

PERSONAL DETAILS

Full Names: Fredrika Ndeutala Shagama

Profession: Environmental Assessment Practitioner
(Consultant) & Hydrogeologist / Geohydrologist

Cellphone No: +264 (0) 81 407 5536

Email address: fredrika@serjaconsultants.com / fshagama@gmail.com

Postal Address: P.O. Box 27318, Windhoek, Namibia

Nationality: Namibian

**PROFESSIONAL PROFILE, CORE SKILLS AND EXPERTISE**

Fredrika is an Environmental and Water Consultant with over 10 years of experience in Environmental and Groundwater Consulting in infrastructural development, water, energy, waste management, agriculture, and mining sectors, with experience in Namibia, South Africa, and the Czech Republic (environmental hydrogeology-related projects). She is a registered Environmental Assessment Practitioner with the Environmental Assessment Professionals of Namibia (EAPAN), Membership No. 183, and Geoscience Council of Namibia (GSCN) – Geoscientist, Registration No. GSCN/G-057 who is passionate about the environment and water resources and can work individually or in a team. Fredrika's core skills in the environmental management field are in conducting Environmental & Social Impact Assessments (ESIAs) or simply Environmental Impact Assessments (EIAs), development of Environmental & Social Management Plans (ESMPs or simply known as EMPs), Environmental monitoring and ECC renewals, facilitating EIA public consultation meetings and stakeholders' engagement, as well as incorporating specialists' inputs to ESIAs/EIAs that are both funded locally or internationally. She has a very good understanding and knowledge of the national environmental laws governing different existing and new project activities; thus, she has been involved in numerous EIA studies for the private and public sectors all over Namibia. Her core expertise in groundwater resources management includes exploration, impact assessment, permit applications, supply, and investigations in projects.

PROFESSIONAL MEMBERSHIPS (AFFILIATIONS)

- **Geoscience Council of Namibia (GSCN)** – Geoscientist, Registration No. GSCN/G-057 <https://geocouncil.org.na/mem-members.php>
- **International Association of Hydrogeologists** - Full Member No.139790 https://iah.org/wp-content/uploads/2019/05/IAHSpring2019Newsletter_web.pdf on page 19
- **Namibian Hydrogeological Association** - Member, <http://namhydro.com/wp/members/>
- **Environmental Assessment Professionals of Namibia (EAPAN)** - Practitioner Membership No. 183, <http://eapan.org/registered-members>.

PROFESSIONAL COURSES OR TRAINING ATTENDED

- Groundwater Flow Modelling with GMS (MODFLOW, MODPATH) by AQUAVEO at VSB-Technical University of Ostrava, June 2015
- Groundwater Investigations and Supply Assessment for Technical Reporting and EIA Report Compilation, GCS Water & Environment Consultants & GCS Namibia (Pretoria, 2016 & Windhoek, 2016)
- Hydrocarbon Contamination Assessment (Field Procedures and Report Writing), GCS Water & Environment Consultants (Pretoria, 2016)
- Social Impact Assessment: Stakeholders & Community Engagement Training and Procedures (GCS Namibia, 2017)

EDUCATIONAL QUALIFICATIONS

Educational Institution	Qualification obtained	Study period
VSB - Technical University of Ostrava, Czech Republic	PhD. Student: Civil Engineering (Geotechnics & Environmental Hydrogeology)	2020 (ongoing)
International University of Management (IUM), Namibia	Post Graduate Diploma in Environmental Studies	2024-2025
VSB - Technical University of Ostrava, Czech Republic	MSc. Geological Engineering (Cum Laude) – with a primary focus in Hydrogeology <u>Thesis title:</u> <i>Groundwater Pollution Transport from Tsumeb Copper Smelter in Namibia</i> <u>Professional course attended:</u> Groundwater Flow Modelling with GMS (MODFLOW, MODPATH) by AQUAVEO at VSB-Technical University of Ostrava, June 2015	2013 - 2015
VSB - Technical University of Ostrava, Czech Republic	BSc. Geological Engineering <u>Mini thesis title:</u> <i>Water Quality Prediction in the Skorpion Mine Pit Lake in Namibia</i>	2010 - 2013
Charles University in Prague, Mariánské Lázně Study Centre (UJOP), Czech Republic	Certificate Level B2, Czech Language for academic purposes	2009
University of Namibia	BSc. Environmental Science & Geology – studies ended upon obtaining a scholarship to study in the Czech Republic.	2008 – 2009

LANGUAGES

Language	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent

Oshiwambo	Excellent/Native	Excellent/Native	Excellent/Native
Czech	Excellent	Excellent	Excellent

EMPLOYMENT RECORD

Since starting her professional career 10 years ago, Fredrika has been involved in numerous groundwater (hydrogeological), geotechnical, and Environmental Impact Assessment projects. Groundwater projects have focused on groundwater investigation for new water supply sources, groundwater impact assessment, and monitoring. The specific groundwater, geotechnical, and environmental project responsibilities range from proposal writing, technical report compilation, environmental assessment public meeting facilitation, site visits (fieldwork) & supervision, environmental compliance monitoring on sites, and project management. The projects have been mainly based in different areas in Namibia, with groundwater projects (monitoring) and hydrocarbon contamination assessments that were based in Limpopo Province and Gauteng (Johannesburg), in early 2016, respectively. Since January 2020, under her PhD Study Department of Geotechnics & Underground Engineering (VSB – TU Ostrava) in the Czech Republic, Fredrika has been involved in some technical projects responsible for Groundwater (Data) Management projects for Czech environmental and water management firms/organizations as part of the University-Industry collaborations.

