

**Jagadish Chandra Paul, Ph.D.**  
**Associate Professor,**  
**Department of Soil & Water Conservation Engineering**



### **Education**

- Ph.D. (Agril. Engg.) in Agricultural Engineering, Utkal University, Bhubaneswar, India - 2003
- M. Sc. (Ag. Engg. & Tech) in Soil & Water Conservation Engineering, Orissa University of Agriculture and Technology, Bhubaneswar - 1989
- B.Sc. (Ag. Engg. & Tech.), Orissa University of Agriculture and Technology, Bhubaneswar- 1987

### **Experience**

*Working in OUAT Bhubaneswar since 1990 in different capacities in teaching, research and extension and as Associate Professor, Department of Soil & Water Conservation Engg. since Jan, 2003.*

### **Externally Funded Projects/ schemes**

- Principal Investigator, Evaluation & Improvement of Hydraulic Structures and System Operation in Mahanadi Delta Irrigation Command (Indian Council of Research funded Project Grant of Rs 9.22 lakhs) (Project period 2001-2004)

### **Other important assignments**

- Advisor, Students' Union, College of Agricultural Engineering & Technology, OUAT, Bhubaneswar

### **Courses taught**

- Fluid Mechanics (B. Tech.)
- Minor Irrigation & Command Area Development (B. Tech.)
- Soil & Water Conservation Engineering (B. Tech)
- Fundamentals of Soil & Water Conservation Engineering (B. Sc Ag)
- Groundwater Hydrology (M. Tech.)
- Soil & Water Conservation Engineering (M. Tech.)

***(Please give the courses taught in last 10 years)***

### **Students guided**

Guided one student for Ph.D. and 12 students for M. Tech.

### **Significant research contributions**

- *Performance measure indicators have been developed, that facilitate analysis of irrigation water delivery system of Hydraulic Structures (Canals) in term of adequacy (delivery of required amount), efficiency (conservation of water resources), dependability (uniform delivery over time) and equity of water delivery (delivery of fair amount). These indicators provide a quantitative assessment not only of overall system performance, but also of contributions to performance from*

*the structural and management component of the system. These performance measures can be incorporated in an irrigation system monitoring programme and can provide a frame work for assessing system improvement alternatives. Application of this to a canal system in Mahanadi delta command and subsequent improvement of a minor in this command have been done, which indicate the usefulness of these measure in system evaluation. These applications will help to enhance the productivity, water-use-efficiency and decrease the water logging and salinity problem in the canal command areas of Odisha.*

- *Ground water investigation, land and water management plans were prepared using remote sensing and GIS technique of different watersheds of the state of Odisha. Land use, Land cover, hydrogeomorphological, slope and drainage thematic maps were prepared from satellite imageries and Survey of India toposheets. Prioritisation of watershed, prospective zones for groundwater exploitation and integrated land and water management plans were prepared. This will help in planning and execution of watershed management, its' prioritization and environment impact assessment of the watersheds in the state of Odisha.*
- *Developed an auto start siphon tube.*
- *Demonstrated on Farm water Management in Burda minor (Attabira tail Distributory) of Hirakud Command to increase the Water–Use-Efficiency.*
- *An Optimal resources planning for the command areas of Phiriphira Distributory of Mahanadi delta irrigation project of Odisha was made using system engineering techniques. Canal operation strategies were worked out for conjunctive use of water resources. The recommended plan increases food production, income and employment, besides meeting the food and nutritional requirement of the population of the area. Plans have been developed to utilize the water logged area of the project. Based on the optimal cropping system, a weekly irrigation release schedule and canal operation schedule is prepared. This will help the planner for execution of canal operation schedule and irrigation scheduling in major canal commands of Odisha.*
- *Developed a Slit-Orifice meter for pump discharge measurement.*
- *Development of Micro-drainage system in Mahanadi Delta Command*

