

# Palash Kumar Kundu

Senior Scientific Officer, Irrigation and Water Management Division  
Bangladesh Rice Research Institute (BRRI), Gazipur 1701, Bangladesh  
+8801723296257 • [kundu22\\_bau@yahoo.com](mailto:kundu22_bau@yahoo.com) • [palash.iwm@brri.gov.bd](mailto:palash.iwm@brri.gov.bd)

: [scholar.google.com/citations?hl=en&user=Kl6SXwcAAAAJ](https://scholar.google.com/citations?hl=en&user=Kl6SXwcAAAAJ)

: [www.researchgate.net/profile/Palash-Kundu-3](https://www.researchgate.net/profile/Palash-Kundu-3)

: [www.linkedin.com/in/palash-kundu-828ab444](https://www.linkedin.com/in/palash-kundu-828ab444)

## Academic Credentials:

Degree	Concentration	Institution	GPA	Year
M.S.	Irrigation and Water Management	Bangladesh Agricultural University	3.386/4.00	2013
B. Sc. Eng.	Agricultural Engineering	Bangladesh Agricultural University	3.602/4.00	2011

## Research Experience:

- Senior Scientific Officer: Irrigation and Water Management Division, Bangladesh Rice Research Institute, Gazipur. 11/04/2023 to now.
- Scientific Officer: Irrigation and Water Management Division, Bangladesh Rice Research Institute, Gazipur. 26/07/2015 to 10/04/2023.
  1. Conjunctive use of wastewater and freshwater for irrigation in boro rice cultivation as Principal Investigator.
  2. Assessing On-farm Water-use Efficiency of BRRI Research Farm, Gazipur as Principal Investigator.
  3. Determination of Physical and Hydraulic Properties of Different Soil Types as Co-Investigator.
  4. Assessment of ionic stress on rice shoot and root due to saline water irrigation as Co-Investigator.
  5. Monitoring Groundwater Level Fluctuation and Safe Utilization of Groundwater in Different Geo-Hydrological Regions as Co-Investigator.
  6. Change in Surface Water Bodies and Its Impact on Groundwater Recharge in Barind Region of Bangladesh as Co-Investigator.
  7. Assessment of Surface and Groundwater Quality for Irrigation in Selected Locations of Bangladesh as Co-Investigator.
  8. Reuse of Domestic Household Water for Crop Production at BRRI Farm, Gazipur as Co-Investigator.
  9. Long-term Missing Element Trial for Diagnosing Limiting Nutrient in BRRI, Barishal Farm as Principal Investigator.
  10. Assessment of suitable water resources availability for irrigation to increase crop production in tidal areas of Barisal region as Co-Investigator.
  11. Maximizing rice yield through the application of balanced fertilizer and organic amendment in tidal flooded soil as Co-Investigator.
  12. Planting time for Boro rice cultivation in saline areas (APSIM model) as Co-Investigator.

13. Water resources assessment for dry season crop cultivation in selected polders of coastal region as Co-Investigator.
14. Use of less saline water resources for increasing cropping intensity as Co-Investigator.

- Research Assistant: Bangladesh Agricultural University, Mymensingh. 2010 to 2013.
  1. Effects of Sugar Mill's Wastewater on Growth and Yield of Wheat- Masters' Thesis Work.
  2. Rainfall-Induced Leaching of Saline Soil- B.Sc. Thesis Work.

**Technical and Computer Skills:**

- Crop Modeling Software: CropWat, AquaCrop, CropStat, DSSAT.
- Statistical Analysis Software: R, Statistix 10.
- GIS software: QGIS Software.

**Publications:**

1. **Kundu, P. K.**, Acharjee, T. K., & Mojid, M. A. (2013). Growth and Yield of Wheat under Irrigation by Sugar Mill's Wastewater. *Progressive Agriculture*, 24(1-2), 211-218.
2. **Kundu, P. K.**, Paul, P. L. C., Hossain, M. B., Roy, D., Mahmud, M. N. H., Yesmin, M. S., & Islam, M. T. (2021). Low-Cost Solar Pump Irrigation System for Irrigated Rice Production. *Bangladesh Rice Journal*, 25(2), 1-10.
3. Hossain, M. B., Maniruzzaman, M., Yesmin, M. S., Mostafizur, A. B. M., **Kundu, P. K.**, Kabir, M. J., ... & Mainuddin, M. (2019). Water and soil salinity dynamics and dry season crop cultivation in coastal region of Bangladesh. *Journal of the Indian Society of Coastal Agricultural Research*, 37(2), 24-31.
4. Paul, P. L. C., Roy, D., Mahmud, M. N. H., Hossain, M. B., Yesmin, M. S., **Kundu, P. K.**, & Islam, M. T. (2021). Rice-based Cropping System Intensification in the Coastal Saline area of Bangladesh: Problems and Prospects. *Bangladesh Rice Journal*, 25(2), 31-43.
5. Elbeltagi, A., F. AlThobiani, M. Kamruzzaman, S. Shaid, D. K. Roy, L. Deb, M. M. Islam, **P. K. Kundu**, and M. M. Rahman. "Estimating the Standardized Precipitation Evapotranspiration Index Using Data-Driven Techniques: A Regional Study of Bangladesh. *Water* 2022, 14, 1764. (2022).
6. Kamruzzaman, M., Almazroui, M., Salam, M.A., Mondol, M.A.H., Rahman, M.M., Deb, L., **Kundu, P.K.**, Zaman, M.A.U. and Islam, A.R.M.T., 2022. Spatiotemporal drought analysis in Bangladesh using the standardized precipitation index (SPI) and standardized precipitation evapotranspiration index (SPEI). *Scientific Reports*, 12(1), p.20694.
7. Hossain, M. B., Roy, D., Mahmud, M. N. H., Paul, P. L. C., Yesmin, M. S., & **Kundu, P. K.** (2021). Early transplanting of rainfed rice minimizes irrigation

