
Name	Charlotte de Fraiture
Nationality	Dutch
Present position	Vice Rector, Professor in Land and Water Development

EDUCATION

2003	- PhD Civil Engineering- Water Resources Management, University of Colorado, Boulder, USA.
2002	- MA Economics University of Colorado, Boulder, USA.
1990	- MSc Tropical Land and Water Management (Irrigation Engineering), Wageningen Agricultural University, the Netherlands
1984	- BSc Physical Geography, Utrecht State University, the Netherlands

EMPLOYMENT RECORD

2018- present	- Vice Rector Academic & Student Affairs at IHE Delft
2012- present	- Professor of Land and Water Development, Dept. of Water Science Engineering, UNESCO-IHE Delft, The Netherlands; affiliated with Wageningen University and Research, the Netherlands
2011 - 2012	- Principal researcher and project leader, International Water Management Institute (IWMI), Ouagadougou, Burkina Faso
2009 – 2010	- Principal researcher in Water Resources Management, project leader and Head of office, International Water Management Institute (IWMI), Accra, Ghana
2003 – 2009	- Senior researcher, head Global Change and Environment, and Theme Leader Water Basin Management, International Water Management Institute (IWMI), Colombo, Sri Lanka.
1997 – 2000	- Researcher in Irrigation, International Water Management Institute (IWMI), Colombo, Sri Lanka
1996 - 1997	- Associate Expert in irrigation, International Water Management Institute (IWMI), Cali, Colombia
1995	- Coordinator Irrigation Construction Unit, Mechi Hill Development Project, Ilam, Nepal
1992-1994	- District and regional irrigation engineer, Dhaulagiri Irrigation Development Project, Jomsom and Pokhara, Nepal
1990 and 1991	- Research assistant Wageningen Agricultural University, the Netherlands, field research Ile a Morphil Irrigation project, Senegal.

KEY QUALIFICATIONS

25+ years experience in research in: agricultural water management, small scale irrigation, irrigation management, irrigation performance global water supply and demand, water economics, water pricing, water and biofuels.

15+ years experience in research project management: project leader of research projects; head of office including personnel management and human resources, theme leader providing professional leadership in research theme.

5 years experience in irrigation engineering and construction: design, quality control and supervision of construction and rehabilitation works of village irrigation schemes. Progress reports, logistics and budget control.

MAIN DISCIPLINE / SPECIALISATION

Agricultural water management, Irrigation engineering and management, Water economics.

Specific research interests:

- Small scale irrigation
- Irrigation performance and ecosystems services
- Water and food security
- Global water supply and demand, global water scarcity
- Impact of biofuel policies on water use; Virtual water and trade

EXPERIENCE in PROJECT ACQUISITION, MANAGEMENT and IMPLEMENTATION

Selected Projects

2018 - 2020	Advisory on performance of small and medium irrigation schemes for Indian Ministry of Water Resources and Central Water Commission. Funded by GiZ/India-Europe Water Partnership
2017 - present	Co-author - “Nature based water infrastructures in Ethiopia and Kenya for #GlobalGoals (NaBWIG)”. Funded by Dutch Science Council (NWO)
2015 – present	Co-applicant – “Unravelling the potential of farmer led irrigation development in the BAGC, Mozambique”. Funded by Dutch Science Council (NWO)
2014 – 2018	Project director of “Capacity Development of Higher Education Institutes in Small-Scale Irrigation” funded by NUFFIC, the Netherlands
2014 – 2018	Project leader of project “Investing in land and water using climate finance mechanisms” in Ethiopia and Indonesia. Funded by Dutch Science Council (NWO)
2013 - 2016	Project leader of project “co-management of wetlands and irrigation in Lake Victoria basin” in Kenya. Funded by Dutch government.
2010 – 2016	Co-applicant and scientist of DRiP project – “Drip irrigation Realities in Perspective” in Morocco and Burkina Faso). Lead by Wageningen University. Funded by Dutch Science Council (NWO) and DFID
2014	Reformulation of the Multi-annual Water Development Plan (PPEA-II) Water and Food Security component for the Dutch Embassy in Benin
2009-2011	Project leader of Agricultural Water Solutions project, consortium led by IWMI consisting of IFPRI, FAO, SEI and IDE, on business models for investing in irrigated smallholder farming in Ethiopia, Zambia, Tanzania, Ghana, Burkina Faso and India; Funded by BMGF.
2009-2010	Project leader of Agricultural Water Management in challenging contexts project, in Ethiopia, Ghana, Burkina Faso, Nepal and Sri Lanka, funded by IFAD.
2004-2009	Lead scientist in the development of global water and food modelling tools and computation of scenarios for the Comprehensive Assessment of Water Management for Agriculture (CA). <ul style="list-style-type: none"> • Development of global water and food supply and demand modelling tools and global scenarios on virtual water & trade and biofuels. • Development of global water scarcity map
2006	Contributing and lead author in the International Assessment of Agricultural Science and Technology (IAASTD)

