


Profile of Dr M. MURUGANANDAM

	Name: Dr M. MURUGANANDAM
	Designation: Principal Scientist (Fisheries & Aquaculture)
	Date of Birth: 19.12.1970
	Area of Specialization: Cross-cutting domain of IWM, SWC and NRM; Fisheries and aquaculture production, Integrated-Farming-Systems (IFS), Fish and livestock-based micro-enterprises and production; Livestock and poultry development; Aquatic Ecology, River and riparian zone restoration, Biodiversity conservation; Impact-analysis of land-use-land-cover-change, soil-water-conservation-structures and traditional fishing practices on water resources, water quality and aquatic ecosystems; PRA and agriculture extension management, Agro-ecosystems analysis; Assessment of Traditional Ecological Knowledge & ITK; Genotoxicity studies; Environmental Awareness, Public speaking, Program management, Community outreach, mobilization, and development.
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Education

Degree	Year of Passing	University/Institution
Post-Doctoral (Natural Resource Management)	2018	South Dakota State University, Brookings, SD 57007, USA
Ph.D. Zoology (Fisheries, Watershed Management)	2012	H.N.B. Garhwal (Central) University, Srinagar, Uttarakhand, India.
M.Sc. (Mariculture)	1993	Central Marine Fisheries Research Institute, (ICAR-CMFRI); Cochin Uni. of Science And Tech., (CUSAT), Kochi, Kerala, India.
B.Sc. (Zoology)	1991	Ayya Nadar Janaki Ammal College (Autonomous), Sivakasi; Madurai Kamaraj University, Madurai, Tamilnadu, India.

Professional History

Position	Year	Organization
Principal Scientist (Fisheries)	27.07.2015 to present	ICAR- Indian Institute of Soil & Water Conservation, Dehradun
Fulbright Visiting Scientist	18.08.2016 to 19.02.2018	USGS Cooperative Fish and Wildlife Research Unit, Dept of Natural Resource Management, South Dakota State University, Brookings, SD, USA.
Sr Scientist (Fisheries)	27.07.2012 to 26.07.2015	ICAR- Indian Institute of Soil & Water Conservation, Dehradun
Scientist (SG; Fisheries)	15.7.2007 to 26.7.2012	ICAR- Indian Institute of Soil & Water Conservation, Dehradun
Scientist (Sr. Scale; Fisheries)	15.07.2002 to 14.07.2007	ICAR-Central Soil and Water Conservation Research and Training Institute (CSWCRTI), Dehra Dun, India.
Scientist	15.07.1996 to 14.07.2002	ICAR-Central Soil and Water Conservation

(Fisheries)		Research and Training Institute (CSWCRTI), Dehra Dun, India.
Farm Manager	06.07.1994 to 10.07.1996	Mammon Marines (P) Ltd., Balaramgudi Fishing Base, Balasore, Orissa -756057, India.
Biologist	16.04.1993 to 05.07.1994	Manas Prawn Farms (P) Ltd., Silda Via, Balasore, Orissa, India.

Publications and Engagements (Summary)

S. No.	Publications and Engagements	Number
1	Research Publications	
	National	14
	International	02
2	Books	
	Authored	01
	Edited	05
3	Book Chapters	16
4	Lead Papers	07
5	Technical/Research Reports/ Compilation / Bulletins	36
6	Extension Folders/Leaflets	08
7	Symposia/Workshop/Seminar Papers	75
8	Training Manuals	02
9	Training Manual Chapters	19
10	Workshop Proceedings	05
11	E-Publications	05
12	Technology/Concept Posters	15
13	Brochures Prepared	04
14	Popular Articles and Advisories	10
15	Video	01
16	Press Notes and Outreach/Online Proceedings	152
17	Professional Trainings Attended	28
18	No. of Training Organized	05
	Short Duration Sponsored Training (Trained : 200)	30
	Soil Conservation Regular Training Course: (5 ½ or 4 Months Duration) (Trained: 800)	40
	B.Tech Students Field Practical Training (No Students: 500)	04
	Seminars/Symposia/Workshops/Summer or Winter School/ Organized	40
19	Guest Lectures and Keynote Addresses Delivered	47
20	External Projects Handled	07