- demand by utilizing rainfall. *Environmental Systems Research*, 10(1), 1-11. <https://doi.org/10.1186/s40068-021-00239-z>.
8. Hossain, M., Islam, M., Roy, D., Mahmud, M.N.H., Paul, P.L.C., Yesmin, M., **Kundu, P.K.**, Karim, N.N., Kader, M. and Kabir, M., 2022. Cropping System Intensification: An Approach to Increase Yield, Water Productivity, and Profitability in North-West Bangladesh. *International Journal of Agronomy*.
  9. Faisal, R. H., Saha, C., Hasan, M. H., & **Kundu, P. K.** (2018, December). Power efficient distant controlled smart irrigation system for AMAN and BORO rice. In *2018 21st International Conference of Computer and Information Technology (ICCIT)* (pp. 1-5). IEEE.
  10. Roy, P. K., Ali, M. H., **Kundu, P. K.**, Bari, M. N., & Islam, M. N. (2017). Socioeconomic Status and Soil Crop Management Practices of the Farmers in Bangladesh. *Journal of Scientific Achievements*, 2(4), 28-34.
  11. Maniruzzaman, M., Mainuddin, M., Bell, R., Biswas, J. C., Kabir, M., Hossain, M., ... & **Kundu, P. K.** (2020). Rescheduling of wet season (T. Aman) rice planting for cropping intensification in coastal Bangladesh. *Multidisciplinary Digital Publishing Institute Proceedings*, 36(1), 32.
  12. Hossain, M. B., Roy, D, Maniruzzaman, M., Biswas, J. C., Mahmud, M. N. H., Paul, P. L. C., Yesmin, M. S., **Kundu, P. K.**, and Rim, A. A. 2021. Reference crop evapotranspiration variation in relation to climatic variables under changing climatic situation of Bangladesh. *J. Agric. Inno. Dev.*, 1(1): 13-14
  13. Yesmin, M. S., Hossain, M. B., Roy, D., Mahmud, M. N. H., Paul, P. L. C., **Kundu, P. K.**, & Islam, M. T. (2021). Optimization of Irrigation Water to Maximize Transplanted Aman Rice Production in Selected Areas of Bangladesh. *Bangladesh Rice Journal*, 25(2), 11-20.
  14. Islam, M. T., Hossain, M. B., Roy, D., Mahmud, M. N. H., Paul, P. L. C., Yesmin, M. S., & **Kundu, P. K.** (2021). Behaviour of Groundwater Table with Rainfall in North-West Region of Bangladesh. *Bangladesh Rice Journal*, 25(2), 85-95.
  15. Roy, D., Mahmud, M. N. H., Paul, P. L. C., Hossain, M. B., Yesmin, M. S., **Kundu, P. K.**, ... & Islam, M. T. (2021). Paddy Field Water Movement Through Soil Profiles Under Different Water Management Practices: A HYDRUS 1D Model Study. *Bangladesh Rice Journal*, 25(2), 57-67.
  16. Mahmud, M. N. H., Roy, D., Paul, P. L. C., Hossain, M. B., Yesmin, M. S., **Kundu, P. K.**, & Islam, M. T. (2021). Natural Groundwater Recharge: A Review on the Estimation Methods. *Bangladesh Rice Journal*, 25(2), 45-56.
  17. Hossain, M. B., Roy, D., Mahmud, M. N. H., Paul, P. L. C., Yesmin, M. S., **Kundu, P. K.**, ... & Rim, A. A. (2021). Grain Yield and Water Productivity of Irrigated Rice Affected by Transplanting Dates in Bangladesh. *Bangladesh Rice Journal*, 25(2), 21-30.

***Training:***

1. GIS and Remote Sensing Application to Assess Suitable Surface Water Resources for Crop Production in the Coastal Region (2022)
2. Concept and Practices of Integrated Water Resources Management (2022)
3. Scientific Report Writing (2022)
4. Project Monitoring and Reporting (2022)
5. IOT-based Precision Agriculture for Sustainable Production (2021)
6. Advanced research data management and refresh of scientific report writing (2021)
7. Integrated water resource management in agriculture (2021)
8. Excel Based Data Analysis for Early Career Scientists (2021)
9. Greenhouse Gas Inventory and Monitoring, Reporting and Verification System (AFOLU Sector- Module I) (2020)
10. Adaptive Research in Farming Systems Development (2019)
11. Climate Smart Agriculture (2019)
12. Innovation in Public Service (2018)
13. Use of Farm Machinery and Efficient Irrigation (2018)
14. Introduction to Electromagnetic Induction for Soil Salinity Investigation (2018)
15. Hybrid Rice Development and Seed Production (2017)
16. Modern Rice Production (2017)
17. Programming R for Experimental Design and Data Analysis (2017)
18. Two Month Rice Production Training Course (2015)
19. Data Analysis: MSTATC and SPSS (2012)

***Funded Projects:***

- Core scientist, CSISA-BRRI-IRRI Phase-II Project at BRRI, Regional Station, Barishal. May, 2016-June, 2018.
- Working scientist, Cropping system intensification in the salt-affected coastal zones of Bangladesh and West Bengal, India BRRI Part. July, 2016- June, 2019.
- Co-Investigator, Up-scaling and application of Solar Photovoltaic Pump for smallholder irrigation and household appliances in the Central Coastal Region of Bangladesh. February, 2017- October, 2021.
- Co-Investigator, Up-scaling of Improved Water Management Practices for Sustainable Productivity in the Haor areas. November, 2021- till now.