri Pranab Mukherjee at Vigyan Bhavan, New Delhi on 14th September 2012. ▪ Lal Bahadur Shastri Outstanding Young Scientist Award 2011 of Indian Council of Agricultural Research (ICAR), Ministry of Agriculture, Government of India conferred by Hon'ble Union Minister of Agriculture and Food Processing Industries Sh. Sharad Pawar and Hon'ble Minister of State for Agriculture and Food Processing Industries Sh. Harish Rawat at National Agricultural Science Complex, Indian Council of Agricultural Research, New Delhi on 16th July 2012. ▪ ICAR Team Research Award for the Biennium 2003-2004 received in the year 2006. ▪ Dr. O.P. Dahama Memorial Award 2022-23 in recognition of excellence achieved in teaching, and training conferred by Indian Society of Extension Education, New Delhi. ▪ Prof. Y.P. Singh Memorial Award 2018 in recognition of excellence achieved in teaching, research and extension conferred by Indian Society of Extension Education, ICAR-IARI, New Delhi. ▪ Dr. K.N. Singh Memorial Award in recognition of excellence achieved in extension research during ISEE National Seminar on Doubling Farmers' Income and Farm Production through Skill Development and Technology Application organised by Indian Society of Extension Education, New Delhi and Bihar Agricultural University at Sabour during 28-30 November 2017. ▪ Fellow Award of Indian Society of Extension Education, New Delhi in the year 2007. ▪ MOBILIZATION Fellow Award 2016 of Society for Community Mobilization and Sustainable Development, ICAR-IARI, New Delhi was conferred by Dr. J.P. Sharma, Joint Director (Extension), IARI, New Delhi. ▪ BKJF-INCSW <i>Sookshma Sinchai Puraskar</i> 2018 of Indian National Committee on Irrigation and Drainage (INCSW), Central water Commission, Govt. of India. ▪ Presidential Appreciation Award 2017 of Society for Community Mobilization for Sustainable Development, ICAR-IARI, New Delhi was conferred to Prof. Souvik Ghosh during 8th National Seminar on Potential, Prospects and Strategies for Doubling Farmers' Income: Multi-Stakeholder Convergence organised by Society for Community Mobilization for Sustainable Development, New Delhi in Collaboration with Assam Agricultural University and ICAR-ATARI, Guwahati at Guwahati during 9-11 November 2017. ▪ Young Scientist Award of Society of Extension Education, Agra in the year 2011.
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	<ul style="list-style-type: none"> ▪ Young Scientist Award of Indian Society of Extension Education, New Delhi in the year 2005. ▪ Professional Recognition Award 2023 for significant contribution in Agricultural Extension and Communication during International Extension Education Conference by Department of Extension Education, Institute of Agricultural Sciences, Banaras Hindu University, Varanasi during 27-30 January 2023 ▪ DWM Proficiency Award 2008 received on 12th May 2010 for significant contribution in research and extension works in institute. ▪ Institution Award of The Institution of Engineers (India), Orissa State Centre given during 47th Annual Conference on 22nd January 2006 for the paper "Integrated water resources development and management in post-cyclone situation". ▪ Best Young Scientist Award jointly by Bidhan Chandra Krishi Viswa Vidyalaya and Visva-Bharati being First in the contest of award for the presentation of paper "Development oriented performance appraisal system: A tool for favourable organizational climate and job satisfaction of extension personnel" during the <i>National Conference on Research and Development in Farm Sector with a Human Face</i> (Feb. 4-7, 2002) at Mohanpur, Nadia, West Bengal. ▪ Best Paper Presentation Award in 8th National Seminar on Potential, Prospects and Strategies for Doubling Farmers' Income: Multi-Stakeholder Convergence organised by Society for Community Mobilization for Sustainable Development, New Delhi in Collaboration with Assam Agricultural University and ICAR-ATARI, Guwahati at Guwahati during 9-11 November 2017 was given to Prof. Souvik Ghosh for the paper on "How Participatory Irrigation Management (PIM) Reform Influence Crop Production Scenario in India: A Spatio-Temporal Panel Data Analysis". ▪ Best Paper Presentation Award in National Seminar on Doubling Farmers' Income and Farm Production through Skill Development and Technology Application organised by Indian Society of Extension Education, New Delhi and Bihar Agricultural University at Sabour during 28-30 November 2017 was given to Prof. Souvik Ghosh for the paper on "Resilience of Agriculture to Reducing Vulnerability to Climate Change: Key to Increasing Farmers Income and Farm Production". ▪ Best Paper Presentation Award in International Conference on "Climate Change and Bio-diversity" held at ICAR-CIARI, Port Blair during 8-10 December 2016 was given to Prof. Souvik Ghosh for the paper on "Resilience of Agriculture in Changing Climate Scenario in West Bengal".
Recognitions	<p><i>Recognition through academic excellence:</i></p> <ul style="list-style-type: none"> ▪ Topper in Agricultural Research Service Examination (1998) of ASRB (ICAR), in the discipline of Agricultural Extension. ▪ Qualified ICAR National Eligibility Test (NET) twice in the year 1997 and 1998, respectively, in the discipline of Agricultural Extension. <p><i>Recognition through contribution in different bodies / committee outside parent institute:</i></p> <ul style="list-style-type: none"> ▪ Member of the Advisory Committee constituted by Secretary, DARE and DG, ICAR to screen and evaluate research projects proposals of