Most Important 5 Publications

Bankey Bihari, Madan Singh, Trisha Roy, Lakhan Singh, Suresh Kumar, Lekh Chand, D M Kadam, S S Shrimali, U K Maurya, **M Muruganandam**, S K Sharma, Rakesh Kumar and Anil Malik. (2019). Impact of Scientist-Farmer Interface in Rainfed Agro-

ecosystem of North West Himalayan region: A Case of Farmer FIRST Project in Doon Valley". The Indian Journal of Agricultural Sciences, 90 (3):650-658.
<https://qrqo.page.link/2xAVG>

Muruganandam M, RK Pande, VN Sharda, PK Mishra and A Raizada. (2014). Myths, perceptions and knowledge of farmers on basics of fishes and fish farming in western Himalayas: A review of realities. Indian Journal of Traditional Knowledge, 13(1):70-84.
<https://qrqo.page.link/CDPwb>

Muruganandam M, Dhyani BL, Bankey B, Suresh Kumar, Charan Singh, Mandal D, Ambrish Kumar and Rakesh Kumar. (2013). Impact Assessment of Extension Approaches for Livestock Healthcare Management in Indian Himalayas. Mountain Research and Development, 32 (2): 132-141. <https://qrqo.page.link/RsQTc>
<https://qrqo.page.link/7avYU>

Muruganandam M., P K Mishra and G P Juyal. (2013). Fisheries *vis-a-vis* watershed management: A plea for inclusive development in Indian Himalayas. P 13.
<https://qrqo.page.link/9QFNM>

Muruganandam M. (2010). An occurrence of epizootic ulcerative syndrome (EUS) in Northwestern foothill Himalayas. Journal of Inland Fisheries Society of India, 42(2): 57-59.

Google Scholar Link

<https://scholar.google.com/citations?user=BK15idoAAAAJ&hl=en>

ResearchGate Link

http://www.researchgate.net/profile/Muruganandam_Muthiah/

Other Personal/Professional Links

<linkedin.com/in/muruganandam-muthiah-00007826>

<flickr.com/photos/192973878@N05/albums> <flickr.com/photos/193065673@N05/albums>

<http://www.facebook.com/muruganandam.muthiah>

Awards/Fellowships/Recognitions

S. No.	Name of the Award/ Fellowship/ Recognition	Awarding Organization	Year of Award
1.	OLAF International and Indigenous Membership Award	American Fisheries Society, USA	2022
2.	Honour as Chief Guest of Engineers Day Celebrations	KPR Institute of Engineering and Technology and Institution of Engineers, Coimbatore	2021
3.	Honor as Guest speaker on "Water and Agriculture"	Wednesdays for Water (Consortia team of TISS, WICCI, Environmental Design Consultants Ahmedabad, TERI, FluxGen Counterview)	2021
4.	Best Scientist Award, 2020	Society of Fisheries and Life Sciences, College of Fisheries, Mangaluru, Karnataka	2021
5.	Review Editor	Pantnagar Journal of Research for Aquatic Environment Management (AEM) http://www.gbpuat.res.in/review_editor	2020
6.	Member, Editorial Board	eScientific International Open Library, 8 The Green, STE 4000 Dover, DE 19901, USA	2020