Fredrika has been employed as per the order of the employment record below:

Period	Name of Employer, Position, and Responsibilities
01 Aug 2020 to date	Serja Hydrogeo-Environmental Consultants CC (Self-Founded) Position: Principal Hydrogeologist and Environmental Assessment Practitioner (EAP) Responsibilities: Conducting Groundwater (Hydrogeological) Studies (Exploration and Impact Assessment), Groundwater Monitoring, Project Management, Technical & Financial Proposal Compilation, Technical Report compilation, Environmental Impact Assessments (EIAs) and Management Plans, Compiling project technical reports for Groundwater studies (as a specialist's input to EIAs) and adding input into projects' Environmental Management Plans (EMPs) where needed, Renewal of Environmental Clearance Certificates (ECCs) and Conducting Environmental Monitoring (Compliance Auditing) as well as Mentoring/Training of Environmental and Water Management graduates (young consultants)
1 Jan 2020 to date	VSB – Technical University of Ostrava, Ostrava Position: PhD Student: Assistant Hydrogeologist / Groundwater Modeller and Researcher Responsibilities: Conducting Research on Water, Geotechnical, and Environmental Technical (Industrial) Projects, Data Preparation and Analysis, Numerical Surface Water and Groundwater Modelling (using MIKE SHE and GMS: MODFLOW, respectively – In Training)

1 Apr 2019 to date **Independent Water and Environmental Consultant, Windhoek / Ostrava**

Responsibilities: Conducting Groundwater studies, Environmental Impact Assessments, advising clients on Environmental and Water Management, Project Management, compiling project proposals and technical reports for Groundwater studies (including reports for water permit applications) and Environmental Impact Assessments (EIAs), and Environmental Management Plans (EMPs).

Major Association/Collaborations

Highlight: Contracted by the African Development Bank (AfDB) with four other independent consultants for a 3.5-month project under the Ministry of Agriculture, Water and Land Reform (MAWLR) *for the Namibia Water Sector Support Programme's Strategic Environmental & Social Assessment (SESA)*. Duration: August 2019 to November 2019.
https://www.afdb.org/sites/default/files/documents/environmental-and-social-assessments/namibia_water_sector_support_program_nwssp_phase_1_esmf_p-na-e00-005.pdf.

1 Jan 2019 – 30 June 2023 **Excel Dynamic Solutions (Pty) Ltd, Windhoek**

Position: Associate Consultant / Technical Advisor - Hydrogeology and EIAs

Responsibilities: Conducting Groundwater (Hydrogeological) studies, Groundwater Monitoring, Project Management & Staff management, Technical compilation of Groundwater studies and EIA reports and EMPs, Training and mentoring of young Consultants.

3 Aug 2015 – 31 Dec 2018 **GCS Water Environmental Engineering Namibia (Pty) Ltd (GCS Namibia), Windhoek**

Position: Country Hydrogeologist, Environmental Assessment Practitioner (EAP) and Safety, Health & Environmental (SHE) Officer

Responsibilities: Conducting Groundwater (Hydrogeological), Geological & Geochemical studies, Geotechnical investigations, Groundwater Monitoring, Air Quality Monitoring, Project Management, Proposal and Technical Report writing, and Environmental Impact Assessments & Environmental Management Plans. Further responsibilities included training junior geologists and environmental assessment practitioners, and ensuring health and safety implementation in the office.

1 06 Jul 2014 – 30 Sept 2014 **Dundee Precious Metals Tsumeb (DPMT), Tsumeb**

Position: Intern Geologist / Hydrogeologist in the Environmental Department (under the Supervision of GCS Water & Environmental Consultants (Pty) Ltd)

Responsibilities: Measuring Groundwater Levels, Water Sampling, and Preservation.

SOME OF THE KEY PROJECTS UNDERTAKEN (INCL. CLIENTS, RESPONSIBILITIES, AND PERIOD/YEAR)**INFRASTRUCTURAL (ROADS, WATER, ENERGY, TELECOMMUNICATIONS, TOURISM) AND MINING-RELATED ENVIRONMENTAL ASSESSMENT STUDIES (EIAS AND WATER STUDIES)**

- Environmental & Social Impact Assessment (ESIA) Study for the Proposed Construction and Operation of a NamPower Wind Project, Including the Transmission Line, in the Tsau //Khaeb (Sperrgebiet) National Park as well as the ESIA for the Meteorological Mast in the Tsau //Khaeb National Park Area – an associated activity to the Wind Farm Project Area of the //Kharas Region. **Client: Namibia Power Corporation Limited (NamPower) under SRK Consulting South Africa (Pty).** **Responsibilities:** compilation of ECC applications & consultation materials, assessment of biological, physical, and social environments, facilitation of the Namibian ESIA process and stakeholder engagement, compilation of the Mast Scoping Report & EMP, and assisting SRK with compiling the Wind Farm ESIA Reports and Environmental & Social Management Plan (ESMP). **Year:** 2025.
- Environmental Impact Assessment (EIA) Study - The Proposed Construction of DR3470: Rooidag Gate (Ou-Cordorn) - Kano Vlei (74km) Gravel Road Standards in the Kavango West Region. **Client: Tweya Consulting Engineers CC for the Ministry of Works & Transport (MWT).** **Responsibilities:** compilation of ECC application & consultation materials, site/route visit & assessment of biological, physical, and social environments, project management, and compilation of the EIA Scoping Report and Environmental Management Plan (EMP). **Year:** 2025.
- Environmental Impact Assessment (EIA) Studies and Development of Environmental Management Plans (EMPs) for 9 the Proposed New MTC Sites Built in the Kunene, Oshikoto, Ohangwena, Kavango East & Kavango West Regions: Application for Environmental Clearance Certificates (ECCs). **Client: Mobile Telecommunications Limited (MTC Namibia).** **Responsibilities:** compilation of ECC applications & consultation materials, assessment of biological, physical, and social environments, facilitation of stakeholder & community engagements, project management, and compilation of 9 EIA Scoping Reports and Environmental Management Plans (EMPs). **Year:** 2025.
- Hydro-census / Aquifer Assessment for Farm Otavifontein No. 794 near Otavi in the Otjozondjupa Region (Phase 1). **Client: O&L Fresh Produce (Pty) Ltd, a subsidiary of Ohlthaver & List Group.** **Responsibilities:** Baseline assessment, site visit, aquifer assessment, co-updating and creation of a new numerical groundwater modeling for the new groundwater abstraction permit application, and compilation of the Hydrogeological Report, as well as the renewal of the Environmental Clearance. **Year:** 2024-2025
- Baseline Hydrogeological Assessment for the Proposed Rehabilitation and Widening of T0202 between Usakos and Arandis (89km) in the Erongo Region: Water Availability/Supply Assessment. **Client: Element Consulting Engineers for the Roads Authority of Namibia.** **Responsibilities:** Baseline Assessment, Water Supply Options Assessment, and Baseline Hydrogeological Assessment Report compilation. **Year:** 2024.
- Hydrogeological Assessment Studies for the Proposed Landfill Site, upgrading of oxidation ponds, and proposed new Borehole in Stampriet Village, Hardap Region. **Client: CNM Investments for Stampriet Village Council.** **Responsibilities:** Baseline Hydrogeological impact assessments, Compilation of 3 Hydrogeological Impact Assessment Reports as part of the EIA Studies. **Year:** Year: 2024.
- ECC Application and Development of the Comprehensive Environmental Management

