COORDINATOR / EXPERT
RANGELAND REMOTE SENSING

Presentation of Nitidæ

Nitidæ was created in 2017 from the merger of two French associations: Etc Terra (founded in 2012) and Rongead (founded in 1983). It aims to design, develop and run projects that combine environmental conservation with the strengthening of local economies. With a team of over 180 employees, Nitidæ currently carries out forty projects, mainly in Madagascar, Burkina Faso, Mozambique, Mali and Côte d'Ivoire.

Through field projects that can be replicated on a large scale, Nitidæ aims to demonstrate that it is possible and beneficial to reconcile economic dynamism with the preservation of natural capital in rural areas of developing countries. Nitidæ believes that this economic and environmental approach is an effective and sustainable way to tackle the development and well-being challenges of the populations of these countries, as well as the global issues such as climate change and the decline in biodiversity. Nitidæ also provides technical expertise to companies, particularly in the agri-food sector, seeking to improve the performance of agricultural value chains, reduce their impact on the environment and stimulate local economic development linked to producer organisations.

Nitidæ Lab'

Nitidæ's spatial and environmental analysis laboratory, the N'Lab, was born of the desire to combine research with the association's activities. For several years now, the N'Lab team has been working on research projects (doctoral theses, post-doctoral studies) in partnership with universities and international research institutes, and providing technical support (inventories, mapping, training, etc.) as part of Nitidæ's actions to preserve natural resources and promote rural development.

At the centre of the N'Lab's approach is the analysis of socio-ecological systems through the use of Earth Observation tools and in-depth knowledge of the field. It brings together researchers in environmental sciences, from the physical to the human dimensions, convinced that sustainable development solutions need both.

The goal of the N'Lab is to monitor, analyse and model landscapes dynamics in order to improve the management of development projects and assess their socio-economic and environmental impact. Through its team and its activities, the N'Lab also aims to train young scientists and technicians and act as an interface between research and action.

ESS-OBPS Project

Bush encroachment is a phenomenon of land degradation due to the prolific growth of certain species of small trees or large encroaching bushes, among others *Dichrostachys cinerea* (sickle bush[1]). In Namibia, it is estimated to affect roughly 45 million hectares[2], equivalent to more than 50% of the land area, mainly in the central and northern regions of the country. While this is a natural trend in savannah ecosystems, usually counterbalanced in natural conditions by wildfires and grazing by local fauna, it has accelerated since the second half of the 20th century due to both anthropogenic (e.g. fire suppression or overgrazing) and non-anthropogenic factors (e.g. increased atmospheric CO_2 or low rainfall)[3]. It now has non negligible negative impacts on certain ecosystem services (e.g. soil water dynamics, biodiversity)[4].

The use of this bush biomass for electricity production is one response to this challenge and the Namibian national power company, NamPower, plans to build a 40MW power plant in the Oshikoto region to exploit this resource. However, uncontrolled felling without post-harvest treatment, or aftercare, leads to an even denser and more rapid regrowth of the bush, and in particular of the species that are most difficult to valorise. Hence, the idea is to establish an FSC-certified wood chip supply chain from the harvested bush for the power plant coupled with a monitoring of the harvested and harvestable areas to ensure a sufficient level of environmental and social commitment.

A consortium of different organisations (NNF[5], IED, N-BiG[6], and Nitidæ) has been created to support NamPower in this innovative project which aims to maximise social and environmental impacts by structuring and supervising bush thinning activities. This will contribute to (1) rehabilitating savannah lands affected by bush encroachment in Namibia and (2) increasing Namibia's electricity self-sufficiency and diversifying its electricity mix from mostly carbon-based imports to renewable energy.

More specifically, Nitidae is in charge of 1) the reinstatement of the previously created *Bush Information System* (BIS), a web-based GIS application for monitoring woody biomass resources; and 2) the study of the potential valorisation of the power plant ashes including agronomical field-tests.

The first activity will include the production of a fine spatio-temporal monitoring of the woody biomass through a 3-level approach combining field inventories, drone images, and satellite images thanks to unsupervised modelling methods applied to various indicators (structure, vegetation, radar, etc).

Position description

Mission

As the Program Manager for the Nitidae component of the ESS-OBPS Project, your main mission will be to lead the local coordination and ensure the planning and implementation of Nitidæ' activities. You will also specifically lead/contribute to the woody biomass monitoring.

