FACULTY PROFILE FORMAT

1.	Full Name	:	LALA ISWARI PRASAD RAY
2.	Designation	:	Professor
3.	Department / School	:	School of Natural Resource Management
4.	Official Email id	:	lalaipray@rediffmail.com
5.	Profile Photo: (high-resolution passport size photo) (jpeg)		
6.	Areas of Specialization	:	Soil and Water Conservation Engineering
7.	Research Interests	:	✓ Irrigation and on farm hill water management ✓ Soil and Water Conservation Engineering ✓ Hill Agriculture
8.	Highest Educational Qualifications:		PhD

Degree	Subject	University
PhD	Integrated Agri-Aquaculture	Indian Institute of Technology, Kharagpur, West Bengal

9.	Professional Experience	:

Position	Organization	Duration
Professor (Soil and Water Engineering)	College of Postgraduate Studies in Agricultural Sciences (Central Agricultural University-Imphal), Umiam, Meghalaya	19th July 2009 to till date

10.	Research Projects	:

Title	**Funding Agency**	**Budget**	**Duration**	**Status**
Responsibility: As Principal Investigator				
Contingency Crop Planning based on three decadal weather data	Central Agricultural University, Imphal, Manipur- 795004	1.21 Lakh	2010-11	Completed

	Techno-Economic Feasibility of Gravity fed drip irrigation system for hilly region of Meghalaya	Department of Science and Technology **(Water Technology Initiative)**, New Delhi	28.56 Lakh	2013-2017	Completed
	Assessment of Soil and Nutrient Losses in Maize-Potato based Cropping System	Central Agricultural University, Imphal, Manipur- 795004	1.5 lakh	2015-16	Completed
	Assessment of Water Poverty Index (WPI) for safe and equitable access of water in Meghalaya	Department of Science and Technology **(Water Technology Initiative)**, New Delhi	51.45 Lakhs	2021-2026	Ongoing
	Responsibility: As Co-Principal Investigator				
	Spice based rural economy and livelihood under climate change in Himalyan region of India: Economics of Adaptation measures	Indian Council of Social Science Research (ICSSR), New Delhi	20.00 Lakh	2019-2021	Completed
	Effect of fertigation through drip on the yield of vegetables and soil acidity under poly-house in high rainfall areas	Central Agricultural University, Imphal, Manipur- 795004	1.24 Lakhs	2010-2011	Completed
	Derived Crop coefficient for enhancing crop productivity of important crops of Meghalaya	Department of Science and Technology, New Delhi	58.0 Lakh	2012-2015	Completed
	Development and Deployment of Mobile based Agro-Advisory System in North East India (**M4AgriNEI**) (www.m4agrinei.in)	Media Lab Asia, 7th Floor, Devika Towers,6, Nehru Palace, New Delhi-110019	1.83 Core	2013-2016	Completed
	Climate Change impacts on Hill Agriculture: A Socio- Economic Analysis	Indian Council of Social Science Research (ICSSR), New Delhi	20. 0 Lakh	2013-2015	Completed
	Cost of Cultivation of ten major crops in Meghalaya	Directorate of Economics and Statistics, Govt. of Meghalaya	8.0 Lakh	2015-16	Completed
	Assessment of livelihood and income of System of Rice Intensification (SRI) farmers in Tripura	Indian Council of Social Science Research (ICSSR), New Delhi	9.00 Lakh	2014-2016)	Completed
	Assessment of heavy metals in soils of coal mining areas of Jaintia hill and its influence on crops	Central Agricultural University, Imphal, Manipur- 795004	1.5 Lakh	2015-2016)	Completed

11.	Selected Publications	:	

Book

1. Singh, R.K. and **Ray, L.I.P.** 2018. Soil and Water Engineering at a Glance. Agrobios Publishers, Agro House, Behind Nasrani Cinema Chopasani Road, Jodhpur-342 003 Jodhpur, Rajasthan, India. 140 pages (**ISBN No. 978-81-934673-2-9**).
2. **Ray, L.I.P.** 2011. Water Budgeting with Harvestable Rooftop Rainwater. Lambert Academic Publication, Germany, **ISBN No. 978-3-8454-7543-1**. 63 pages.