- Environmental Impact Assessment (EIA) Study for the Proposed Establishment and Operation of Ekoto Tented Camp in Orupupa Conservancy, Kunene Region, Namibia. **Client: The Forgotten Valley Camps CC (through Kunene Conservation). Responsibilities:** Site visit & assessment of biological, physical, and social environments, stakeholder & community engagement meetings, and compilation of the EIA Scoping Report and Environmental Management Plan (EMP). **Year:** 2024.
- Environmental Assessment (EA) for the establishment and operation of Doros Plains Lodge southwest of Khorixas in the Kunene Region. **Client: Ultimate Safaris (Pty) Ltd** under Resilient Environmental Solutions CC. **Responsibilities:** Environmental impact assessment, facilitation of stakeholder engagement, Site visit & assessment, compilation of the EA Report and EMP. **Year:** 2024.
- Baseline Hydrogeological Assessment for the Proposed Rehabilitation and Widening of T0202 between Usakos and Arandis (89km) in the Erongo Region: Water Availability/Supply Assessment. **Client: Element Consulting Engineers for the Roads Authority of Namibia. Responsibilities:** Baseline Assessment, Water Supply Options Assessment, and Baseline Hydrogeological Assessment Report compilation. **Year:** 2024.
- Hydrogeological Assessment Studies for the Proposed Landfill Site, upgrading of oxidation ponds, and proposed new Borehole in Stampriet Village, Hardap Region. **Client: CNM Investments for Stampriet Village Council. Responsibilities:** Baseline Hydrogeological impact assessments, Compilation of 3 Hydrogeological Impact Assessment Reports as part of the EIA Studies. **Year:** 2024.
- Environmental Impact Assessment (EIA) Study for the Proposed Construction and Operation of a New Telecommunication Lattice Tower and associated activities in Okahandja Town, Otjozondjupa Region. **Client: Mobile Telecommunications Limited (MTC Namibia). Responsibilities:** Site visit & assessment of biological, physical, and social environments, neighboring stakeholders' engagement (one-on-one), and compilation of the EIA Scoping Report and Environmental Management (EMP). **Year:** 2024.
- Environmental Impact Assessment (EIA) Study for the Proposed Construction and Operation of a Wastewater Treatment Plant (WWTP) and Associated Infrastructures, Environmental Management Plan (EMPs) for the Upgrading and Continued Operations Existing S. I. !Gobs Senior Secondary School Overflow Catchment (Temporal Detention Holding Ponds) and Decommissioning Plan for Municipal and Ozondje Oxidation Ponds in Omaruru Town, Erongo Region. **Client: Omaruru Municipality & Trinitas Consulting Engineers (under Mafuta Environmental Consultants). Responsibilities:** Environmental Impact Assessment, facilitation of stakeholder engagement, compilation of the EIA Scoping Report and EMPs, as well as the Decommissioning Plan. **Year:** 2024
- Environmental Impact Assessment (EIA) Study - Four Existing and Three New Proposed Borrow Pits for the Upgrading of DR3645 (16.3km: Engoyi to Omuntele) to Low Volume Seal (LVS) standards in the Oshikoto Region. **Client: Burmeister & Partners (Pty) Ltd Consulting Engineers/Roads Contractor Company (RCC) for Roads Authority of Namibia. Responsibilities:** Site visit & assessment of biological, physical, and social impacts of borrow pits and road route, facilitation of 4 community engagement continuation from initial road works from 2007/2008 onwards, and compilation of the EIA Scoping Report and Environmental Management & Rehabilitation (EMRP). **Year:** 2024.
- ECC Application and Development of the Comprehensive Environmental Management Plan (EMP) for the proposed upgrading of the existing Oxidation ponds in Rehoboth Town, Hardap Region, Namibia. **Client:**

Dunamis Consulting Engineers & Project Managers (Pty) Ltd for Rehoboth Town Council.

Responsibilities: Site Visit & Assessment, Compilation of the Comprehensive EMP. **Year:** 2024.

