

# Ajar Sharma

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## WORK EXPERIENCE

1. **Deputy Manager, Natural Resources Management Division, VisionRI Connexion Services Private Limited, National Capital Region, India** (*May 2018 – August 2018*)
  - i. Preparation of Water Resources Master Plan for Zimbabwe.
  - ii. Water resources management and planning
  - iii. Stakeholder engagement and reporting.
  
2. **Civil Engineer, Gujarat State Fertilizers and Chemicals Ltd, Vadodara, India** (*July 2012 – July 2015*)
  - i. Maintenance and repair of a 35-year-old 20 km of Water Supply Pipeline. The pressurized pipeline was responsible for providing fresh water to the Industrial complex, and the residential colony.
  - ii. Maintenance and Repair of the Water supply headwork wells going thorough remote rural areas.
  - iii. Planning and executing the construction of a 1000 m<sup>3</sup>/hr counter-flow cooling tower.
  - iv. Revamping of Effluent Treatment Plants to modern technical specifications.
  - v. Negotiations and conflict resolution with administrative officers and local stakeholders.
  - vi. Developing project completion roadmaps and preparation of tenders.
  - vii. Stakeholder engagement to explain the projects and their benefits.

## EDUCATION

1. **Systems Design Engineering, University of Waterloo, ON, Canada** (*Sep 2018 – Apr 2023*)  
Ph.D. (Systems Design Engineering - Water Resources Engineering)

Research Interest: Systems of system application in resolving water-sharing conflict in India by studying the water systems, socio-economical systems, and public policy systems. The research uses water resource engineering, climate change, and resource management. I have published two journal papers and two conference proceedings which showcase my research and interests.

- i. **Sharma, A.**, Hipel, K.W., Schweizer, V. (2022). Cauvery River: Path Dependence and Feedback in Water Sharing Conflicts. In: Morais, D.C., Fang, L. (eds) Group Decision and Negotiation: Methodological and Practical Issues. GDN 2022. Lecture Notes in Business Information Processing, vol 454. Springer, Cham. [https://doi.org/10.1007/978-3-031-07996-2\\_7](https://doi.org/10.1007/978-3-031-07996-2_7)
- ii. **Sharma, A.**, Hipel, K. W., & Schweizer, V. (2020). Strategic insights into the Cauvery River dispute in India. *Sustainability*, 12(4), 1286.
- iii. **Sharma, A.**, Schweizer, V., & Hipel, K. W. (2020, October). Analyzing Cauvery River Dispute Using a System of Systems approach. In 2020 IEEE International Conference on Systems, Man, and Cybernetics (SMC) (pp. 3969-3975). IEEE.
- iv. **A. Sharma, V. Schweizer,** and K. W. Hipel, "Cauvery River Dispute: A wickedly complex problem," in 20th International Conference on Group Decision and Negotiation, 2020, pp. 44.1-44.6.

## 2. The Delft University of Technology, The Netherlands *(Sep 2015 – Oct 2017)*

MSc. Civil Engineering (Water Management)

- i. Developing Integrated Water Resources Management based master plan for West Africa with a focus on Ghana and Burkina Faso.
- ii. In-house project on the *Gezira* Irrigation system, Sudan, and the river rating project in Suriname.
- iii. Keen hydrological processes measurement acumen through applying the theories and practices in the fieldwork at Delft and Luxembourg.
- iv. Interpreting the water system behaviour by applying feedback and Model Predictive Controls.
- v. Understanding the peculiar behaviour of water in deltas and estuaries through complex analysis.
- vi. Realization of the power of stakeholders in a controlled as well as an uncontrolled system.
- vii. Analytical and conceptual thinking, with a conscientious approach to managing workloads.
- viii. Accomplished communication skills, both written and verbal, developed through numerous essays and presentations.

**Thesis:** Water - food nexus: modelling the inter-linkages between food prices, deforestation, and the water balance in northern South America.

## 3. Institute of Technology, Nirma University, India *(Aug 2008 – May 2012)*

Bachelor of Technology (Civil Engineering)

### **INTERESTS & SKILLS**

Interests: Water Resources Engineering, Conflict Resolution, Hydrology, Sustainability, Engineering Management, Project Management, Nature Based Solutions, Engineering, Biodiversity

Software: WEAP, HEC-RAS, SWMM5, MIKE+, Python, QGIS, ArcGIS, GRASS, SOBEK, Scenario Wizard, GMCR+, MS Word, MS PowerPoint, MS Excel, SAP

Languages: English (Full Professional Proficiency), Hindi (Native)