Edited Book

1. Goyal, M.R. and **Ray, L.I.P.** 2022. Fertigation technologies in micro-irrigation requirements, efficiency, and crop performance. (**Series:** Vol-10: Innovations and Challenges in Micro Irrigation). Academic Press, CRC press-a Taylor and Francis group. 342 pages. [**ISBN No. 978-1-77188-943-8(hbk); 978-1-77463-789-0(pbk); 978-1-00308-413-6(ebk)]**

Review Article (International)

1. **Ray, L.I.P**., Swetha, K., Singh, A.K., and Singh, N.J. 2023a. Water Productivity of Major Pulses- A review. Agricultural Water Management (281):108249. (ISSN: 0378-3774). doi.org/10.1016/j.agwat.2023.108249.

2. **Ray, L.I.P**., Jyothi, K.S., Singh A.K., Bharati, V. and Pandey, P.K. 2023b**.** Strategies for Water Productivity Enhancement in Maize- a Comprehensive Review. Irrigation and Drainage:1-16. doi:10.1002/ird.2879. (ISSN: 1531-0353)

International Journals

1. Srivastava, R.C., Mohanty, S., Singandhuppe, R.B., Mohanty, R.K., Behera, M.S., **Ray, L.I.P** and Sahoo, D. (2010). Feasibility evaluation of pressurized irrigation in canal commands. *Water Resources Management* 24(12): 3017-3032. DOI 10.1007/s11269-010-9592.**(ISSN:0920-4741)**
2. **Ray, L.I.P**., Mal, B.C. and Moulick, S. 2017. Nutrient Modeling for a Semi- Intensive IMC Pond. *Water Science and Technology*, (IWA Publication) 76(10):2857-2866. doi: **10.2166/wst.2017.458 (ISSN:0273-1223)**
3. Feroze, S.M., **Ray, L.I.P**., Singh, K.J. and Singh, R. 2019. Pastoral yak rearing system is changing with change in climate: An exploration of North Sikkim in Eastern Himalaya. *Climatic Change*, 157 (3-4):483-498. doi.org/10.1007/s10584-019-02551-1 **(ISSN: 0165-0009)**
4. Momin, T.G., **Ray, L.I.P**., Singh, A.K., Swami, S., Singh, N.J., Kurkalang, S.M. and Singh, T.D. 2024. Agro-economic evaluation of sweet corn under varied dates of sowing and integrated nutrient regimes in mid altitude of Meghalaya. *Agricultural Mechanization in Asia (AMA)*, 55 (01):16969-16986. **(ISSN: 0084-5841)**

National Journals

1. **Ray L.I.P.** 2025. Conservation of *in-situ* soil moisture through non-woven geo-jute mulches: A case study under North Eastern Hilly Region of India. *Journal of Soil and Water Conservation India*, 24 (4): 344-351. (DOI: 10.5958/2455-7145.2025.00041.0) (ISSN:0022-457X)
2. Das, D.J., **Ray, L.I.P**. 2025. Crop water production functions for potato (*Solanum tuberosum*) in North Eastern Hilly Region of Meghalaya, India. *Journal of Agricultural Engineering (ISAE)*, 62(1): 1-11. https://doi.org/10.52151/jae2025621.1905 (ISSN:0256-6524)
3. Mishra, G.P., **Ray, L.I.P**., Singh, A.K., Singh, N.J., Rani, P.M.N. and Mishra, A. 2025. Influence of deficit irrigation to French bean (*Phaseolus vulgaris*) cultivars under North Eastern Region of India. *e-planet*, 23 (1): 55-68. (ISSN:0974-4398/2008)
4. Mishra, G.P., **Ray, L.I.P**. 2025. Development of water production function for french bean (*Phaseolus vulgaris* L.) for efficient water management under North Eastern Hilly region of India. *Journal of Soil and Water Conservation India*, 24(01):84-92. (ISSN:0022-457X)
5. **Ray, L.I.P**., Behera, L.K., Dash, B. and Singh, B. 2024**.** Potential benefits of forest litter biomass in agriculture. *The Indian Forester*, 150 (9): 840-846. (ISSN: 0019-4816) doi: 10. 36808 /if/2024/v150i9/170528.
6. Emilia, **Ray, L.I.P**., Mishra, G.P. and Das, J. 2024. Bio-mulching for conservation of *in-situ* soil moisture under mid hills of Meghalaya. *Journal of Soil and Water Conservation, India*, 23(3): 240-249. doi: 10.5958/2455-7145.2024.00029.2. (ISSN:0022-457X)
7. Mawthaoh, J.M. Mishra, G.P. and **Ray, L.I.P**. 2023. Maximizing potato yield and water use efficiency: stage based irrigation scheduling with organic inputs in North Eastern India. *Indian Journal of Soil Conservation*, 51(3):228-235. doi: 10.59797/ijsc.v51.i3.139 **(ISSN: 0970-3349)**
8. **Ray, L.I.P**., Mal, B.C. and Panigrahi, P.K. 2020. Estimation of cost of pumping from a mini tubewell for agricultural usages. *e-planet* 18 (2): 181-184. **(ISSN: 0974-4398)**
9. Tahashildar. M., Bora, P.K., **Ray, L.I.P**. and Ram, V. 2017. Crop-coefficients of tomato as derived using monolithic weighing type lysimeter in mid hill region of Meghalaya. *Mausam* 68, 4: 723-732. **(ISSN: 0252-9416)**
10. Srivastava, R.C., Mohanty, S., Singhandhupe, R.B., A.K. Biswal, **Ray, L.I.P**. and D. Sahoo. 2006. Studies on canal water based pressurized irrigation system in a minor irrigation command. *Journal of Agricultural Engineering* 43(4):28-35.