- Hydrogeological Assessment for the Proposed Upgrade Low Volume Seal (LVS) Bitumen Road for DR3425-DR3447-DR3400 (155km: Sikanduko-Ncaute-Ndonga Linena) in the Kavango East Region: A Part of the Environmental & Social Impact Assessment Study. **Client: D&P Consulting Engineers, Archetype Project Consultants, & Tweya Consulting Engineers (DAT-Joint Venture) for the Roads Authority of Namibia.** **Responsibilities:** Site/route Visit & Assessment, Groundwater Supply Assessment, Selected stakeholder/public familiarization (pre-consultation meetings), compilation of the Water Supply Assessment Report. **Year:** 2024.
- Hydrogeological Impact Assessment for the Proposed Aquaculture Project and associated Activities near Henties Bay Town in the Erongo Region, Namibia. **Client: EnviroPlan Consulting CC for Blue Ridge Aquaculture Africa (Pty) Ltd.** **Responsibilities:** Site visit & assessment, and Compilation of the Water Resources (Hydrogeological) Impact Assessment Report. **Year:** 2024.
- Hydrological & Hydrogeological Assessment Study for the Upgrading and Subsequent Operation of a Fleet Management Fuel Station in Windhoek, Khomas Region. **Client: Namibia Environmental Consultants CC for the City of Windhoek.** **Responsibilities:** Site visit & assessment, and Compilation of the Water Resources (Hydrogeological) Impact Assessment Report. **Year:** 2023/2024.
- Environmental Scoping Assessment Study for the proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 6990, Located West of Uis Settlement in the Erongo Region, and EPL-8904 in the Kunene Region. **Client: Gemco Investment CC.** **Responsibilities:** Environmental impact assessments, public & stakeholders' engagement/consultation, Site visits and assessments, compilation of the EIA Reports and Environmental Management Plans (EMPs). **Year:** 2023.
- Environmental & Social Impact Assessment Studies for the Ruacana South Phase 1 & Katima-Ngoma Phase 3 & 4 and the Reservoir Rural Water Supply Schemes in the Omusati and Zambezi Regions - as part of the Namibia Water Sector Support Program (NWSSP). Namibia. **Client: Ministry of Agriculture, Water and Land Reform (MAWLR).** **Responsibilities:** Baseline Assessments, Facilitation of Stakeholders' Engagement, Compilation of ESIA Reports & ESMPs. **Year:** 2023.
- Hydrogeological Assessment Study for the Construction of Otavi Primary School in Otavi, Otjozondjupa Region. **Client: I.D Building Contractors CC.** **Responsibilities:** Hydrogeological Baseline Assessment, Site Visit & Assessment, and Compilation of the Hydrogeological Assessment Report. **Year:** 2023
- Groundwater Supply Assessment and Environmental & Social Impact Assessment (ESIA) for the Upgrade to Low Volume Bituminous Seal Standard of the DR3425 Ncaute to Karukuvisa Road (87km) in the Kavango East and West Regions. **Client: D&P Consulting Engineers, Archetype Project Consultants, & Tweya Consulting Engineers (DAT-Joint Venture) for the Roads Authority of Namibia.** **Responsibilities:** Site/route Visit & Assessment, Groundwater Supply Assessment, Stakeholder/public engagement (consultation meetings facilitation), compilation of the Water Supply Assessment & ESIA Reports, and ESMP. **Year:** 2023.
- Environmental and Social Scoping Assessments for the Proposed Mineral Prospecting and Exploration Activities on two Exclusive Prospecting Licenses (EPL) No. 8955 situated North of Opuwo Town and 8967 located northwest of Sesfontein in the Kunene Region, Namibia. **Client: Max Kefas Nuseb (under OMAVI Geotechnical & Environmental Services).** **Responsibilities:** Environmental impact assessments, public &

stakeholders' engagement/consultation, Site visits and assessments, compilation of the two EIA Reports and Environmental Management Plans (EMP). **Year:** 2023.

- Environmental Scoping Assessment (ESA) Study for the Proposed Prospecting and Exploration Activities on Two Exclusive Prospecting Licenses (EPLs) No. 8779 & 8780 located northwest of Sesfontein and EPL-8770 near Opuwo Town in the Kunene Region, Namibia. **Client:** **Tamarillo Investments (Pty) Ltd.** **Responsibilities:** Environmental impact assessments, public & stakeholders' engagement/consultation, Site visits, a compilation of the two EIA Reports, and Environmental Management Plans (EMP). **Year:** 2023.
- Environmental Scoping Assessment (ESA) Study for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8838 at Warmbad Settlement in the //Kharas Region, Namibia. **Client:** **Mistletoe Investments Pty Ltd.** **Responsibilities:** Environmental baseline assessment, public & stakeholders' engagement/consultation, compilation of the EIA Report and Environmental Management Plan (EMP). **Year:** 2023.
- Environmental & Social Impact Assessment (ESIA) for the Upgrade to Low Volume Bituminous Seal Standard of the DR3425 Ncaute to Karukuvisa Road (87km) in the Kavango East and West Regions. **Client:** **D&P Consulting Engineers, Archetype Project Consultants, & Tweya Consulting Engineers (DAT-Joint Venture)** for the **Roads Authority of Namibia.** **Responsibilities:** Site/route Visit & Assessment, Groundwater Supply Assessment, Stakeholder/public engagement (consultation meetings facilitation), compilation of the ESIA Report & ESMP. **Year:** 2023.
- Environmental Impact Assessment (EIA) Studies for the Proposed Dewatering of the Underground Mine through Asis West (AW) and Asis Far West (AFW) shafts and Underground Exploration & Mining Activities and on Mining Licenses (MLs) No. 73B, 16 & 9 at the Kombat Mine in the Otjozondjupa Region, Namibia. **Client:** **Trigon Mining Namibia (Pty) Ltd (under Excel Dynamic Solutions (Pty) Ltd).** **Responsibilities:** Environmental impact assessments, public & stakeholders' engagement/consultation, Site visit, Assessment, compilation of the two EIA Reports and Environmental Management Plans (EMPs), and application of the Groundwater abstraction permit. **Year:** 2022/2023.
- Environmental Scoping Assessments (ESAs) Studies for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 7582 located North of Omaruru and EPL-8788 west of Uis in the Erongo Region. **Client:** **Tarah Hainana.** **Responsibilities:** Environmental impact assessments, public & stakeholders' engagement meetings, Site visits & Assessments, compilation of the EIA Reports and EMPs. **Year:** 2023.
- Environmental Impact Assessment (EIA) Study for the Establishment of Urban Agricultural Activities on Extension 5 in Karibib, Erongo Region. **Client:** **Karibib Town Council (under Excel Dynamic Solutions (Pty) Ltd).** **Responsibilities:** Environmental impact assessment, public & stakeholders' engagement, Site visit & Assessment, compilation of the EIA Report and EMP. **Year:** 2022/2023.
- Development of the Comprehensive Environmental Management Plan (EMP) for the Existing Effluent Treatment Plant in Lüderitz, //Karas Region, Namibia. **Client:** **Lüderitz Town Council** under Excel Dynamic Solutions (Pty) Ltd. **Responsibilities:** Project Supervision of 2 interns/graduates working on the project, Site Visits and Assessment, and Compilation of the Comprehensive EMP. **Year:** 2022-2023.
- The Physical Environmental Baseline (Soils, Geology, Hydrogeology, and Hydrology) for Aquacultural Activities in Dolphin Beach Aqua Park, Walvis Bay in the Erongo Region, and for the Maricultural Project Site