### **Present research interests**

- Water Management
- Watershed Management
- Micro-Irrigation

### **Honours and Awards**

- Received 3<sup>rd</sup> Prize in Civil Engineering Division for Technical Paper presentation by Odisha Engineering Congress, Bhubaneswar during its 43<sup>rd</sup> Annual session held on 6-4-1998
- Received 3<sup>rd</sup> Prize in Civil Engineering Division for Technical Paper presentation by Odisha Engineering Congress, Bhubaneswar during its 44<sup>th</sup> Annual session held on 18-1-1999
- Received Institution Prize for Technical Paper presentation by The Institution of Engineers (India), Odisha state centre, Bhubaneswar during its 41<sup>st</sup> Annual Technical session held on 16-1-2000
- Received Er. K.C.Das Memorial Award for Technical Paper presentation by The Institution of Engineers (India), Odisha state centre, Bhubaneswar during its 42<sup>nd</sup> Annual Technical session held on 21-1-2001
- Received 1<sup>st</sup> Prize in Electrical and Electronics Engineering Division for Technical Paper presentation by Odisha Engineering Congress, Bhubaneswar during its 47<sup>th</sup> Annual session held on 28-1-2002
- Received 2<sup>nd</sup> Prize in Agricultural, Mechanical and Other Engineering Division for Technical Paper presentation by Odisha Engineering Congress, Bhubaneswar during its 47<sup>th</sup> Annual session held on 28-1-2002
- Received Er. Sadananda Memorial Award for Technical Paper presentation by The Institution of Engineers (India), Odisha state centre, Bhubaneswar during its 44<sup>th</sup> Annual Technical session held on 19-1-2003
- Received J. N. Panda Memorial Award for the paper 'Combustible Gas Production from Sewage sludge with a Gasifier – Solving twin problem of Energy and Environment' by The Institution of Engineers(India), Odisha state centre, Bhubaneswar during its 50<sup>th</sup> Annual Technical session held on 8-2-2009.
- Received 3<sup>rd</sup> Prize in Agricultural, Mechanical and Environmental Engineering Division for the paper 'Energy Requirement in Greenhouse for Vegetable Production in coastal Odisha' by Odisha Engineering Congress Bhubaneswar during its 54<sup>th</sup> Annual session held on 9-2-2009.
- Received 3<sup>rd</sup> Prize in Agricultural, Mechanical and Environmental Engineering Division for the paper 'Solar Aided Greenhouse for off-season cultivation of vegetable in Odisha' by Odisha Engineering Congress, Bhubaneswar during its 56<sup>th</sup> Annual session held on 26-2-2011.
- Received Er Arta Bandhu Jena Memorial Award for the Paper 'Surface Drainage Design for Reclamation of Waterlogged Rice areas in Mahanadi delta command' by The Institution of Engineers (India), Odisha state centre, Bhubaneswar during its 53<sup>rd</sup> Annual Technical session held on 5-2-2012.
- Received Er K.C. Das Memorial Award for the Paper 'Effect of drip irrigation on growth, yield, water-use-efficiency and economics of capsicum grown under greenhouse' by The Institution of Engineers (India), Odisha state centre, Bhubaneswar during its 54<sup>th</sup> Annual Technical session held on 10-2-2013.

### **Peer recognition**

- Referee of many national/ international journals
- Expert member in many SAUs and OPSC

### **Publications**

Authored 62 research papers in peer reviewed journals and more than 50 popular technical articles.

### **Selected publications**

- Paul, J. C., Mishra, J. N., Panigrahi, B. and Panda, N. K. 2011. Effect of drip irrigation on growth, yield, water use and economics of greenhouse cultivation, Indian Journal of Power & River Valley Development. Vol. 61(9 & 10): 172-177.

- Paul, J. C., Mishra, J. N. and Pradhan, P. L. 2011. *Effect of drip irrigation and plastic mulch on growth, yield and economics of tomato in coastal Odisha*. Journal of Soil & Water Conservation. Vol. 10 (4): 310-315.
- Paul, J.C., Pradhan, P. L., Mishra, J.N. and Panda, N. K. 2012. *Techno-economic evaluation of naturally ventilated greenhouse for capsicum cultivation in coastal Odisha*, Agricultural Engineering Today. Vol. 36(1): 10-14.
- Paul, J. C., Mishra, J. N., Pradhan, P. L. and Panigrahi, B. 2013. *Effect of drip and surface irrigation on yield, water-use-efficiency and economics of capsicum (Capsicum annum L) grown under mulch and non mulch condition in eastern coastal India*. European Journal of Sustainable Development. Vol. 2(1): 99-108.
- Paul, J. C., Panigrahi, B., Behera, B. and Patnaik, P.K. 2014. *Design of Surface Drainage System for Managing Water Congestion in Mahanadi Delta: A Case Study*, Journal of Agricultural Engineering, ISAE. Vol. 51(1): 44-50.
- Paul, J. C., Mishra, J. N. and Panigrahi, B. 2014. *Effect of Drip and Surface Irrigation with Plastic Mulching on Growth, Yield, WUE and Economics of growing Brinjal in coastal Odisha*, Journal of Soil & Water Conservation. Vol. 13(3): 235-240.

**Contact details:**

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