12.	Courses Taught	:	

UG Level

a. Soil and Water Conservation Engineering (Ag.Engg-352: 1+1)
b. Renewable Energy sources (NF-316: 1+1)
c. Water Management (WM-242: 2+1)
d. Environmental Studies and Disaster Management (ESDM-342: 2+1)
e. RAWE-Agricultural Engineering (RAWE-(Ag.Engg.-472: 0+2)

PG Level

i. Advanced soil and water conservation engineering (SWCE-501: 2+1)
ii. Principles and Practices of Water Management (AGRON-504: 2+1)
iii. Hill Water Management (SWE--516: 2+1)

PhD Level

a. Design of Farm irrigation system (SWE-502: 1+1)

13. Student Guidance (No only) .:

M.Sc. Guided		Ph.D. Guided:	
As major Advisor	Completed = 16 Ongoing = 02	As major Advisor	Completed = 01 Ongoing = 01
As Research Committee Members	Completed = 37 Ongoing = 04	As Research Committee Members	Completed = 12 Ongoing = 05

14. Workshops / Training/ Conferences Organized :

❖ Organizing Secretary for the 5 days Farmers, training programme under "Pandeet Deen Dayal Upadhyay Unnat Krishi Siksha Yojana" (Sponsored By: ICAR, New Delhi) during March, 27-31st, 2018; at College of Postgraduate Studies, Umiam, Meghalaya-793103; 30 numbers of trainees participated.

15. Google Scholar / ORCID / ResearchGate / Scopus ID :

Google Scholar Profile	:	https://scholar.google.com/citations?hl=en&tzom=-330&user =OaZmEdc AAAAJ
Research Gate Profile	:	https://www.researchgate.net/profile/Lala-Ip-Ray
ORCID ID	:	0000-0001-9456-8526
Scopus ID	:	https://www.scopus.com/authid/detail.uri?authorId=55885081900

i. **Best Oral paper presentation-2021 awarded (1st Prize)** by Soil Conservation Society of India (SCSI), New Delhi during Second Asian Web Conference on Managing Hill Resources and Diversities for Zero Hunger and Climate Resilience held during **12-13th February 2021** for oral presentation of a research paper entitled **"**Guava performance under gravity-fed drip in mid hills of Meghalaya". **Ray, L.I.P.**, Bora, P.K., Singh, A.K. Singh, R. and Singh, N.J.

i. **"Commendation Medal Award-2020"** conferred by Indian Society of Agricultural Engineers (ISAE), New Delhi. (A Certificate and Momento; National Award)

i. **Best Research paper-2014 awarded as by Indian Association of Hill Farming (IAHF) entitled "**Assessment of Agricultural Vulnerability to Climate Change in Manipur: A district level analysis". Feroze, S.M., Aheibam, M., Singh, R., **Ray, L.I.P.**, Rai, M., Singh, K.J. and Singh, R.J. 2014. *Indian Journal of Hill Farming* 27(1): 22-29.

v. Team Award ***"North East Award-2013***" for using Innovative mix of mobile, web and IVRS applications to deliver personalized advisory to the farmers in Meghalaya under e-Livelihood and Enterprise Category in m4agriNEI- mobile based Agro-Advisory system in North-East India.

v. ***Israel Government Fellowship*** for Higher Sandwich Research Programme at Eilat, Israel (2009).