- in Swakopmund, Erongo Region. **Client: KPM Environmental Consultants. Responsibilities:** The Baseline Write-Up of the Physical Environment (Soils, Geology, Hydrogeology, and Hydrology). **Year:** 2022/2023.
- Environmental Assessment (EA) for the establishment and operation of Huab Under Canvas (renamed to Camp Doros) southwest of Khorixas in the Kunene Region. **Client: Ultimate Safaris (Pty) Ltd** under Resilient Environmental Solutions CC. **Responsibilities:** Environmental impact assessment, stakeholder engagement, Site visit & assessment, compilation of the EA Report and EMP. **Year:** 2023.
 - Desktop Water Resources Assessment as part of the Environmental Impact Assessment (EIA) for the proposed Irrigation Activities in Divundu Settlement, Kavango East Region. **Client: I.N.K Enviro Consultants CC. Responsibilities:** Baseline Assessment of surface & groundwater resources and Compilation of Water Resources Impact Assessment Report. **Year:** 2023
 - Geohydrological/Hydrogeological Assessment Report as part of the Environmental Impact Assessment (EIA) for the Proposed Mining Activities on the Mining Licence (ML) No. 247 (ML-247) located northeast of Karibib in the Erongo Region, Namibia. **Client: Africa Big Rhino Mining (Pty) Ltd. Responsibilities:** Site visit, Assessment, compilation of the Groundwater Assessment Report. **Year:** 2022. The compilation of the Technical Report for the Application of Groundwater Abstraction & Use Permit. **Year:** 2023.
 - Hydrogeological Assessment Study for the proposed New Landfill within the Karibib Townlands of the Erongo Region, Namibia. **Client: Karibib Town Council. Responsibilities:** Site visit, Data collection & analysis, compilation of the Groundwater Impact Assessment Report. **Year:** 2022.
 - Amendment of the Environmental Impact Assessment (EIA) & Development of the Environmental Management Plan (EMP) for the Road Design for the Proposed Upgrade to Bitumen Standard of the DR3633 Tsandi-Omugulugombashe road (22km) in the Omusati Region, Namibia. **Client: D&P, Archetype, and Tweya (DAT-Joint Venture) for the Roads Authority of Namibia. Responsibilities:** Updating the EIA Report and EMP to incorporate the borrow pits. **Year:** 2022.
 - Desktop Hydrological & Hydrogeological Assessment Study for the Construction (Establishment) and Operation of a Bulk Fuel Storage Facility at the Eros Airport, Windhoek in the Khomas Region, Namibia. **Client: Central Oil Namibia (Pty) Ltd. Responsibilities:** Compilation of the Water Resources Impact Assessment Report. **Year:** 2022.
 - Socio-economic Impact Assessment (and Action Plan) for B2Gold Otjikoto Mine (current status and mine closure preparation) in the Otjozondjupa Region, Namibia. **Client: Southern African Institute for Environmental Assessment (SAIEA) for B2Gold Namibia. Responsibilities:** Conducting Employee Interviews (One-on-One) / Socio-Economic Surveys with the B2Gold Namibia (Otjikoto Mine) employees from the Mining and Environmental Departments / Sections (for the representative sample of 330 employees). **Year:** 2022
 - Hydrogeological Impact Assessment Report for the Proposed Establishment of a Mixed Residential and Commercial Property Development (Avis Ridge) at Avis Dam of the Klein Windhoek Suburb, Windhoek – Khomas Region, Namibia. **Client: OMAVI Geotechnical & Geo-Environmental Consultants CC for KHD Investments CC. Responsibilities:** Site visit, Data collection & analysis, compilation of the Groundwater Assessment Report. **Year:** 2022
 - Feasibility Study: Upgrading Scenario for MR033 Mata-Mata Border Post - Gochas -Stampriet (291 Km) in the Hardap Region and a small part of //Karas Region, Namibia. **Client: Archetype Project Consultants, D&P Consulting Engineers & Amir Consulting Services (ADA-Joint Venture) for the Roads Authority.**

- Responsibilities:** Site Visit & Assessment, Hydrogeological Impact Assessment, Co-Author of the Environmental & Social Impact Assessment (ESIA) Report & Management Plan (ESMP). **Year:** 2022
- The Strategic Environmental Assessment (SEA) for the Windhoek Municipal Council (City of Windhoek). In the Khomas Region: Strategic Planning for 2020 to 2023. **Client: Windhoek Municipal Council (City of Windhoek).** **Responsibilities:** Compilation of the Hydrogeological (Groundwater) Baseline Status Quo, Impact Assessment & Implementation. **Year: 2021-2023.**
 - Environmental Scoping Assessment Study for the Proposed Mineral Prospecting & Exploration Activities on five (5) Exclusive Prospecting Licenses (EPLs) No. 8655, 8656, 8664, 8671 & 8672 located northeast of Gobabis in the Omaheke Region, Namibia. **Client: Noronex Exploration and Mining Company Pty Ltd,** under Excel Dynamic Solutions (Pty) Ltd. **Responsibilities:** Site visit & Assessment, Facilitation of Public Participation & Engagement, and Compilation of Environmental Assessment Report & EMP. **Year: 2022**
 - Comprehensive Environmental Management Plans (EMPs) for the Existing Solid Waste Dumpsites: Rehoboth in the Hardap Region and Rundu in the Kavango East Region, Namibia. **Client: Rehoboth Town Council & Rundu Town Council** under Excel Dynamic Solutions (Pty) Ltd. **Responsibilities:** Site Visits & Assessments, Data Collection & Analysis, Compilation of Comprehensive EMPs, Project Supervision of the interns / environmental trainees on the projects, and Project Documents Review. **Year: 2022**
 - Environmental Impact Assessment (EIA) Study for the Oxidation Ponds and Sewage Treatment Plant in Eenhana Town, Ohangwena Region, Namibia. **Client: Eenhana Town Council** under Excel Dynamic Solutions (Pty) Ltd. **Responsibilities:** Project Supervision of 4 interns/graduates working on the projects, Site Visits and Assessments, and Project Documents Review. **Year: 2022-ongoing**
 - Development of the Environmental Management Plan (EMP) for the Existing Effluent Treatment Plant in Lüderitz, //Karas Region, Namibia. **Client: Lüderitz Town Council** under Excel Dynamic Solutions (Pty) Ltd. **Responsibilities:** Project Supervision of 4 interns/graduates working on the projects, Site Visits and Assessments, and Project Documents Review. **Year: 2022 -current. Year: 2022.**
 - Environmental and Social Impact Assessment (ESIA) for the Upgrade of the Ohangwena II Wellfield Water Supply Scheme in the Ohangwena Region, Namibia. **Client: NamWater** under Outrun Consultants CC. **Responsibilities (Subcontractor):** Preliminary Public & Stakeholders' Consultation Meetings Facilitation, Site Visit and Assessments. **Year: 2022.**
 - Baseline Water Resources Assessment & Environmental and Social Impact Assessment (ESIA) for the Upgrade of the Ohangwena II Wellfield Water Supply Scheme in the Ohangwena Region, Namibia - as part of the Namibia Water Sector Support Program (NWSSP). **Client: Namibia Water Corporation Limited (NamWater) (under Outrun Consultants CC and Element Consulting Engineers).** **Responsibilities:** Public & Stakeholders' Consultation Meetings Facilitation (6 meetings), Site Visit & Assessments, and contributing author of the ESIA documents. **Year: 2022-2023.**
 - Development of the Environmental Compliance Guideline Manual for the Flexible Land Tenure System (FLTS) Implementation by the Relevant Authorities in Namibia. **Client: Ministry of Agriculture, Water and Land Reform (supported by GIZ Namibia under D&P Engineers and Environmental Consultants).** **Responsibilities:** Compilation of the Guideline Manual and preparation of the Draft FLTS Manual Presentation. **Year: 2022.**
 - Environmental Scoping Assessment (ESA) Study for the Construction, Operation, and Decommissioning of a New Waste Dumpsite for the Helao Nafidi Town Council, Ohangwena Region, Namibia. **OMAVI Geotechnical**