	<p>Agricultural Extension division under Corpus Fund of ICAR for a period of three years from August 2024.</p> <ul style="list-style-type: none"> ▪ External Expert Member of Board of Studies, Division of Agriculture and Rural Development, Ramakrishna Mission Vivekananda Educational and Research Institute, Narendrapur, South 24 Parganas, West Bengal (2023 onwards) ▪ External Expert Member of Board of Studies, Department of Extension Education, Banaras Hindu University, Varanasi (2021-2023) ▪ Vice Chancellors Nominee Member in Institute Board, Siksha Bhavana (Institute of Science), Visva-Bharati (2018-2020, 2025 onwards) ▪ Zonal Editor (Eastern Zone), Indian Journal of Extension Education, Indian Society of Extension Education, New Delhi ▪ Member of the Editorial Board, Journal of Community Mobilization and Sustainable Development, Deptt. of Agril. Extension, IARI, New Delhi (April 2012 to till date) ▪ Member of the Editorial Board, Amity Journal of Agri-Business Management, New Delhi (April 2013 to till date) ▪ Member of the Editorial Board, Journal of the Indian Society of Coastal Agricultural Research, Indian Society of Coastal Agricultural Research, CSSRI Regional Research Station, Canning Town, West Bengal, India (September 2008 to 2013; 2016-till date). ▪ Associate Editor, Indian Research Journal of Extension Education, Society of Extension Education, Agra, UP, India (May 2009 to June 2014). ▪ Expert Member in the Interview Panel for the Selection of Experts at CAD-PIM Directorate, Deptt. of Water Resources, Govt. of Orissa (21 April 2008). ▪ Invited as Expert in Social Assessment workshop and Pani Panchayat Act Review workshop organized by Department of Water Resources, Govt. of Orissa (21 July 2007). ▪ Member, Selection Committee for the Selection of Technical Assistants at National Research Centre for Women in Agriculture (ICAR), Bhubaneswar (17 February 2007). <p>Recognition through contribution in different bodies / committee of the parent institute:</p> <ul style="list-style-type: none"> ▪ Chief Vigilance Officer, Visva-Bharati from 2021–2024. ▪ Member of Internal Quality Assessment Cell (IQAC), Visva-Bharati from 2017–till date ▪ Member, Standing Committee for Adjudication of Thesis, Visva-Bharati from April 2018–till date ▪ Training Cell (2008 - 2013); Nodal Officer for XI Plan Scheme on 'Scaling-up of water productivity in agriculture for livelihood through teaching-cum-demonstration, training of trainers and farmers' being implemented at DWM, Bhubaneswar. Associate Scientist in Coordination Unit and Training Cell for 32 centres of this scheme. ▪ In-Charge, Training and Exhibition, ICAR-DWM (2010 – 2013) ▪ Publication Committee, ICAR-WTCER (2000-2006), ICAR-DWM (2009-2012) ▪ Technical Cell / PMEUE, ICAR-WTCER (2006-2009), ICAR-DWM (2009-2012)
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- Seminar / Conference committee, ICAR-WTCER (2006-2009), ICAR-DWM (2009-2011)
- Library Management Committee, ICAR-WTCER (2003-2005)

Recognition through invited speaker / reviewer:

- Invited presentation on 'Research in Extension- Yesterday, Today and Tomorrow' as one of the Panelists in National Workshop on Agricultural Extension in India: Time to Change held at National Institute of Agricultural Extension Management (MANAGE), Hyderabad during 14-16 February 2018.
- Invited presentation on 'Advanced Quantitative Techniques for Extension Research: An Overview' as one of the Panelists in First International Congress 2018 on New Horizons of Extension: Challenges and Opportunities held at ICAR-Central Institute of Women in Agriculture (ICAR-CIWA), Bhubaneswar during 1-3 February 2018.
- Presented an invited talk on 'Participatory Irrigation Management: Some Successful Cases of Participatory Extension' in Centre for Advanced Faculty Training, Division of Agricultural Extension, ICAR-Indian Agricultural Research Institute (ICAR-IARI), New Delhi on 16 January 2018.
- Invited by Director, NAARM, Hyderabad for presenting paper on "Innovations in public-sector led agricultural extension" during NAARM-IFPRI Workshop on 20-21 August 2010 at NAARM, Hyderabad.
- Invited by Director, IGNOU, New Delhi for writing of units under Ph.D. Programme in Agricultural Extension (March 2008).
- Invited to present a talk on 'Soil-health – translating science into practice with stakeholders' participation' at 95th Session of the Indian Science Congress held at Vishakhapatnam on 6 January 2008.
- Reviewer, Indian Journal of Soil conservation, Indian Association of Soil and Water Conservationists, CSWCR&TI (ICAR), Dehradun (during 2007).

Recognition through international assignments:

- Reviewer, International Journal of Water Resources Development (Routledge, Taylor and Francis Pub., Netherlands), during 2020-21.
- Reviewer, Hydrological Science Journal of Water Resources Development (Taylor and Francis Pub., Netherlands), during 2020-21
- Reviewer, Agricultural Water Management (Elsevier Pub.), during 2015-18.
- Reviewer, Journal of Agricultural Education and Extension (Routledge, Taylor and Francis Pub., Netherlands), during 2012-13.
- Reviewer, Water Policy (International Water Association Pub., USA), during 2012.
- Reviewer, *Irrigation and Drainage* (Wiley-Blackwell), during 2011-12.
- Selected for Deputation to undergo training on 'Rural Development' organized by the Egyptian International Centre for Agriculture (EICA) Giza from 10th July 2009 to 17th September 2009 with entire deputation expenses under Afro-Asian Rural Development Fellowship.
- Reviewer, Journal of Agricultural Education and Extension (formerly known as European Journal of Agricultural Education and Extension), Wageningen University, The Netherlands (during 2007).