1997-2001	Scientist developing irrigation performance indicators and their application to gauge the impact of Irrigation Management Transfer (IMT).
2005, 2007, 2008 & 2009, 2011, 2013	Proposal development: Lead and/or contributing author of research proposals, funded by, among others, BMGF, IFAD, BMZ, OPEC, NWO and Wotro
1994	Evaluation mission and auditing of construction of mule trail, implemented by ILO (food for work program), Nepal
1991	Evaluation research of irrigated vegetable gardens for women groups in Senegal, implemented by Wageningen University and Dutch Government.

Professional Experience

2019 - present	Chair of the Programme Design Committee in charge of the development of new one-year and two-year MSc programmes in Water and Sustainable Development at IHE Delft
2018 - 2021	Chair of the Education Development Committee at IHE Delft
2015 – 2018	Head of Water Science Engineering Department at UNESCO-IHE
2015 - 2018	Vice president International Commission on Irrigation and Drainage (ICID)
2013 – present	Academic responsibilities: <ul style="list-style-type: none">* Main promotor of 14 PhD candidates (7 ongoing).* Opponent in 10 PhD defenses.* Supervision of 120+ MSc students (9 ongoing).* Graduate Teaching and curriculum development.* Chair of the Examination Board at UNESCO-IHE (2014-2017)* Chair of the Program Committee of WSE MSc program (2017-2018)* Professor responsible for the Double Degree MSc Programme IHE-Sri Wiyaya University (Indonesia)* Lecturer in Tailor Made Trainings and Refresher courses in (among others) Kenya, Ethiopia and Indonesia;
2014 - 2020	Member of the Steering Committee of the CGIAR Consortium Research Program (CRP) on Water Land and Ecosystems (WLE)
2012, 2014, 2017	Review of research proposals: Member of ITN Review Panel of European Union Horizon 2020 program; ERC proposal reviewer; member of review panel of Swedish Research Council; chair of review panel for NWO-Wotro (GCP call)
2014	Member of the Scientific Program Committee of the Stockholm Water Week
2013-2015	Editor of the journal Water Resources and Rural Development
2009 and 2013	Guest editor of two special issues of the Agricultural Water Management journal.

- 2005 - 2018 Regular reviewer of scientific manuscripts for, among others, journals Agricultural Water Management, WRR, IJWRM, WaRM, Irrigation Science, Irrigation & Drainage, Water International, Water Alternatives, GEC, Water Policies and others
- 2007-2014 Member international jury of Junior Stockholm Water Prize
- 2007- 2011 Principal researcher, International Water Management Institute (based in Burkina Faso, Ghana and Sri Lanka). Supervision of scientists, postdocs, interns and students
- 2010 Head of Office, West Africa office of the International Water Management Institute, Accra, Ghana. IWMI representative in Ghana., Personnel management of regional office (25 employees), Budgets control and administration, Liaison of hosted programs.
- 2007-2008 Theme leader in Basin Water Management, International Water Management Institute, Sri Lanka scientific leadership of the research theme, quality control of publications, proposal development, supervision of interns and students
- 2005-2007 Head of Global Change and Environment group at International Water Management Institute, Sri Lanka. scientific leadership, quality control and coordination of research projects
- 1996-2003 Researcher at International Water management Institute, Colombia and Sri Lanka
- 1992 – 1995 Irrigation engineer at several irrigation development projects in Nepal: Design of construction and rehabilitation of village irrigation schemes, feasibility studies and meetings with farmer groups; quality control, construction supervision, technical trainings, logistics, procurement and budgeting
- 1990 Teaching assistant, co-organizer irrigation design practice for MSc. students, Agricultural University Wageningen, The Netherlands.

