



## **Post-doctoral position in economics / statistics**

Starting date: April 1<sup>st</sup>, 2021

Duration: 18 months

### **Title: Evaluation of the impact of marine protected areas on livelihoods in Eastern Africa.**

Keywords: Climate change, marine protected areas, conservation, poverty.

Contact:

Antoine Leblois (antoine.leblois@inrae.fr)

<http://www.cee-m.fr/member/antoine-leblois/>

Host institution: CEE-M (Economics), Center for Environmental Economics – Montpellier, France.

Funding project: National research agency (ANR) project: MPA-poverty

Can marine protected areas alleviate poverty in the context of land desertification?

Rationale:

The degree to which societies are likely to be impacted by climate change ultimately depends on social, cultural and economic adaptation. Yet, the use of multiple food production systems remains poorly investigated while the balance between agriculture and marine fisheries can offer a source of resilience for coastal human societies facing severe drought and land desertification. More precisely, marine protected areas or locally managed fisheries (all called MPAs thereafter), defined as geographical spaces where regulations are set to limit human impacts and conserve species, can contribute directly to food security and to economic development.

Surprisingly, the relationship between MPA and socioeconomic outcomes is a long-running debate in academic and policy circles. On one side, MPAs restrict access or exploitation of coastal resources to local users who depend on them to sustain their livelihood and food security so can be seen as negative. On the other side, MPAs preserve a natural capital that can bolster fisheries yields. On the balance, empirical evidence is mixed between studies showing some socioeconomic benefits of living close to MPAs and others reporting no effect or even negative impacts. However, until now, studies explicitly addressing the relationship between MPAs and the level of poverty are very scarce, often limited in space and time, and based on qualitative rather than quantitative assessment.

The main originalities of MPA-POVERTY are: (i) the holistic view of coastal socio-ecosystems at the interface between land and sea, (ii) the ‘collaborative approach of big data’, (iii) the identification and comprehension of ‘bright spots’ in coastal management, and (iv) the link with local stakeholders.

Deep learning and high resolution imagery are mobilized in the purpose of estimating transitory income and asset wealth before and after the implementation of well enforced MPAs of the region.

### Profile of the candidate:

- topics: environmental economics, development economics.
- methods: econometrics, statistics, experimental economics.

PhD in development / environmental / agricultural economics or relevant disciplines.

Ability to handle data and econometric analysis (e.g. Stata or R), knowledge of impact assessment methods: matching in particular, prior experience in design and implementing micro-level socio-economic surveys is a plus.

Background in behavioural economics and experimental economic method is a plus.

Knowledge of subSaharan Africa is a plus.

### Post-doc proposal

In collaboration with environmental/conservation scientists the post-doc will help at:

- estimating economic outcomes in all the selected villages
- testing the hypothesis that proximity to a Marine Protected Area can improve economic outcomes in the context of land desertification
- identifying, visiting and understanding the 'bright' vs. the 'dark' spots, *i.e.* the villages with the highest vs. lowest level of economic outcomes

The post-doc will also take part in the design, implementation and analysis of a follow-up survey, in 6 sites of coastal Tanzania, in a side-project of MPA-Poverty.

### Planned tasks:

- Survey design and monitoring in Tanzania (500+ HH, follow-up survey) in collaboration with the Institute of Marine Sciences University of Dar es salaam, and survey data analysis
- Focus groups or social experiments with stakeholders/students
- Extend use of national or global data (demographic, health and micro-economic data, land cover, precipitations)
- Interactions with experts of marine ecosystems, geographers (multidisciplinary work) to lead the statistical analysis of the impact of MPAs (matching).

A PhD student may potentially be hired on the same project at CEEM, working on connected topics in late 2021.

To apply: Detailed CV + a summary of work + two recommendation letters can be sent to: [antoine.leblois@inrae.fr](mailto:antoine.leblois@inrae.fr) expected by February 28<sup>th</sup> 2021.

Gross salary: ~2300 €/ month, depending on qualifications.