	<ul style="list-style-type: none"> ▪ External Expert for Reviewing / Evaluation of Research Project (SWE-2002-108), Swedish Development Research – Assessment of Applications, Swedish International Development Cooperation Agency (SIDA), Stockholm (during 2005). ▪ Selected as Speaker during the XV International Congress of Anthropological and Ethnological Sciences, Florence, 5-12 July 2003.
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16. Relevant Experience/Training Undergone:

- ❖ Undergone Field Experience Training during B.Sc. (Agril.) Hons. at Visva Bharati, Santiniketan (1991-95).
- ❖ One month Livestock Production Management Training during M.Sc. at NDRI, Karnal (1995-97)
- ❖ Four months Foundation Course for Agricultural Research Service (FOCARS) Training (1st Dec, 2000 to 30th March, 2001) at NAARM, Hyderabad
- ❖ National level Training Programme on Participatory Irrigation Management (Feb. 27-March 5, 2002), sponsored by WAPCOS, New Delhi, held at Bhubaneswar, Orissa.
- ❖ Management development Programme of MANAGE and IMAGE (May 20-24, 2002).
- ❖ Participated in Orissa State Consultation on Food Security, Bhubaneswar (15-16 May 2002)
- ❖ Undergone ICAR sponsored Winter School on *"Recent advances on participatory extension methodologies for agricultural and rural development"* organised by Directorate of Extension, B.C.K.V. Kalyani (2-31 December 2002)
- ❖ Undergone Refresher Course on *"Watershed management technology for drought mitigation"* organized by Water Technology Centre for Eastern Region from 16th September to 7th October 2004
- ❖ Participated in workshop on "Process guidelines for the watershed program in Orissa" during 27-30 October 2005 organized by Orissa Watershed Development Mission, Bhubaneswar
- ❖ National level Training Programme on Command area development with special emphasis on bio-drainage (Jan. 29-Feb. 4, 2007), sponsored by CADWM, MoWR, New Delhi, held at WTCER, Bhubaneswar, Orissa.
- ❖ ICAR sponsored Winter School on *"Management options for waterlogged/excess water situation"* organised by WTCER, Bhubaneswar, Orissa (7 - 27 January 2009)
- ❖ Training programme on *"Data analysis using SAS"* of the NAIP consortium 'Strengthening Statistical Computing for NARS' funded by NAIP, Directorate of Water Management (ICAR), Bhubaneswar (22-27 November 2010)
- ❖ Training on Advanced Methodologies in Agricultural Extension Research jointly organised by IFPRI and ICAR-Agricultural Extension Division at New Delhi during 21-25 September 2015.

17. Research Accomplishments:

Thesis	
M.Sc.	Appropriateness of Recommended Dairy Husbandry Technologies among the Farmers of Birbhum district in West Bengal (<i>Duration 1995-1997</i>)
Ph.D.	Designing of Development Oriented Performance Appraisal System for the Extension Personnel (<i>Duration 1997-2000</i>)

Research Projects

Institute Funded Projects / In-House Projects	Assessment of recommended agricultural water management technologies as Perceived by Personnel of Research-Extension-Farmers System <i>(worked as PI; WTCER/01/61, Duration May 2001- April 2004; Budget Rs. 5.46 lakhs)</i>
	Water user group dynamics and formulation of strategy for mobilization of effective self-help group in participatory irrigation management (PIM) <i>(worked as PI; WTCER/02/83, Duration May 2002- April 2005; Budget Rs. 7.45 lakhs)</i>
	Study on institutional arrangements and linkage mechanisms for agricultural water management in Orissa <i>(worked as PI; WTCER/04/97, Duration Nov. 2004 - March 2007; Budget Rs. 5.84 lakhs)</i>
	Irrigation, agriculture, livelihood and poverty linkages in eastern region of India <i>(worked as PI; WTCER/07/123, Duration April 2007-March 2010; Budget Rs. 7.63 lakhs)</i>
	Sustainability of water user associations (WUAs) and effect of participatory irrigation management (PIM) on agriculture and system performance <i>(worked as PI; DWM/10/145, Duration April 2010 - March 2013; Budget Rs. 27.45 lakhs)</i>
	On-farm evaluation and dissemination of water management technologies <i>(worked as Co-PI; WTCER/00/60, Duration 2000-2003; Budget Rs. 5.70 lakhs)</i>
	Enhancing water use efficiency in canal command <i>(worked as Co-PI; WTCER/00/48, Duration 2001-2006; Budget Rs. 53.10 lakhs)</i>
	On-farm evaluation and dissemination of water management technologies <i>(worked as Co-PI; WTCER/03/85; Duration 2003-2007; Budget Rs. 29.37 lakhs)</i>
	Impact assessment of water resource development in coastal ecosystem affected by super cyclone <i>(worked as Co-PI; WTCER/04/100, Duration 2005-2009; Budget Rs. 11.04 lakhs)</i>
	Performance enhancement of rehabilitated minor irrigation system through secondary storage, efficient delivery and multiple use management <i>(worked as Co-PI; WTCER/05/104, Duration 2005-2009; Budget Rs. 22.55 lakhs)</i>
	Enhancing water productivity in rice based cropping in canal commands of eastern India <i>(worked as Co-PI; WTCER/06/115, Duration Nov. 2006 - Oct.2010; Budget Rs. 44.10 lakhs)</i>
	Investigation on economic and institutional issues of common property resource management with special emphasis on water resources under different natural resource development regime <i>(worked as Co-PI; WTCER/06/114, Duration Nov. 2006- Oct. 2009; Budget Rs. 9.50 lakhs)</i>
	Problems and prospects of aquaculture development in watersheds <i>(worked as Co-PI; WTCER/06/122, Duration April 2007- March 09; Budget Rs. 5.79 lakhs)</i>
	Social Science repository and digitization for eastern region of India <i>(worked as Co-PI; WTCER/07/130, Duration 2008-10; Budget Rs. 6.87 lakhs)</i>
	Crop management interventions and contingency crop planning for post-flood management in Orissa <i>(worked as Co-PI; WTCER/09/142, Duration 2009-12; Budget Rs. 15.98 lakhs)</i>