		www.shorturl.at/dtIL3	
7.	Member, Editorial Advisory Board	ACTA SCIENTIFIC Agriculture (ISSN: 2581-365X), an online journal www.shorturl.at/ityGL	2019
8.	Certificate of Appreciation	The organizers of the workshop-cum-symposium on traditional and modern animal taxonomy and IPR issues for biodiversity protection and conservation organized by the Dolphin (PG) Institute, Dehradun	2019
9.	Guest of Honour	At the International Conference on Contemporary Issues of Climate Change, Conservation of Biodiversity and Natural Resources in Himalayan Environments, The Government PG College, New Tehri, Uttarakhand	2019
10.	Guest Faculty	The National Center for Good Governance (NCGG), GoI, Mussoorie to train IAS and civil service officials of India and countries in bilateral relations	2019
11.	Expert Member of the Committee	The Uttarakhand Biodiversity Board, Dehradun (for developing conservation plans for aquatic biodiversity in the Rainfed Rivers of Uttarakhand) https://qrqo.page.link/j3Nfm	2019
12.	Best Scientist of the Decade	The Group of Global Excellence Recognition Awards, Meerut, Uttar Pradesh, India.	2019
13.	Fulbright-Nehru Alumni Award with Rs. 1 Lakh Grant	The US-India Education Foundation (USIEF), New Delhi	2019
14.	Best Scientist Award and Medal	The Society of Life Sciences, Santa, MP	2018
15.	Honorary Fellowship Award	The Society of Life Sciences, Santa, MP	2018
16.	Dr KK Tyagi Gold Medal	Indian Academy of Environmental Sciences Haridwar	2018
17.	Outreach Lecturing Fund (OLF, Travel Grant)	Institute of International Education (IIE)/Council for International Exchange of Scholars (CIES), Washington DC	2018
18.	Fulbright Renewal Grant	The US-India Education Foundation (USIEF), New Delhi	2017
19.	Travel Grant	The University of Idaho, Boise, Idaho	2017
20.	Fulbright-Nehru Postdoctoral Fellowship	The US-India Education Foundation (USIEF), New Delhi	2016
21.	Best Paper Award at the Conference, 24 th Mar. 2014, Dehradun.	Farmers First for Conserving Soil and Water Resources in Northern Region (FFCSWR-2014; IASWC)	2014
22.	Judge to evaluate the science models and exhibits	KV, ONGC, Dehradun	2015
23.	Felicitation for “Save Himalaya”	Hindustan Times (A group of National Newspapers)	2014
24.	International travel grant training to	ICAR-National Agricultural Innovation Program’s (ICAR-NAIP’s)	2014

	Auburn University, Alabama, USA		
25.	Certificate of felicitation	The OMICS group of publishers, USA.	2013
26.	Appreciation shield	The IASWC, Dehra Dun	2012
27.	A letter of performance appreciation	The ICAR, New Delhi	2010
28.	Merit Certificate in Soil Science	Central Soil and Water Conservation Research and Training Institute, Dehradun	1998
29.	Merit Certificate in Study Tour	Central Soil and Water Conservation Research and Training Institute, Dehradun	1998
30.	Junior Research Fellowship (JRF)	Indian Council of Agricultural Research (ICAR), New Delhi	1991

Research Projects as PI (Concluded)

1. Impact assessment of Land Use Land Cover Changes (LULC C) on wetlands and water quality in Upper US Mid-West States (Fulbright Project)
2. Evaluation of Criteria and Techniques for Prioritization and Assessment of Fisheries Sensitive Watersheds (FSW)
3. Farmers Participatory Action Research Program (FPARP) for multiple use of water and more crops per drop (Externally funded, Min. of Water Resources, GoI)
4. Evaluation of fish based integrated farming systems (IFS) in foothills and mid-Himalayas Development and evaluation of Integrated Farming System (IFS) in mid-Himalayas
5. Evaluation of mahseer (*Tor spp.*) fishery potential and its farming feasibility for conservation in Himalayan region (Externally funded; ICAR-NATP, World Bank)
6. Ethnobiological studies and impact evaluation on Indigenous Technical Knowledge (ITK) associated with fishery resources, fish harvesting, fish poisons and community based fishing festivals in mid-Himalayas
7. Impact of land-use pattern on water quality *vis-à-vis* fish production
8. Observational Trial on Aquaculture in Water Harvesting Structures (WHS)
9. Pilot Study on Evaluation of Problems and Prospects of Aquaculture Potential in North Western Himalayas for Integrated Watershed Management