LANGUAGE PROFICIENCY

<i>Language</i>	<i>Reading</i>	<i>Speaking</i>	<i>Writing</i>
Dutch	Mother tongue	Mother tongue	Mother tongue
English	Excellent	Excellent	Excellent
French	Very good	Moderate	Moderate

PUBLICATIONS

Google scholar profile: <http://scholar.google.com/citations?user=o54X5poAAAAJ&hl=nl>

More than 75 peer reviewed journal articles, 15 book chapters and over 100 other publications, H=37, 6520 citations (March 2021, Google Scholar)

5 most cited peer reviewed publications (Google Scholar, March 2021)

1. De Fraiture, C.; Y, Liao, M, Giordano. 2008. Biofuels and agricultural water use: blue impacts of green energy. *Water Policy* 10(S1): 67-81
2. Lundqvist, J., C de Fraiture, D. Molden. 2008. *Saving water: From Field to Fork- Curbing losses and wastage in the food chain*. SIWI Policy Brief. Swedish International Water Institute: Stockholm
3. Rockström, J John Williams, Gretchen Daily, Andrew Noble, Nathaniel Matthews, Line Gordon, Hanna Wetterstrand, Fabrice de Clerck, Mihir Shah, Pasquale Steduto, Charlotte de Fraiture, Nuhu Hatibu, Olcay Unver, Jeremy Bird, Lindiwe Sibanda and Jimmy Smith. 2016. Sustainable intensification of agriculture for human prosperity and global sustainability. *Ambio* 46(1): 1-14.
4. De Fraiture, C.; D. Wichelns. 2010. Satisfying future water demands for agriculture. *Agricultural Water Management* 97(4): 502-511.
5. Molden, DJ, R Sakthivadivel, CJ Perry, C de Fraiture, WH Kloezen. 1998. *Indicators for comparing performance of irrigated agricultural systems*. IIMI research report 20 (26p.) IWMI Sri Lanka

5 most recent peer reviewed journal papers (March 2021):

1. SA Theol, B Jagers, FX Suryadi, C de Fraiture. 2021. Use of 2D/3D Models for Cohesive and Noncohesive Sediments in Irrigation Canals. *Journal of Irrigation and Drainage Engineering* 147 (5), 05021002
2. A Purwanto, J Sušnik, FX Suryadi, C de Fraiture. 2021. Quantitative simulation of the water-energy-food (WEF) security nexus in a local planning context in indonesia. *Sustainable Production and Consumption* 25, 198-216
3. AN Mersha, C de Fraiture, I Masih, T Alamirew. 2021. Dilemmas of integrated water resources management implementation in the Awash River Basin, Ethiopia: irrigation development versus environmental flows. *Water and Environment Journal* 35(1), 402-416.
4. AEC Duker, TA Mawoyo, A Bolding, C de Fraiture, P van der Zaag. 2020. Shifting or drifting? The crisis-driven advancement and failure of private smallholder irrigation from sand river aquifers in southern arid Zimbabwe. *Agricultural Water Management* 241, 106342
5. E Fadul, I Masih, C De Fraiture, FX Suryadi. 2020. Irrigation performance under alternative field designs in a spate irrigation system with large field dimensions. *Agricultural Water Management* 231, 105989

PhD. Thesis The use of entropy optimization principles in parameter estimation. Applications to global water demand modelling. Dept. of Civil Engineering & Water Resources Management. University of Colorado, Boulder, USA (2003)

MA. Thesis The impact of volumetric water pricing on agricultural water use and farmer profit. A multi-scale modelling framework. Dept. of Economics at University of Colorado, Boulder, USA (2002)

MSc. Thesis Participatory irrigation design of a village irrigation scheme in Senegal. Tropical Land and Water Management, Wageningen Agricultural University, the Netherlands (1990)

CERTIFICATION

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

Signature:

