

## Curriculum Vitae



Name: M. de Klerk MSc.  
 First Name: Martijn  
 Date of Birth: 23 March 1988  
 Nationality: Dutch  
 Main Disciplines: Project Management, Climate Smart Agriculture, Flying Sensors, Financial Management, Business Development  
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### Key Qualifications

Martijn de Klerk (MSc.), with over eight years of hands-on experience, specializes in water management, irrigation, and agriculture on an international scale. As graduate of Wageningen University, where he earned his master's degree in Environmental Sciences, he gained valuable experience in project planning and organization. His roles have varied from consulting to scientific research.

His expertise encompasses drone and satellite image processing, GIS analysis, climate-smart agriculture, and water allocation modelling, applicable to individual fields and broader river basins alike. Martijn has worked in diverse environments, including The Netherlands, Spain, Mozambique, Kenya, Ghana, Egypt, and South Africa.

In his tenure at FutureWater, Martijn played a significant role in the company's agricultural flying sensor (drone) projects in Africa. Beyond his managerial duties, he helped initiate local ventures in Mozambique and Kenya that offer drone services to farmers. These drone images, captured by local operators, can potentially spot signs of crop stress earlier than traditional methods. This technology aids farmers in making informed decisions, potentially reducing crop loss and improving yields. In some projects, the imagery is integrated with crop growth modelling for a more comprehensive productivity analysis.

### Educational Background

2012 – 2014	MSc. Environmental Sciences, Wageningen University, Wageningen, the Netherlands
2008 – 2012	BSc. Environmental Science, HAS University of Applied Sciences, 's-Hertogenbosch, the Netherlands
2006 – 2008	BSc. Physics and Astronomy, Radboud University Nijmegen, Nijmegen, the Netherlands
2000 – 2006	VWO - General Secondary Education at Advanced Level, Colegio Arubano, Oranjestad, Aruba

### Professional Experience

2019 – present	Co-owner of HiView
2019 – present	Co-owner of FutureWater Spain
2018 – present	Co-owner of FutureWater The Netherlands
2015 – present	Financial Manager and Agricultural Water Management Expert, FutureWater, Wageningen, The Netherlands

## Overseas Professional Experience

As non-resident: Spain, Mozambique, Kenya, Ghana, South Africa, Egypt

## Selection of Assignments and Projects

2023 – present	InfoSequia-4CAST: Forecasting and Quantifying Risks of Crop and Water Supply Failures Using Machine Learning and Remote Sensing (client: European Space Agency)
2023 – present	MAGDA: Meteorological Assimilation from Galileo and Drones for Agriculture (client: EU, Horizon Europe)
2023 – present 2023	SOSIA+: Climate Smart Irrigation Services in Ghana (client: Partners voor Water/RVO) Lectures on Climate Smart Agriculture as part of the Shiraka Training Program, The Hague Academy for Local Governance (client: The Hague Academy for Local Governance)
2023	Lectures on the application of flying sensors in agriculture, at IHE Delft Institute for Water Education (client: IHE Delft)
2022 – 2023	Tailor-made Training on Data-Driven Capacity for Ecosystem Services and Management in Iran (client: Nuffic)
2022 – 2023 2022	SOSIA: Small-Scale Open Source Satellite-based Irrigation Advice (client: NSO) Lectures on Climate Smart Agriculture as part of the Shiraka Training Program, The Hague Academy for Local Governance (client: The Hague Academy for Local Governance)
2021	Lectures on the application of flying sensors in agriculture, at IHE Delft Institute for Water Education (client: IHE Delft)
2021 – 2022	HiFarm: Data Driven Agricultural Intensification Pilot Program for Maize, Coffee and Tea Farmers in Kenya (client: Eco-business Fund/ETG Group)
2020 – 2022	Tailor-Made Training on Crop Models and Remote Sensing for Water Management in Agricultural Systems (client: Nuffic)
2020 – 2021	Tailor-made Advice and Training on Flying Sensors for Agriculture in Jordan (client: IHE Delft/DUPC)
2020	Lectures on the application of flying sensors in agriculture, at IHE Delft Institute for Water Education (client: IHE Delft)
2019 – 2020	Incorporating Flying Sensors to Increase Agricultural Productivity in Central Mozambique (client: NCBA Clusa)
2019 – 2022	Mavo Diami: Improve sustainable food and income security for >100000 smallholder farmers in Angola (G4AW, NSO)
2019	Kennisbehoefte meteorologische en klimatologische informatie bij waterbeheerders (STOWA)
2019	Lectures on the application of flying sensors in agriculture, at IHE Delft Institute for Water Education (client: IHE Delft)
2018 – 2022	APSAN-Vale: Piloting innovations to increase the Water Productivity and Food security for Climate Resilient smallholder agriculture in the Zambezi valley of Mozambique (client: Agência do Zambeze)
2018 – 2022	TWIGA: Transforming Weather Water data into value-added Information services for sustainable Growth in Africa (client: EU, Horizon2020)
2018 – 2019 2018	SMART-WADI: SMART WATER Decisions for Iran (client: Partners voor Water/RVO) Lectures on the application of flying sensors in agriculture, at IHE Delft Institute for Water Education (client: IHE Delft)
2017 – 2019 2016 – 2017	ThirdEye: Flying Sensors to Support Farmers' Decision Making in Kenya (client: SNV) Improved watershed practices for hydropower in Mbé River in Gabon (client: The Nature Conservancy)
2015 – 2017	ThirdEye: Flying Sensors to Support Farmers' Decision Making in Mozambique (client: USAID)
2016	Optimisation of water distribution in from the IJsselmeer, the Netherlands (client: Rijkswaterstaat)

2016	Analysing costs and benefits of information products based on remote sensing for operational and strategic water management in The Netherlands (client: STOWA / Dutch water boards)
2015 – 2016	Flying Sensors for Ultra-High Resolution Flood Risk Identification at Local Scales in Mozambique (client: World Bank Group)
2015	Flying sensors information for a more sustainable water and energy economy (client: RVO)
2015	Water Resources Model for the Kenate Basin in South-Sudan (client: ZOA)
2015	FWOO (Fresh Water Options Optimization method): Potential for local solutions to optimize fresh water supply in European regions under increasing water stress (client: Climate-KIC)
2013 – 2014	MSc. Thesis 'The effect of a chemical dispersant on the aerobic biodegradation of crude and weathered oil in sea water', Sub-department of Environmental Technology, Wageningen University, the Netherlands
2013	MSc. European Workshop for Environmental Sciences and Management 'Mobility analysis Technology Park, Brno', Brno, Czech Republic
2012	BSc. Thesis 'Analysis of the nitrogen removal performance of the wastewater treatment plant of S.E.S.A SpA in Este, Italy', HAS KennisTransfer, 's-Hertogenbosch, the Netherlands
2011	BSc. Internship 'Three dimensional modelling of pathogens in the Swan River estuary', Centre for Water Research, University of Western Australia, Perth, Western Australia, Australia
2010 – 2011	BSc Internship 'Bioaccumulation of substances from plastic debris in marine life', Department of Environmental Science, Radboud University Nijmegen, Nijmegen, the Netherlands

## Selection of Technical Reports and Other Publications

- **M. de Klerk**. 2023. InfoSequia-4CAST: Towards an Operational Satellite-based Drought Early Warning and Forecasting System for Quantifying Risks of Crop and Water Supply Failures. Business Plan.
- Van Til, J., **M. de Klerk**. 2022. HiFarm Event report: Final project meetings
- **De Klerk, M.** 2022. HiFarm Cost-Benefit Analysis
- Verschuren, L.M., T. Schults, **M. de Klerk**. 2022. APSAN-Vale Water Productivity Analysis (in Portuguese): Irrigation Season 2022. FutureWater Report 239
- Verschuren, L.M., T. Schults, **M. de Klerk**. 2022. APSAN-Vale Water Productivity Analysis: Irrigation Season 2022. FutureWater Report 239
- Domingos, C., A. Texeira, N. Schepers, K. van Krieken, **M. de Klerk**, J. van Opstal. 2022. APSAN-Vale Quarterly Progress Report Q3-2022.
- **De Klerk, M.**, J. van Til, M. Hermus, N. Oranyo, K. Julius. 2022. HiFarm Quarterly Report 4
- Schults, T., **M. de Klerk**, 2022. HiFarm Agricultural Productivity Analysis.
- Verschuren, L.M., T. Schults, **M. de Klerk**, J.D. van Opstal, 2022. APSAN-Vale Water Productivity Analysis: Rainfed Season 2021-2022. FutureWater Report 238.
- Verschuren, L.M., T. Schults, **M. de Klerk**, J.D. van Opstal, 2022. APSAN-Vale Water Productivity Analysis: Rainfed Season 2021-2022. FutureWater Report 238.
- **De Klerk, M.**, V. Hollander, J. van Til, M. Hermus, K. Julius, N. Oranyo. 2022. HiFarm Quarterly Report 3
- Van Opstal, J., K. Van Krieken, **M. de Klerk**. 2022. Interventions Impact Analysis: Irrigation Season 2021. Technical report.
- Van Opstal, J., K. Van Krieken, **M. de Klerk**. 2022. Interventions Impact Analysis: Irrigation Season 2020-2021. Technical report.
- **de Klerk, M.**, M. Hermus, N. Oranyo, K. Julius, J. van Til. 2022. Training Manual for HiFarm Project. Technical Manual