- & Geo-Environmental Consultants CC (O. B. O Helao Nafidi Town Council). Responsibilities:** Compilation of the ESA Report and Environmental Management & Rehabilitation Plan (EMRP). **Year: 2022**
- Environmental Impact Assessment Study for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 7603, Located Northwest of Usakos, and EPL-7153 near Karibib in the Erongo Region. Client: **Dwyka Investment CC. Responsibilities:** Site visits & Assessments, Facilitation of Public Participation & Engagements, and Compilation of EIA Reports & EMPs. **Year: 2023**
 - Environmental Impact Assessment Study for the Proposed Prospecting and Exploration Activities on Exclusive Prospecting License (EPL) No. 8713 Southwest of Helmeringhausen in the //Karas Region. Client: **Loudima Resources (Pty) Ltd. Responsibilities:** Site visit & Assessment, Facilitation of Public Participation & Engagement meeting, and Compilation of EIA Report & EMP. **Year: 2023**
 - Renewal, Amendment, and Transfer of the Environmental Clearance Certificate (ECC) for the Continued Operation of the Existing Walvis Bay Stone Processing Facility on Farm No. 38 and Reclamation / Rehabilitation of an Abandoned Quarry within the Walvis Bay Rural Constituency, Erongo Region, Namibia. Client: **OMAVI Geotechnical & Geo-Environmental Consultants CC (O. B. O BC Stone Products Namibia (Pty) Ltd). Responsibilities:** Compilation of the ECC Renewal, Transfer & Amendment Applications, Environmental Overview, Management & Rehabilitation Plan (EMRP), Public/Stakeholder Updated & Consultation Facilitation, and Site visit & assessment. **Year: 2022**
 - Environmental Assessment for the Proposed Construction and Operation of Four Oxidation Ponds in the Tses Village, //Karas Region. Client: **Dunamis Consulting Engineers & Project Managers (Pty) Ltd. Responsibilities:** Site visit & Assessment, Facilitation of Public Participation, and Compilation of Environmental Assessment Report & EMP as well as Bi-Annual Environmental Monitoring. **Year: 2021 - 2023**
 - Geohydrological Assessment for the Proposed Upgrade to Bitumen Standard of the DR1953 Karibib-Otjimbingwe Road (56km) in the Erongo Region, Namibia: Road Construction Water Supply. Client: **Tweya Consulting Engineers** for the **Roads Authority of Namibia**. Responsibilities: Data collection & analysis, compilation of the Groundwater Report. **Year: 2021**
 - Geohydrological Assessment for the Proposed Upgrade to Bitumen Standard of the DR3616 Tsandi-Onesi-Epalela road (48km) in the Omusati Region, Namibia: Road Construction Water Supply. Client: **D&P, Archetype, and Tweya (DAT-Joint Venture) Consulting Engineers for the Roads Authority of Namibia. Responsibilities:** Data collection & analysis, compilation of the Groundwater Report. **Year: 2021**
 - Detailed Environmental Assessment for the proposed exploration and mining of dimension stone on Mining Claims No. 71609 to 71617 near Arandis in the Erongo Region, Namibia. Client: **OMAVI Geotechnical & Geo-Environmental Consultants CC (O.B.O Okonde Mining and Exploration CC). Responsibilities:** Facilitation of Public Participation, Compilation of Environmental Assessment Report & EMP, and incorporating specialists' input into the Report and EMP. **Year: 2021**
 - Desktop Geohydrological Assessment (DGA): Proposed Groundwater Abstraction for Agricultural activities along the Orange River between Oranjemund (Namdeb Mining area) and Rosh Pinah in the Oranjemund Constituency, //Karas Region, Namibia. Client: **KPM Environmental Consulting (O.B.O. Oranjemund Constituency Office). Responsibilities:** Baseline Geohydrological Assessment, Data Analysis, and Compilation of the Report. **Year: 2020**
 - Hydrogeochemical Data Management of Potential Hydrocarbon Contamination Areas for the Kladno District Project in the Central Bohemian Region, Czech Republic. Client: **Green Gas DPB a.s** (under the VSB

Technical University of Ostrava). **Responsibilities:** Groundwater and soil chemistry, Data Analysis in Preparation for Reporting, & Database entry. **Year:** 2020