Other Important Responsibility

1. Officer-in-Charge, Research Prioritization, Monitoring and Evaluation Cell, IISWC
2. Vigilance Officer, ICAR-IISWC
3. Member, Internal Complaint Committee, ICAR-IISWC
4. In-charge, Fisheries Section and Aquatic Wet-labs and Systems, ICAR-IISWC

Professional Experience, Skills Acquired and Activities Involved

- Gained skills on Remote Sensing, ArcGIS and geospatial analysis.
- First time formatting of **Watershed-based fisheries and aquaculture research and training** under integrated Natural Resource Management (NRM). Had 18 research/demonstration grants.
- Prioritization or **Fisheries Sensitive Watersheds (FSW)** for management of LULC C, agriculture, fisheries production and climate resilient fisheries and livestock technologies.
- Development of **aquaculture and Integrated Farming Systems (IFS)** including closed/semi-closed recycling systems for catfish and carps culture and shrimp farming.

- **Soil, water quality and biomass management** practices for scientific shrimp and carp farming.
- Survey, **conservation and utilization of aquatic biodiversity**-benthos, plankton and fishes.
- Aquatic **health management and stream stabilization** through bio-engineering measures.
- Fisheries and livestock based micro-enterprises and healthcare technologies.
- **Participatory Rural Appraisal (PRA) and participation methods**; appraisal of agro-ecosystems, ethno-biological and traditional knowledge.
- Evaluation of effective **aquaculture and livestock extension methods** and approaches
- **Genotoxicity assays and genetic engineering** techniques.

Domain of Works/Areas of Interest: Cross-cutting domain of IWM, SWC and NRM; Fisheries and aquaculture production, Integrated-Farming-Systems (IFS), Fish and livestock-based micro-enterprises and production; Livestock and poultry development; Aquatic Ecology, River and riparian zone restoration, Biodiversity conservation; Impact-analysis of land-use-land-cover-change, soil-water-conservation-structures and traditional fishing practices on water resources, water quality and aquatic ecosystems; PRA and agriculture extension management, Agro-ecosystems analysis; Assessment of Traditional Ecological Knowledge & ITK; Genotoxicity studies; Environmental Awareness, Public speaking, Program management, Community outreach, mobilization, and development.

Computer and Analytical Skills: Working knowledge in Microsoft office (word processing, Excel skill, etc.), Limited statistical analytical knowledge and interpretation skills, ArcGIS and Geo-spatial analysis.

Technology/Concepts Developed/Refined and Demonstrated:

1. Composite carp culture with refined farming calendar and techniques.
2. Water-mill and fish based Integrated Farming System (IFS) suitable for western Himalayas.
3. Paddy-fish integrated farming system for north-western Himalayas.
4. Transport techniques of fish seeds and live fishes *to and fro* watershed ponds.
5. Design and construction techniques of water harvesting structures for fish farming.
6. Management and control techniques of EUS in watershed ponds.
7. Watershed-Based Fisheries Development (WBFD).
8. Livestock based micro-enterprises for watershed development in western Himalayas.

Editorial, Advisory and Academic Services Rendered

- Review Editor of Pantnagar Journal of Research for Aquatic Environment Management (AEM), Editorial Board Member, eScientific International Open Library and Editorial Advisory Board Member, ACTA SCIENTIFIC Agriculture (ISSN: 2581-365X).
- **Reviewer**-Journal of Environmental Biology, Lucknow, Indian Journal of Soil Conservation, Dehradun, Indian Journal of Traditional Knowledge, N Delhi and Indian Journal of Fisheries, Kochi.
- **Reviewer**-For funding agencies, Department of Science and Technology (DST) and National Bank for Agriculture and Rural Development (NABARD), India.
- **Reviewer and Examiner**-For evaluation of PhD./MSc thesis from Indian Institute of Technology (IIT), Kharagpur, GB Pant University of Agri. and Tech., Pantnagar, and Madurai Kamamraj University, Madurai, and Bharathidasan University, Trichy, India.
- **Member**-Committee for assessment of climate impacts, contingency planning and popularization, IISWC.
- **Mentor**-Partly guided 10 new scientists and 5 M.Sc. and 3 Ph.D. students of local Institutions.