- D'Haeyer, B., J. van Opstal, L. Verschuren, G. Simons, **M. de Klerk**, B. de Vries. 2022. SOSIA: Small-Scale Open Source Satellite-based Irrigation Advice. FutureWater Report 237.
- Domingos, C., A. Texeira, N. Schepers, K. van Krieken, **M. de Klerk**, J. van Opstal. 2022. APSAN-Vale Quarterly Progress Report Q2-2022.
- Hermus, M., N. Oranyo, **M. de Klerk**. 2022. HiFarm: Knowledge exchange for lead farmers in Embu, Kenya.
- Van Opstal, J.D., **M. de Klerk**, V.R. Hollander. 2022. APSAN-Vale Water Productivity Analysis: Irrigation Season 2021. FutureWater Report 236
- Van Opstal, J.D., M. de Klerk, V.R. Hollander. 2022. APSAN-Vale Water Productivity Analysis: Irrigation Season 2021 (in Portuguese). FutureWater Report 236
- **De Klerk, M.**, V. Hollander, J. van Til, M. Hermus, K. Julius, N. Oranyo. 2022. HiFarm Quarterly Report 2
- Domingos, C., A. Texeira, N. Schepers, K. van Krieken, **M. de Klerk**, J. van Opstal. 2022. APSAN-Vale Quarterly Progress Report Q1-2022.
- Hermus, M., N. Oranyo, **M. de Klerk**. 2022. HiFarm: Knowledge Exchange for Lead Farmers in Nakuru, Kenya. Technical Report.
- Van Krieken, K., E. Memelink, **M. de Klerk**, J. van Opstal. 2021. Interventions Impact Analysis: Rainfed Season 2020-2021 (in Portuguese). Technical report.
- Van Krieken, K., E. Memelink, **M. de Klerk**, J. van Opstal. 2021. Interventions Impact Analysis: Rainfed Season 2020-2021. Technical report.
- Van Opstal, J.D., **M. de Klerk**, V.R. Hollander, J.E. Beard. 2021. Apsan Vale Water Productivity Analysis: Rainfed Season 2020-2021 (in Portuguese). FutureWater Report 227
- Van Opstal, J.D., M. de Klerk, V.R. Hollander, J.E. Beard. 2021. Apsan Vale Water Productivity Analysis: Rainfed Season 2020-2021. FutureWater Report 227
- **De Klerk, M.**, V. Hollander, J. van Til, M. Hermus, B. de Vries, N. Oranyo, K. Julius, 2022. HiFarm Quarterly Report 1
- **De Klerk, M.**, V. Hollander, J. van Til, M. Hermus, B. de Bries, N. Oranyo, K. Julius, 2021. HiFarm: Initial Scoping Report. Technical Report
- Van Opstal, J., K. van Krieken, **M. de Klerk**, W. Beekman. 2021. Interventions Impact Analysis: Irrigation Season 2020. Technical report.
- Van Opstal, J.D., **M. de Klerk**, A. Kaune, C. Nolet, J.E. Beard. 2021. Water Productivity Analysis: Irrigation Season 2020 (in Portuguese). FutureWater Report 218.
- Van Opstal, J.D., **M. de Klerk**, A. Kaune, C. Nolet, J.E. Beard. 2021. Water Productivity Analysis: Irrigation Season 2020. FutureWater Report 218.
- Domingos, C., A. Texeira, N. Schepers, K. van Krieken, **M. de Klerk**, J. van Opstal. 2020. APSAN-Vale Quarterly Progress Report Q4-2020.
- Van Opstal, J., J. Beard, **M. de Klerk**, 2020. Analysis of the Agricultural Crop Productivity Using Flying Sensors. Technical report - Horticultural season 2020. FutureWater Report 214.
- Van Opstal, J., **M. de Klerk**, K. van Krieken, D. Chale. 2020. Interventions Impact Analysis: Rainfed Season 2019-2020 (in Portuguese). Technical report.
- Van Opstal, J., **M. de Klerk**, K. van Krieken, D. Chale. 2020. Interventions Impact Analysis: Rainfed Season 2019-2020. Technical report.
- Come, E., A. Teixeira, J.D. van Opstal, **M. de Klerk**, N. Schepers, K. van Krieken, D. Levelt. 2020. APSAN-Vale Quarterly Progress Report Q3-2020.
- Van Opstal, J., J. Beard, **M. de Klerk**, 2020. Analysis of the Agricultural Crop Productivity Using Flying Sensors. Technical report - Rainy season 2019-2020. FutureWater Report 203.
- Van Opstal, J.D., **M. de Klerk**, A. Kaune, C. Nolet, J.E. Beard. 2020. Water Productivity Analysis: Rainfed Season 2019-2020. FutureWater Report 204.
- Come, E., A. Teixeira, J.D. van Opstal, **M. de Klerk**, N. Schepers, K. van Krieken, D. Levelt. 2020. APSAN-Vale Quarterly Progress Report Q2-2020.

- Van Opstal, J.D., **M. de Klerk**, A. Kaune. 2020. Water Productivity Analysis: Irrigation Season 2019. FutureWater Report 201.
- Come, E., A. Teixeira, J.D. van Opstal, **M. de Klerk**, N. Schepers, K. van Krieken, D. Levelt. 2020. APSAN-Vale Quarterly Progress Report Q1-2020.
- Come, E., A. Teixeira, J.D. van Opstal, **M. de Klerk**, N. Schepers, K. van Krieken, D. Levelt. 2020. APSAN-Vale Annual Progress Report 2019 (in Portuguese)
- Come, E., A. Teixeira, J.D. van Opstal, **M. de Klerk**, N. Schepers, K. van Krieken, D. Levelt. 2020. APSAN-Vale Annual Progress Report 2019.
- **De Klerk, M.**, J. van Til, F.K. Julius. 2019. ThirdEye Kenya: Flying Sensors to Support Farmers' Decision Making - Final Report. FutureWater Report 192.
- Van Opstal, J.D., **M. de Klerk**. 2019. ThirdEye Kenya – Water Productivity Report. FutureWater Report 190.
- Simons, G.W.H., **M. de Klerk**. 2019. Kennisbehoefte meteorologische en klimatologische informatie. STOWA Rapport 2019-32.
- **De Klerk, M.**, J. van Til. 2018. ThirdEye Kenya: Flying Sensors to Support Farmers' Decision Making in Kenya. FutureWater Report.
- **De Klerk, M.**, P. Droogers. 2017. Earth by Night: Exploring Night Light Satellites Imagery for Water Management. FutureWater Report 173.
- Droogers, P., G.W.H. Simons, N.I. den Besten, J. van Til, **M. de Klerk**. 2017. Monitoring Water Productivity: Demonstration Case for ThirdEye Mozambique. FutureWater Report 169.
- Simons, G.W.H., A. Poortinga, W. Bastiaanssen, D. Saah, A. Troy, J.E. Hunink, **M. de Klerk**, M. Rutten, P. Cutter, L. Rebelo, L. Thanh Ha, V. Phuong Nam, T. Hessels, M. Fenn, B. Bean, D. Ganz, P. Droogers, T. Erickson, N. Clinton. 2017. On Spatially Distributed Hydrological Ecosystem Services - Bridging the Quantitative Information Gap using Remote Sensing and Hydrological Models. White paper published by FutureWater.
- Hunink, J.E., **M. de Klerk**, F. de Boer, P. Droogers. 2017. Effectiveness of Improved Watershed Activities in Mbé River, Gabon. FutureWater Report 168.
- **De Klerk, M.**, P. Droogers, G.W.H. Simons, J. van Til. 2017. Change in Water Productivity as a Result of ThirdEye Services in Mozambique. FutureWater Report 166.
- De Boer, F.S., **M. de Klerk**, G. Simons, P. Droogers. 2017. Pilot optimalisatie waterverdeling Hunze en Aa's. FutureWater Report 163.
- **De Klerk, M.**, J. van Til, P. Droogers. 2016. Inception Report - Flying Sensors for Ultra-High Resolution Flood Risk Identification at Local Scales. FutureWater Report 155.
- **De Klerk, M.**, P. Droogers. 2016. Flying Sensors informatie voor een duurzame water en energie economie. FutureWater Report 151.
- Delsman, J., J.M. de Paz, **M. de Klerk**, L. Stuyt, P. de Louw, F. Visconti, M. del Longo, S. Pecora. 2015. Application of the FWOO method in the Vega Baja Segura catchment - Potential for local solutions to optimize fresh water supply in European regions under increasing water stress. Deltares Report. Reference 1220325-000-BGS-0001.
- Droogers, P., F.S. de Boer, **M. de Klerk**, G.W.H. Simons. 2015. Water Resources Model for Kenneti Basin South-Sudan. FutureWater Report 140.
- **De Klerk, M.**, P. Droogers. 2015. Water Allocation Planning for Vega Baja del Segura Spain. FutureWater Report 139.

## Language Skills

Dutch:	Mother tongue
English:	Fluent in writing and speech
Papiamentu:	Fluent in writing and speech
German:	Advanced
Spanish:	Advanced
Portuguese	Elementary

## Computer Skills

Simulation models:	WEAP, SWAP, MicroFEM
GIS:	ArcGIS, QGIS
Standard software:	MS Office, Azure
Others:	AutoCad, Agisoft PhotoScan, Microsoft ICE, Wordpress, WaPOR, AquaCrop