- Groundwater Data Management for the Prackovice D8 (highway) Landslide Project in the Litoměřice District, Ústí nad Labem Region of the Czech Republic. **Client:** **Czech Geological Survey** under VSB-Technical University Ostrava projects. **Responsibilities:** Borehole Data Analysis in Preparation for Reporting & Numerical Modelling. **Year:** 2020
- Environmental Scoping Assessment (ESA) Studies for the Proposed Exploration Activities of Dimension Stone and Industrial Minerals on Exclusive Prospecting Licenses (EPLs) 6139 and 7008 near Karibib in the Erongo Region, Namibia. **Client:** **OMAVI Geotechnical & Geo-Environmental Consultants CC (O.B.O Agulhas Mineral Resources CC & Naris Mineral Resources CC**, respectively). **Responsibilities:** Facilitation of Public Participation and Engagements, Site visits & assessments, Compilation of Environmental Assessment Reports & EMPs. **Year:** 2020
- Desktop Water Resources Assessments as part of the two Environmental Impact Assessments (EIAs) for the Embankment of Muzii and Nankuntwe Combined School Platforms in the Zambezi Region, Namibia. **Client:** **I.N.K Enviro Consultants (O.B.O Zambezi Regional Council)**. **Responsibilities:** Baseline Assessment of surface & groundwater resources and Compilation of Water Resources Risk Assessment Reports. **Year:** 2020
- Desktop Geohydrological Assessment (DGA) as part of the Environmental Impact Assessments (EIA) - The Proposed Eco-Friendly Seawater Desalination Plant in Henties Bay, Erongo Region, Namibia. **Client:** **Namib Eden Trading CC**. **Responsibilities:** Desktop Study and Compilation of the Water Impact Resources Report. **Year:** 2019/2020
- Desktop Geohydrological Assessments as part of the Environmental and Social Impact Assessments (ESIAs) for the Proposed Pilot Desalination Plants in Bethanie Town and Grünau Settlement in the //Karas Region, Namibia. **Client:** **KPM Environmental Consulting (O.B.O NamWater)**. **Responsibilities:** Baseline Geohydrological Assessment, Data Analysis, and Compilation of the two Reports. **Year:** 2019
- A Strategic Environmental and Social Assessment (SESA) / Environmental and Social Management Framework (ESMF) for the Namibia Water Sector Support Program (NWSSP), Namibia. **Client:** **African Development Bank Group (AfDB) with the Ministry of Agriculture, Water and Land Reform (MAWLR)**. **Responsibilities:** Baseline Hydrogeological and Environmental Assessment, Reports & Framework Compilation, Key Stakeholders Engagement, and Internal Documents Review. **Year:** 2019/2020
- Environmental Assessment (EA) for the proposed Construction and Operation of a Wastewater Treatment Plant for Linus Shashipapo Secondary School in the Kavango East Region, Namibia. **Client:** **Dunamis Consulting Engineers & Project Managers**. **Responsibilities:** Project Management, Site visit & Assessment, Facilitation of Public Participation (including public meetings), and Compilation of Environmental Assessment Report & EMP. **Year:** 2019
- Hydrogeological Assessment and Groundwater Abstraction and Use Permit Application & Environmental Scoping Assessment for the proposed Lucerne Irrigation Scheme on Farm Klein Nabas 137 (Marlo Portion) near Stampriet, Hardap Region, Namibia. **Client:** **Green Team Consultants (O.B.O Jonkheer Boerdery Pty Ltd)**. **Responsibilities:** Site visit and assessment, Compilation of Desktop Groundwater Report and Technical Report for Groundwater Permit application, and Environmental Assessment Report & EMP. **Year:** 2019

- Hydrogeological Study for the Expansion of Tsumeb Smelter Monitoring network (new boreholes) in the Oshikoto Region, Namibia. **Client: Dundee Precious Metals Tsumeb (DPMT).** **Responsibilities:** Borehole siting (geophysical survey), Drilling & borehole construction supervision & data analysis. **Year:** 2018
- National Environmental Assessment for the MTC Namibia 100% Population Coverage: Proposed new 554 network towers/sites in all the Regions of Namibia. **Client: Mobile Telecommunications Limited (MTC Namibia).** **Responsibilities:** Facilitation of (Northern Regions) Regional Focused Consultation Meetings, Compilation of 14 Draft & 14 Generic EMPs, Site visits, Landscape (soil, topography, hydrology, and geohydrology) specialist, and Environmental Assessment Reports. **Year:** 2017-2018
- Updating of the Numerical Groundwater Flow Model for the Lower Kuiseb River Aquifers near Walvis Bay, Erongo Region, Namibia. **Client: Namibia Water Corporation Limited (NamWater).** **Responsibilities:** Co-training of NamWater Project Staff (Modelling) and Data Collection & Collation, assisted with the updating of the numerical model, and overall Model Update Report Compilation. **Year:** 2018
- Groundwater Monitoring as part of Environmental Audit and Groundwater abstraction & use permit license renewal for Okatji Mine, Erongo Region, Namibia. **Client: Okatji Marble Mine CC.** **Responsibilities:** Compilation of Groundwater Abstraction Permit Report, Training of mine personnel on EMP implementation and groundwater level measurement & sampling, and Environmental monitoring report. **Year:** 2017/2018
- Dust monitoring for Otjozondou Mine for a period of 6 months (Aug 2017 to Jan 2018). **Client: Otjozondou Mining (Pty) Ltd.** **Responsibilities:** Training of Site Personnel on bucket installation at the site, Monitoring, and Monthly Air Quality Report Compilation. **Year:** 2017-2018.
- Geohydrological Investigation of the Groundwater Resources at Outjo and the Possible Impact of the Development of 60 New Residential Plots in the Kunene Region, Namibia. **Client: Municipality of Outjo.** **Responsibilities:** Field Investigation, Project Management, Data Collection & Analysis, Technical Report Compilation, and Client Liaison. **Year:** 2016
- Groundwater Quality Assessment for Sambyu Village Water Supply Scheme, Kavango East Region, Namibia. **Client: Iliso Consulting Namibia O.B.O NamWater.** **Responsibilities:** Groundwater sampling, Site visit, Groundwater impact assessment, Compilation of groundwater quality report, and Project management. **Year:** 2017.
- Groundwater Monitoring and Sampling for the De Brochen Project in the Limpopo Province, South Africa. **Client: Anglo American Platinum.** **Responsibilities:** Groundwater Level measurement, Surface water sampling. **Year:** 2016
- Environmental Hydrocarbon Contamination Assessments Phase 1 for Interchain Logistics and Nulaid Fuel Stations in Johannesburg, Gauteng Province, South Africa. **Client: SASOL.** **Responsibilities:** Site Inspection, Measurement of water levels in tank observation wells, Soil Augering, sampling, and co-reporting. **Year:** 2016
- Groundwater Pollution and Level Monitoring and Sampling. **Client: Dundee Precious Metals Tsumeb (DPMT)** in the Oshikoto Region, Namibia. **Responsibilities:** Hydrocensus, Borehole profiling, and Data analysis. **Year:** 2015 to 2017
- Skorpion Zinc Mine Closure Plan in the //Karas Region, Namibia. **Client: Skorpion Zinc (Pty) Ltd.** **Responsibilities:** Compilation of Mine Closure Report, Geochemical, and Groundwater input, Integrating specialists' inputs in EIA report. **Year:** 2015