	<p>Extreme climatic effects on major cropping systems of Orissa (worked as Co-PI; WTCER/12/155, Duration 2002-14; Budget Rs. 16.10 lakhs)</p>
Externally Funded/ Sponsored Projects	<p>National Agricultural Technology Project (NATP) on Management of coastal agro-eco system affected by super cyclone in Orissa (worked as Co-PI; Duration 2001-04; Budget Rs. 14.89 lakhs)</p>
	<p>UNEP-NCAP-WTCER project on Developing decision-making tools for assessment of vulnerability to climate change in India (worked as a Member of National Study Team of the project; Duration 2003-04; Budget US \$ 1.74 lakhs)</p>
	<p>Fitting in and evaluation of bio-drainage species in different agro-ecological situations of deltaic region of Orissa (worked as Co-PI; Duration 2004-09, Sponsored by INCID, Ministry of Water Resources, GOI; Budget Rs. 30.00 lakhs)</p>
	<p>ICAR Ad-hoc (Cess Fund) project on Feasibility and sustainability of micro level water resource development through tank cum well system in high rainfall areas and its impact on productivity and livelihood opportunities (worked as Co-PI; Duration 2005-09; Budget Rs. 28.40 lakhs)</p>
	<p>Improving water productivity under canal irrigation command through conservation and recycling off runoff, seepage, rainwater and groundwater using tanks and wells (worked as Co-PI; Duration 2010-13, Sponsored by INCID, Ministry of Water Resources, GOI; Budget Rs. 45.49 lakhs)</p>
	<p>XI Plan scheme 'Scaling-up of water productivity in agriculture through for livelihoods through teaching-cum-demonstration, training of trainers and farmers' is being implemented by NRM Division of ICAR in 32 SAUs/ICAR institutes; DWM is nodal centre for coordination and monitoring of the scheme. (worked as Associate Scientist; Duration 2007-12; Sponsored by ICAR, New Delhi, Budget Rs. 108 lakhs)</p>
	<p>Extramural Research Project on "Vulnerability to Climate Change in Eastern India: Livelihood Sensitivity, Adaptation and Institutional Analyses in the Context of Extension Interventions" (Worked as PI, Duration 2015-2017, Sponsored by ICAR, New Delhi, Budget Rs. 11.40 lakh)</p>
	<p>Challenge Research Project on "Socio-Economic, Institutional and Gender Issues Influencing Spatiotemporal Variations and Sustainability of Participatory Irrigation Management Reforms in India" (Worked as PI, Duration December 2015 to November 2018, Sponsored by ICAR, New Delhi, Budget Rs. 35 lakh)</p>
	<p>Enhancing food and nutritional security and improved livelihoods through intensification of rice-fallow system with pulse crops in South Asia (Bangladesh, India and Nepal) (Working as Co-PI, Duration April 2017 to March 2020, Sponsored by IFAD-ICARDA, New Delhi, Budget Rs. 60 lakh).</p>
	<p>Developing Simulation Model of Technology Diffusion (TechSIM), Adoption & Impact for Forecasting using Techno-Socio-Psycho-Economic-Ecological Factors (NASF/SS-10028/2024-25) (Working as PI, Duration August 2024 to July 2027, Sponsored by ICAR-NASF, New Delhi, Budget Rs. 12.55 lakh)</p>

Consultancy Projects	A comprehensive water resources development plan for Komand Gram Panchayat of Odagaon block in Nayagarh district of Orissa (worked as Co-PI; Duration 2001-02, Sponsored by TIFAC, DST, GOI; Budget Rs. 1.00 lakhs)
	Planning for water resource development by water harvesting and enhancing recharge of ground water and their efficient and optimum utilization in Dengai Pahad Watershed in catchment area of Chilka Lagoon (worked as Co-PI, Duration: 2003-05, Sponsored by Chilika Development Authority (CDA), Budget Rs. 6.04 lakhs)
	Strengthening participatory processes in watershed development (worked as Co-PI; Duration 2004-05, Sponsored by Indo-Canadian Environment Fund through WASSAN-Orissa Watershed Development Mission; Budget Rs. 0.50 lakhs)
	Hydrological and agricultural impact assessment of turned over MI Projects in Orissa; Socio-economic and institutional impact assessment study of turned over MI Projects in Orissa (worked as Co-PI; Duration 2004-05, Sponsored by PMU, European Commission aided MIP in Orissa, Govt. of Orissa; Budget Rs. 4.98 lakhs)
	National Projects for Repair, Renovation and Restoration of Water Bodies directly linked to Agriculture in Orissa and West Bengal (worked as Co-PI; Duration 2007-10, Sponsored by Ministry of Water Resources, Govt. of India; Budget Rs. 28.8 lakhs)
	Evaluation of watershed projects under DPAP / DDP / IWDP in Orissa (worked as Co-PI; Duration 2009-11, Sponsored by Dept. of Land Resources, Ministry of Rural Development, Govt. of India; Budget Rs. 4.4 lakhs)
5 In-house/Institutional projects and 2 Sponsored Projects as PI, 10 In-house projects as Co-PI, 7 Sponsored projects as Co-PI and 6 Consultancy projects as Co-PI were completed till date. One sponsored project (ICAR-NASF) is continuing.	