The main tasks will be the following:

- Local coordination with the consortium partners (NNF[5], N-BiG[6], IED) as well as NamPower[7]

- Local interactions with the different stakeholders; in particular universities, harvesters and farmers
- Prepare the planning and supervise the implementation of Nitidæ's activities with the team support
- Lead/Contribute to the production of innovative spatial biomass indicators through remote sensing: bibliography, satellite image processing, modelling, statistical evaluation and validation
- Coordinate capacity building and training sessions, as well as workshops
- Coordinate field inventories
- Partly contribute to the creation or update of a web-based GIS application

Required Skills & Qualifications

We are looking for a candidate that meets the following profile:

- Master's degree with at least 5 years of professional experience in Remote Sensing or Rangeland Monitoring / Environmental Management
- Project management professional experience
- Good knowledge in statistics, spatial modelling, Geographic Information Systems (GIS), and Remote Sensing
- Ability to use processing chains in R, Python, or Google Earth Engine (preferably R)
- Fluency in English, good oral and written skills to report and share results
- Autonomous, proactive, and rigorous work
- Motivation for team work and interpersonal skills
- Professional experience on either remote sensing biomass estimation, field inventories, or bush encroachment and restoration dynamics would be appreciated
- Knowledge of the Namibian ecosystems ecology would be a plus

Position conditions

Namibia Nature Foundation advertises this position on behalf of its implementing partner Nitidae (www.nitidae.org), under the joint consortium project Environmental and Social Support Project to the Otjikoto Biomass Power Plant (ESS-OBPS). While the work contract will be issued by NNF, the position directly reports to Nitidae.

- This position will be based in Windhoek within the office of NNF, with extended work stays in Tsumeb and field work in the surrounding rural areas at times
- You will work closely with the N'Lab team and report to Nitidæ's co-directors. You will be under the supervision of the N'Lab team's expert and Nitidæ's Representative in Mozambique
- 3-year contract (3-month renewable trial period)
- Salary in accordance with Namibian wages
- Other work conditions to be discussed during the interview
- Expected beginning of contract: Early-Mid April 2025

Application

Applications should be sent to CV@nnf.org.na, stating "Project Coordinator – Rangeland Remote Sensing" in the subject no later than 17:00 on 20th March 2025. Indicative starting date for the position is 14th April 2025, depending on the candidate's availability.

- A Curriculum Vitae describing previously accomplished work related to the vacancy;
- Cover letter with indication of availability;
- Copy of driver's licence;
- Copies of certified academic qualifications; and
- As far as available, relevant reference letters with link to above mentioned experiences, or contact details of reference persons

Previously disadvantaged Namibians, women, disabled persons, and youth are encouraged to apply for this position. Only short-listed applicants will be contacted and invited for interview and no documents will be returned.

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[1] **Bester, F. V. 1999.** *Major problem: Bush species and bush densities in Namibia*. Agricola, 10:1–3. / **Hauwanga, W. N., McBenedict, B., and Strohbach, B. J. 2018**. *Trends of phanerophyte encroacher species along an aridity gradient on Kalahari sands, central Namibia*. European Journal of Ecology, 4(2), 41-48. / **Ministry of Agriculture, Water and Forestry (MAWF). 2017**. *Bush control manual*. Windhoek, Namibia: Republic of Namibia.

[2] **SAIEA 2016** *Strategic Environmental Assessment of Large-Scale Bush Thinning and Value-Addition Activities in Namibia: Main Report*. Institute for Environmental Assessment, p. 113 pp.

[3] **de Klerk, J.N. 2004** *Bush Encroachment in Namibia: Report on Phase 1 of the Bush Encroachment Research, Monitoring and Management Project*. Ministry of Environment and Tourism (DEA), p. 160 pp / **Sankey, T.T. 2012** *Woody-herbaceous-livestock species interactions*. Ecotones Between Forest and Grassland. R.W. Myster (ed). Springer, pp. 89–114. doi:10.1007/978-1-4614-3797-0.

[4] **Groengroeft, A., de Blecourt, M., Classen, N., Landschreiber, L. and Eschenbach, A. 2018** *Acacia trees modify soil water dynamics and the potential groundwater recharge in savanna ecosystems*. Climate Change and Adaptive Land Management in Southern Africa-Assessments, Changes, Challenges, and Solutions. R., Revermann, K.M., Krewenka, U., Schmiedel, J.M., Olwoch, J., Helmschrot, N., Jurgens (eds.) (eds). Klaus Hess Publishers, pp. 177–186. / **Meik, J.M., Jeo, R.M., Mendelson, J.R. and Jenks, K.E. 2002** *Effects of bush encroachment on an assemblage of diurnal lizard species in central Namibia*. Biol.Conser. 106, 29–36. / **Muntifering, J., Dickman, A., Perlow, L., Hruska, T., Ryan, P., Marker, L. et al. 2006** *Managing the matrix for large carnivores: a novel approach and perspective fromcheetah (Acinonyx jubatus) habitat suitability modelling*. Anim. Conserv. 9, 103–112.

[5] Namibia Nature Foundation

[6] Namibia Biomass industry Group

[7] Namibia's national power utility