KEY ENERGY INFRASTRUCTURE PROJECTS' ENVIRONMENTAL ASSESSMENT STUDIES

- Environmental Impact Assessment (EIA) Supplementary Study to meet IFC Standards – Proposed Construction and Operation of a 55MW Solar Photovoltaic (PV) Plant and Associated Infrastructures on a Portion of Portion 2 of Farm Klein Spitskop No. 153 near Keetmanshoop, ||Kharas Region. **Client: SolNam Energy (Pty) Ltd. Responsibilities:** Compilation of the Background Information Document (BID), facilitation of public & stakeholders' engagement/consultation meeting, Site visit and assessment, Compilation of the Stakeholder Engagement Plan (SEP), supplementary EIA Report, and Environmental Management Plan (EMP). **Year:** 2023.
- Bi-annual environmental Monitoring (October 2023 onwards) for the Construction of the Cleanergy Green Hydrogen Demonstration Plant (GHDP) in Walvis Bay Town of the Erongo Region, Namibia. **Client: Cleanergy Solutions Namibia (Pty) Ltd (a JV between Ohlthaver & List and CMB.TECH). Responsibilities:** Site Visit & Auditing, Observations, conducting personnel interviews on Environmental Compliance, and Compilation of the Monitoring Report. **Year:** 2023.
- Environmental Impact Assessment Study and Development of the Environmental Management Plan for the proposed Cleanergy Green Hydrogen Demonstration Plant, Environmental Impact Assessment, Walvis Bay, Namibia. **Client: Client: Cleanergy Solutions Namibia (Pty) Ltd (JV between Ohlthaver & List and CMB.TECH). Responsibilities:** Project Consultant under SRK Consulting South Africa) (Pty) Ltd. **Year:** 2022.
- Environmental Impact Assessment (EIA) for the Environmental Clearance Certificate (ECC) of the Construction and operational activities of a 5-megawatt (MW) Solar (Photovoltaic) Power Plant and ongoing Bi-Annual Environmental Monitoring in Okatope, Oshikoto Region, Namibia. **Client: Unisun Energy (Pty) Ltd (Enertronica Santerno Group (Italy)). Responsibilities:** Environmental Clearance Certificate Renewal Report, Site Visit, Environmental Compliance Check, Project Management, and Continued Environmental Auditing. **Year:** 2021 to date.
- Environmental Impact Assessment (EIA) amendment for the ECC of the 22.80 Mega-Watt (MW) Trekkopje Solar (Photovoltaic) Park and ongoing Bi-Annual Environmental Monitoring near Arandis in the Erongo Region, Namibia. **Client: Sertum Energy Namibia Pty Ltd. Responsibilities:** Compilation of the ECC Renewal Report/Updating the EMP, Site Assessment, Project Management, and Continued / Ongoing Bi-Annual Environmental Auditing. **Year:** 2020 to date.
- Comprehensive Draft Environmental Management Plan (EMP) for the Operations and Maintenance of the Existing 3-megawatt (MW) Solar Photovoltaic (PV) Park within the Townlands of Arandis in the Erongo Region, Namibia: An Application for Environmental Clearance Certificate (ECC). **Client: OLC Arandis Solar Energy Pty Ltd. Responsibilities:** Site Visit & Auditing, Compilation of the Comprehensive EMP, and Project Management. **Year:** 2022.
- Environmental Scoping Assessment (ESA) for the Proposed Construction and Operation of a 125km 33kV Overhead Power Distribution Line from Maroelaboom to Mangetti Dune in the Otjozondjupa Region. **Client: Central North Regional Electricity Distributor (CENORED). Responsibilities:** Environmental impact assessment, public & stakeholders' engagement, Site/route visit, Assessment, compilation of the EIA Report and EMP. **Year:** 2020.
- Environmental Assessment (EA) for the establishment and operation of Camp Onduli (Onduli Ridge) near Khorixas in the Kunene Region. **Client: Ultimate Safaris (Pty) Ltd under Resilient Environmental Solutions**

CC. **Responsibilities:** Environmental impact assessment, public & stakeholder engagement, Site visit & assessment, compilation of the EA Report and EMP. **Year:** 2019.

- Environmental Assessments of two 66 kV powerlines for the Solar PV sites near Keetmanshoop, //Karas Region, and Mariental, Hardap Region, Namibia. **Client: GreeNam Electricity (Pty) Ltd. Responsibilities:** Compilation of Environmental Assessment Reports & EMPs and Public Consultation. **Year:** 2017.

REFERENCES

Mrs. Eloise Carstens (Former GCS Namibia Country Manager)

Environmental Management and Authorization Unit

Tel: +64 27 258 9337, Email: eloise@ec-it.org

Mr. Sheldon Husselmann (Former Senior Environmental Assessment Practitioner: GCS Namibia)

Environmental Management and Authorization Unit

Email: shusselmann@gmail.com

Mr. Kobus Troskie (GCS Johannesburg: Previous Technical Supervisor)

Water Resources, Oil and Gas Sub-Unit

Tel: +27 (11) 803 5726, Email: kobus@gcs-sa.biz

Prof. Ing. Nad'a Rapantova, CSc. (Professor and PhD Study Supervisor)

Department of Geotechnics & Underground Engineering (Faculty of Civil Engineering): VSB – Technical University of Ostrava, Czech Republic

Email: nada.rapantova@vsb.cz

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, these data correctly describe me, my educational qualifications, and my professional experience.



.....
Signature

Date: 19 March 2025

EAPAN



ENVIRONMENTAL ASSESSMENT PROFESSIONALS OF NAMIBIA

PROFESSIONAL MEMBERSHIP 2025

This is to certify that

Fredrika Shagama

*Is a registered member of EAPAN under the following
membership category*

“PRACTITIONER”

President

Secretary

Membership No: 183

Valid from 01 January 2025 to 31 December 2025