18. Teaching Accomplishments:

Teaching following Courses:

UG Courses Taught

- Fundamentals of Agricultural Extension Education (2+1): 2017 to 2019
- Extension Methodologies for Transfer of Agricultural Technology (1+1): 2014 to 2018
- Entrepreneurship Development and Communication Skills (1+1): 2014 to 2018
- Entrepreneurship Development and Business Communication (1+1): 2019 to 2023
- Emerging Trends in Agricultural Extension (2+1): 2019 to 2023
- Coordinated Rural Agricultural Work Experience Programme (RAWEP) (0+20): 2014 to 2016
- Module under Rural Agricultural Work Experience Programme: Extension Programmes (4): 2019-21

PG Courses Taught

- Genesis and Evolution of Extension Concept (1+0): 2013 to 2019
- Entrepreneurship Development and Management in Extension (1+1): 2014 to 2022
- Group Dynamics and Leadership (2+1): 2014 to 2022
- Research Methodology in Extension (2+1): 2022 onwards
- Managing Extension Organizations (2+1): 2023 onwards

Ph.D. Courses Taught

- Research Methodology and Techniques (4+0): 2014 onwards
- Advances in Extension Education (4+0): 2014 to 2023
- Policy Analysis in Extension (2+1): 2024 onwards

Guiding M.Sc. Scholars' Research (Thesis): 21 completed till date; 03 continuing

Effectiveness of self-help groups (SHGs) in improving livelihood and empowerment of rural poor in Chhattisgarh
(Name of the Scholar: Banshi Lal Sahu, Duration: 2013-15, Registration No.: VB-1597 of 2013-14).

Impact of Crop Diversification on Farming and Livelihood of Farmers in West Bengal
(Name of the Scholar: Debkumar Kisku, Duration: 2014-16, Registration No.: VB-878 of 2014-15).

Agriculture Related Information Needs of the Farmers and Effectiveness of Communication Sources:
An Empirical Study in Bihar
(Name of the Scholar: Aditya Karan, Duration: 2015-17, Registration No.: VB-1732 of 2015-16).

Evaluation of Surface and Groundwater Irrigation Service Utility from the Perspective of Farmers in West Bengal
(Name of the Scholar: Golam Torab Ali, Duration: 2015-17, Registration No.: VB-1093 of 2015-16).

Assessment of Cropping Scenario and Irrigation Management under Different Groundwater Market Regimes in West Bengal
(Name of the Scholar: Mamoni Besra, Duration: 2015-17, Registration No.: VB-1099 of 2015-16).

Vulnerability to Climate Change in Odisha: Livelihood Sensitivity and Adaptation of the Farmers
(Name of the Scholar: Usha Das, Duration: 2016-18, Registration No.: VB-1009 of 2016-17).

Awareness and Use of Digitized Communication Sources in Farm Sector: An Analysis of Farmers' Information and Communication Network in Bihar
(Name of the Scholar: Kumari Madhuri, Duration: 2016-18, Registration No.: VB-1299 of 2016-17).

Women Empowerment through Entrepreneurship Development in Bihar
(Name of the Scholar: Qurie Kumari, Duration: 2017-19, Registration No.: VB-1803 of 2017-18).

Impact of Participatory Irrigation Management (PIM) in Minor Irrigation Command Areas of West Bengal
(Name of the Scholar: Subhajit Mukherjee, Duration: 2017-19, Registration No.: VB-1809 of 2017-18).

Impact of Watershed Management on Rural livelihood in Dhenkanal District of Odisha
(Name of the Scholar: Shreya Pati, Duration: 2018-20, Registration No.: VB-1478 of 2018-19).

Adoption of Sugarcane Cultivation Technologies in West Champaran District of Bihar
(Name of the Scholar: Tripti Vijay, Duration: 2018-20, Registration No.: VB-1437 of 2018-19).

Assessment of Rural Livelihoods in Cooch Behar District of West Bengal during COVID-19
(Name of the Scholar: Suman Roy, Duration: 2019-21, Registration No.: VB-1894 of 2019-20).

Prospects and Problems of Pineapple Cultivation in Tripura
(Name of the Scholar: Priyanka Roy, Duration: 2019-21, Registration No.: VB-1437 of 2019-20).

Adaptation and Coping Strategies of the Farmers in Flood-Prone Areas of Bihar (Name of the Scholar: Pappu Kumar Yadav, Duration: 2020-22, Registration No.: VB-2975 of 2020-21).

Prospects and Problems of SRI in Odisha (Name of the Scholar: Soumya Ranjan Behera, Duration: 2020-22, Registration No.: VB-3885 of 2020-21).

Land Characterization and Its Effects on Farming and Farm Livelihoods in West Bengal (Name of the Scholar: Subrata Chatterjee, Duration: 2021-23, Registration No.: VB-2916 of 2021-22).

Agricultural diversification in flood prone region in Bihar (Name of the Scholar: Prabhat Kumar, Duration: 2021-23, Registration No.: VB-1232 of 2021-22).

Rural Entrepreneurship through Secondary Agriculture: An Empirical Study in Assam (Name of the Scholar: Mayuraxi Mukharjee, Duration: 2022-24, Registration No.: VB-0692 of 2022-23).

Effect of Attracting and Retaining Youth in Agriculture (ARYA) Programme on Rural Entrepreneurship in Odisha (Name of the Scholar: Priya Ranjan Mohanty, Duration: 2022-24, Registration No.: VB-0693 of 2022-23).

Ecosystem Services from Rice Based Cropping System: An Exploration and Evaluation (Name of the Scholar: Darshan Dutta, Duration: 2023-25, Registration No.: VB-2121 of 2016-17).

Performance Appraisal of Pani Panchayat in Odisha (Name of the Scholar: Omm Satyam Mishra, Duration: 2023-25, Registration No.: VB-1955 of 2023-24).

Guiding Ph.D. Scholars' Research (Thesis): 08 Completed till date; 07 continuing

Adoption of True Potato Seed (TPS) as Planting Technique in Tripura: Levels and Dynamics (Name of the Scholar: Binoy Tripura, Duration: 2015-2019, Registration No.: VB-1591 of 2015-16).

Assessment of Potentials and Constraints of Large Cardamom (*Amomum subulatum*) in Sikkim (Name of the Scholar: Smriti Subba, Duration: 2015-2020, Registration No.: VB-1599 of 2013-14).

Diverse Needs of Farmers from Agricultural Extension System in Changing Agricultural Scenario in Maharashtra (Name of the Scholar: Awatade S. Chandrakant, Duration: 2015-2021, Registration No.: VB-1601 of 2013-14).

Assessment of Diversified Farming Systems in Northern Region of West Bengal (Name of the Scholar: Aditya Lama, Duration: 2016-2021, Registration No.: VB-1596 of 2013-2014).

Impact of Integrated Fish Farming Systems (IFFS) on Resource Use Efficiency and Farmers Livelihood (Name of the Scholar: Haobijam J. Watt, Duration: 2016-2021, Registration No.: VB-2010 of 2016-17).

Impact of Self Help Group (SHG) on Livelihood and Empowerment of Rural People in Meghalaya (Name of the Scholar: Pynphriang Bareh, Duration: 2015-2021, Registration No.: VB-1595 of 2015-16).

Influence of Participative Management Behaviour on Organisational Effectiveness: Perception of Agriculture Officers in Banking Sector in West Bengal (Name of the Scholar: Arijit Roy, Duration: 2017-2023, Registration No.: VB-830 of 2011-12).

Performance and Sustainability of Farmer Producer Organisations (FPOs): An Empirical Study (Name of the Scholar: Shreya Anand, Duration: 2021-2024, Registration No.: VB-0122 of 2020-21).

19. Extension, Communication and Training Accomplishments:

- **Popularization of technologies through Demonstration/On-Farm trial:**

Recommended water management technologies popularized in multiple locations in Khurda, Puri, Cuttack, Jagatsinghpur, Nayagarh, Ganjam and Keonjhar districts of Orissa under different in-house and external projects.

- **Organization of Kisan Melas, Exhibitions:**

32 times organized at various occasions and places.

- **Radio Talks / TV shows:**

- E-TV Oriya showed Farmers-Scientists Meet on "Crop diversification on rainfed upland situation" at OFR project site, Khuntuni, Cuttack district of Orissa on 3rd February 2006.
- A film "DWM: A Profile" prepared in three languages (English, Hindi and Oriya) for fast dissemination of technologies generated by the institute.
- Expert Interaction in Kisan Vani Programme of All India Radio on "*Bharatiya Arthanitite Krishir Gurutta*" (Importance of Agriculture in Indian Economy) on 15th August 2024
- Expert Interaction in Kisan Vani Programme of All India Radio on "Digital Krishi" (Digital Agriculture) on 23rd December 2024 (as a part of National Farmers Day Programme of MoA&FW, GOI)

- **Organisation of training:**

- Coordinated 9 Farmers' trainings of seven days duration each on the theme scaling-up of water productivity in agriculture at 9 different locations in Jagatsinghpur, Bhadrak, Nayagarh and Cuttack districts in which more than 500 farmers were trained.
- Coordinated 6 National level trainers' trainings sponsored by MoWR and DoA, GOI for State line departments and NGO officials and 1 ICAR sponsored Summer School.
- Associated in organizing 12 trainings for farmers and development officials.

- **Lecture in training programmes of farmers and trainers:**

72 and 45 lectures in farmers' and trainers' training programmes, respectively.

- **Technology assessment and refinement through participatory extension and evaluation studies:**

- Associated in the on-farm technology development, assessment and refinement for efficient use of canal water through raised and sunken bed technique in lowlands.
- Associated with comprehensive participatory water resources development, assessment and management in coastal waterlogged agro-ecosystem.
- Associated with on-farm development, assessment and refinement of technology for performance enhancement of minor irrigation system through secondary storage and multiple use management.
- Assessment of institutional arrangements to address vulnerability to climate induced natural disasters was done under UNEP-NCAP-WTCER study on 'Developing decision making tools for assessment of vulnerability to climate change' and reported.
- Impact study of rehabilitation and irrigation management transfer under minor irrigation systems in Orissa was accomplished during 2005-06.
- Prepared report on 'Natural resources management strategies to ensure food security for Agro-Climatic Zone XI' and submitted to NRM Division, ICAR, New Delhi (2005-06).
- Prepared report on 'Planning for water management interventions in eastern India states under National Rural Employment Guarantee Programme (NREGP)' that is submitted to ICAR, New Delhi (2006-07).

- Evaluation of “National projects for repair, renovation and restoration of water bodies directly linked to agriculture in Orissa and West Bengal carried out and reports submitted to Ministry of Water Resources, GOI (2007-10).
- Report submitted on ‘Evaluation of watershed projects under DPAP / DDP / IWDP in Anugul and Jharsuguda districts of Orissa’ to Dept. of Land Resources, Ministry of Rural Development, Govt. of India (2010-11).

20. Concept / Methodology / Process / Technology / Database Developed:

Concept

- ✦ An integrated assessment of recommended water management technologies from multi-layer multi stakeholders’ perspectives was conceptualized and carried out involving researchers, extension personnel and farmers (*Ghosh et al., 2005, J. Agril. Edun. and Extn., Taylor and Francis, 11(1-4): 17-29*).
- ✦ A conceptual model is established and that indicates different factors influencing adoption dynamics of technological interventions in the field of agricultural water management (*Ghosh et al., 2005, Research Bulletin No. 26, WTCER (ICAR), Bhubaneswar, pp 34*).
- ✦ An alternative approach for the evaluation of an irrigation system considering irrigation as a service to farmers is conceptualized and implemented, which avoids the need of quantitative data on water delivery for the evaluation of irrigation system and emphasizes utility of irrigation service from the farmers’ perspectives (*Ghosh et al., 2005, Water Resources Management, Springer, 19: 467-482*).
- ✦ Spatio-temporal variations and links between irrigation and agricultural development established through district level analyses (*Ghosh et al., 2017, Irrigation and Drainage, Wiley, 66: 784-796*).
- ✦ The evaluation of sustainability of water user associations (WUAs) and effect of participatory irrigation management (PIM) on agriculture and system performance over space and time has been conceptualized (*Ghosh et al., 2019, Agricultural Water Management, Elsevier, 222: 48-61*).
- ✦ Associate Developer of Model “Strengthening Export Potential of Farmer Producer Organizations (FPOs) through One District One Product (ODOP): A Conceptual Model” certified by Agricultural Extension Division of ICAR on 16th July 2024

Methodology

- ✦ Feasibility and Appropriateness indices are prepared to work out viability of recommended water management technologies from perspectives of researchers, extension personnel and farmers. Index includes nine indicators each of which is measured on a 5-point continuum scale (*Ghosh et al., 2006, Indian J. Extn. Edun, 42 (1 & 2): 1-7*).
- ✦ Farmers’ Participation Index (FPI) formulated to study the impact of participatory approach of water resource management in coastal waterlogged area through micro-level users group (pump user group, tank user group, tube-well user group) (*Ghosh et al., 2007, International J. of Tropic. Agric. 25 (1-2): 111-120*).
- ✦ Group Dynamics Effectiveness Index (GDEI) is formulated that measures group effectiveness of different water user groups identifying different dimensions and their relative importance. The index includes 10 indicators each of which is measured on a 5-point continuum scale. GDEI developed through item analyses following Likert’s method of Summated Rating Technique of Scale Construction and indexing the items with respect to respective weightage delineated through scale product method (*Ghosh et al., 2010, Irrigation and Drainage, Wiley, 59: 559-574*).

- ✦ Irrigation Development Index (IDI), Groundwater Development Index (GWDI), Irrigation Coverage Index (ICI), Composite Irrigation Index (CII), Agricultural Development Index (ADI), Poverty Ration Index (PRI), and Level of Living Index (LLI) are formulated for assessment of district wise scenario of irrigation, agriculture, livelihood and poverty in eastern India states (**Ghosh et al., 2012, *Agricultural Economics Research Review*, 25 (1): 99-105; Ghosh et al., 2014, *Irrigation and Drainage*, Wiley, 63: 573-583).**
- ✦ The methodology devised for monitoring and evaluation of the turned over irrigation systems and impact assessment of participatory irrigation management (PIM) and irrigation management transfer (IMT) (**Mishra et al., 2011, *Irrigation and Drainage*, Wiley, 60: 42-56; Mishra et al., 2009, *DWM Research Bulletin* 45).**
- ✦ Resilience of Agriculture to climate change studied through several index developed for the study and district wise scenario built up through GIS mapping technique (**Das and Ghosh, 2019, *Theoretical & Applied Climatology*, Springer, 139: 1513-1529).**
- ✦ Methodology of mapping of vulnerability on the basis of climate knowledge, livelihood sensitivity, resilience and adaptation of farm households to climate change (**Das and Ghosh, 2020, *Natural Hazards*, Springer, 102: 1419-1434).**

Process

- ✦ Developed 'Development oriented performance appraisal system for the extension personnel' through analyses of performance appraisal climate and job satisfaction of extension personnel (**Ghosh et al., 2003, *European J. Agril. Edun. and Extn*, 9 (1): 1-9; Vijayaragavan and Ghosh, 2006 In: *International teamwork in agricultural and extension education*, John R. (Ed.), *Association for International Agricultural and Extension Education*, Florida. Vreyns, Vol XXII: 669-678).**
- ✦ Process for mobilization of water user group is developed for three distinct phases viz. group formation, group stabilization and self-helping phase in which eight main steps and 45 sub-steps are identified and suggested (**Ghosh et al., 2006, *Research Bulletin No. 31, WTCER (ICAR), Bhubaneswar*, pp 35).**
- ✦ A process for the analysis of institutional arrangements and linkage mechanisms for agricultural water management developed and applied for analyses in the state of Orissa (**Ghosh et al., 2008, *Res. Bulletin No. 41, WTCER (ICAR), Bhubaneswar*, pp 42).** It includes both theoretical and analytical frameworks. Theoretical framework explains irrigation institutional evolution and change (**Ghosh et al., 2010, *J. of the Indian Society of Coastal Agric. Res.*, 28 (1): 23-31).** Analytical framework involves irrigation institutional environment and institutional structure (**Ghosh et al., 2010, *Indian Res. J. of Extn. Edun.*, 10 (2): 48-54).**
- ✦ Process for assessing impact of technological intervention / innovation on farming and livelihood of farmers developed that studies comparative position of physical, social, financial, human and natural assets of the farmers before and after adoption of the intervention / innovation (**Ghosh et al., 2011, *Indian Journal of Extension Education*, 44 (1 & 2): 7-13; Ghosh et al., 2011, *Research Bulletin No. 31, DWM (ICAR)*, pp 56).**

Participatory Technology Developed

- ✦ Associated with comprehensive participatory water resources development (sub-surface water harvesting structure, micro tubewell) and management in coastal agro-eco system of Orissa (**Sahoo et al., 2004, *Research Bulletin No. 20, WTCER, Bhubaneswar*, pp 20; Ghosh et al., 2007, *International J. of Tropic. Agric.* 25 (1-2): 111-120).**
- ✦ Associated with development of secondary storage reservoir and multiple use management technology for performance enhancement of minor irrigation system. Participatory creation, utilization and maintenance of secondary reservoir in the outlet command of minor irrigation project implemented in Devijhar minor irrigation project's

command area in Ganjam district of Orissa (*Mishra et al., 2010, Research Bulletin No. 49, DWM (ICAR), Bhubaneswar, pp 38*).

- ✦ Associated in the on-farm technology development for efficient use of canal water through raised and sunken bed technique in lowlands for which ICAR Outstanding Team Research Award received in the year 2006 (*Singh et al., 2005, Research Bulletin No. 28, WTCER, Bhubaneswar, pp 42; Ghosh et al., 2008, Indian Journal of Extension Education, 44 (1 & 2): 7-13*).
- ✦ Improving water productivity under canal irrigation command through conservation and recycling off runoff, seepage, rainwater and groundwater using tanks and wells has been field tested at nine locations in participation of nine WUAs under Kuanria Medium Irrigation Project in Daspalla block of Nayagarh district in Odisha (*Mishra et al., 2013, Agricultural Water Management, Elsevier, 128: 32-45*).
- ✦ Associate Developer of Technology “Innovative Water Resources Development for Livelihood Improvement of Smallholder Farmers” certified by Natural Resource Management Division of ICAR on 16th July 2024.

Database Developed

- ✦ A computerized database was developed on “Irrigation, agriculture, level of living and poverty scenario in the 119 districts of five eastern Indian states (Orissa, West Bengal, Chhattisgarh, Jharkhand and Bihar)” using MS Access as backend database software. This database comprises with 25 database tables containing detail district-wise information on irrigation, agriculture, poverty and level of living which provide secure data update and data query facility (*Ghosh et al., 2012, DWM Research Bulletin, pp 43*).

21. Publications:

Particular	Research Paper in Refereed Journal		Technical Paper / Popular Article in Journal / Periodical	Book, Research Bulletin, Training Manual, Chapter (in Book and Training Manual)	Technical Extension Brochure / Folder	Paper in Conference, Seminar, Workshop, Symposium, etc.	
	Foreign	National				Inter-national	National
Full-length Paper	29	109	57	10+17+10+(22+28) = 87	13	14	11
Extended Summary / Abstract of Paper	-	-	-	-	-	15	42
Total	29	109	57	87	13	29	53
A total of 320 publications including 138 research papers [35 papers in the journals with rating score of NAAS >6.0 (IF>1.0)], 57 technical papers/popular articles, 10 books, 17 research/extension bulletins, 10 training manuals, 22 book chapters, 28 chapters in training manuals, 13 technical/extension folders/brochures and 25 full-length papers in proceedings of international and national conferences, seminars, etc.							

22. Membership of Professional Societies:

- Life Member, Indian Society of Extension Education, Division of Agricultural Extension, IARI, New Delhi (since 29.03.1999).
- Life Member (MSEE/0173/2000), Asian Society of Extension Education (formerly Maharashtra Society of Extension Education) (since 16.08.2000).
- Life Member (LM/282/09), Indian Society of Coastal Agricultural Research, CSSRI Regional Research Station, Canning Town, West Bengal (since 20.04.2009).

- Life Member (LM 374), Society of Extension Education, Agra, Uttar Pradesh, India (since 02.05.2009).
- Life Member (LM 688), Society for Community Mobilization for Sustainable Development, IARI, New Delhi (since 17.07.2012).
- Life Member (LM 750), Agricultural Economics Research Association, Division of Agricultural Economics, IARI, New Delhi (since 27.02.2014).
- Life Member, International Society of Extension Education, College of agriculture, MPKV, Nagpur

23. Academic Identity:

Vidwan ID: 44849

<https://vidwan.inflibnet.ac.in/profile/44849>

Google Scholar ID: GXmhtqMAAAAJ&hl

<https://scholar.google.com/citations?user=GXmhtqMAAAAJ&hl=en>

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Scopus ID: 55478985000

<https://www.scopus.com/authid/detail.uri?authorId=55478985000>

Web of Science Researcher ID: AAU-3758-2020

<https://publons.com/researcher/AAU-3758-2020/>

Research Gate: <https://www.researchgate.net/profile/Souvik-Ghosh-17>

Certificate:

It is to certify that the information furnished above is true to the best of my knowledge

Place: Visva-Bharati, Santiniketan

Dated: 27th August 2025



(Souvik Ghosh)