

Assessing the impact of Porto Novo lagoon utilization and its sustainable management in Benin Republic (West Africa)

Yasmina ADEBI^{1,2*}, Joachim VOGT¹, Laurent G. HOUËSSOU^{2,3} and Brice SINSIN²

1: Institute of Regional Science (IfR), Karlsruhe Institute of Technology (KIT), Karlsruhe, Germany

2: Laboratory of Applied Ecology, University of Abomey-Calavi, Abomey-Calavi, Benin Republic

3: National School of Wildlife and Protected Area Management, University of Parakou, Benin

* Corresponding Author: yadebi@yahoo.fr

INTRODUCTION AND MAIN OBJECTIVES

The lagoon of Porto-Novo is one of the most important ecosystems in Benin (West-Africa) because of its ecological function for aquatic animals and its socio-economic services for surrounding population. Over the past years, the use of natural resources of the lagoon was intensified generating social conflicts and natural ecosystem degradation. Through this study, we aim: i)- to analyse the forms and the intensity of water uses at Porto Novo lagoon with regards to its regenerative capacity, ii)- to assess the consequences of the use of the lagoon and the resulting risks on the surrounding population and iii)- to propose strategies for the local population and the authorities against the risks of lagoon for a better spatial planning.

1) The different use forms of the Porto-Novo lagoon : Fishing, fish trade, sand extraction, transport of consumer goods and goods, domestic use and the processing of fish (Figure 1).

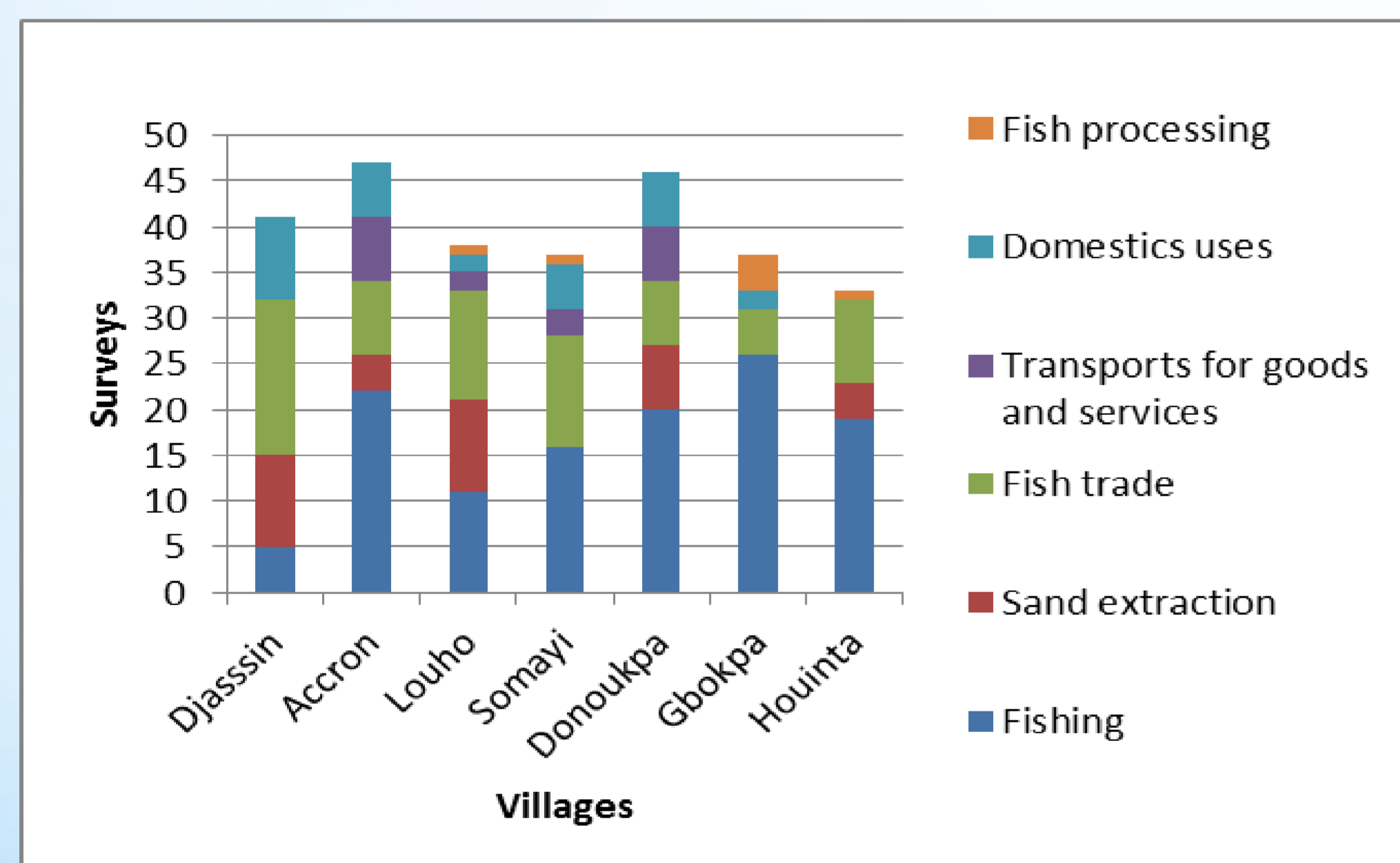
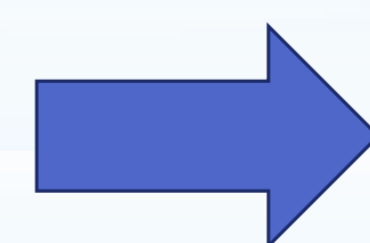


Fig1: Different uses of lagoon

3) Socio-economic consequences of pollution of the lagoon and associated ecological issues : Pollution of water quality, conflicts between the users, health problems, reduction of fish stock, deforestation of mangrove and eutrophication.



Risks: Overfishing, Overuse of lagoon ecosystem, Increase of poverty and unemployment.

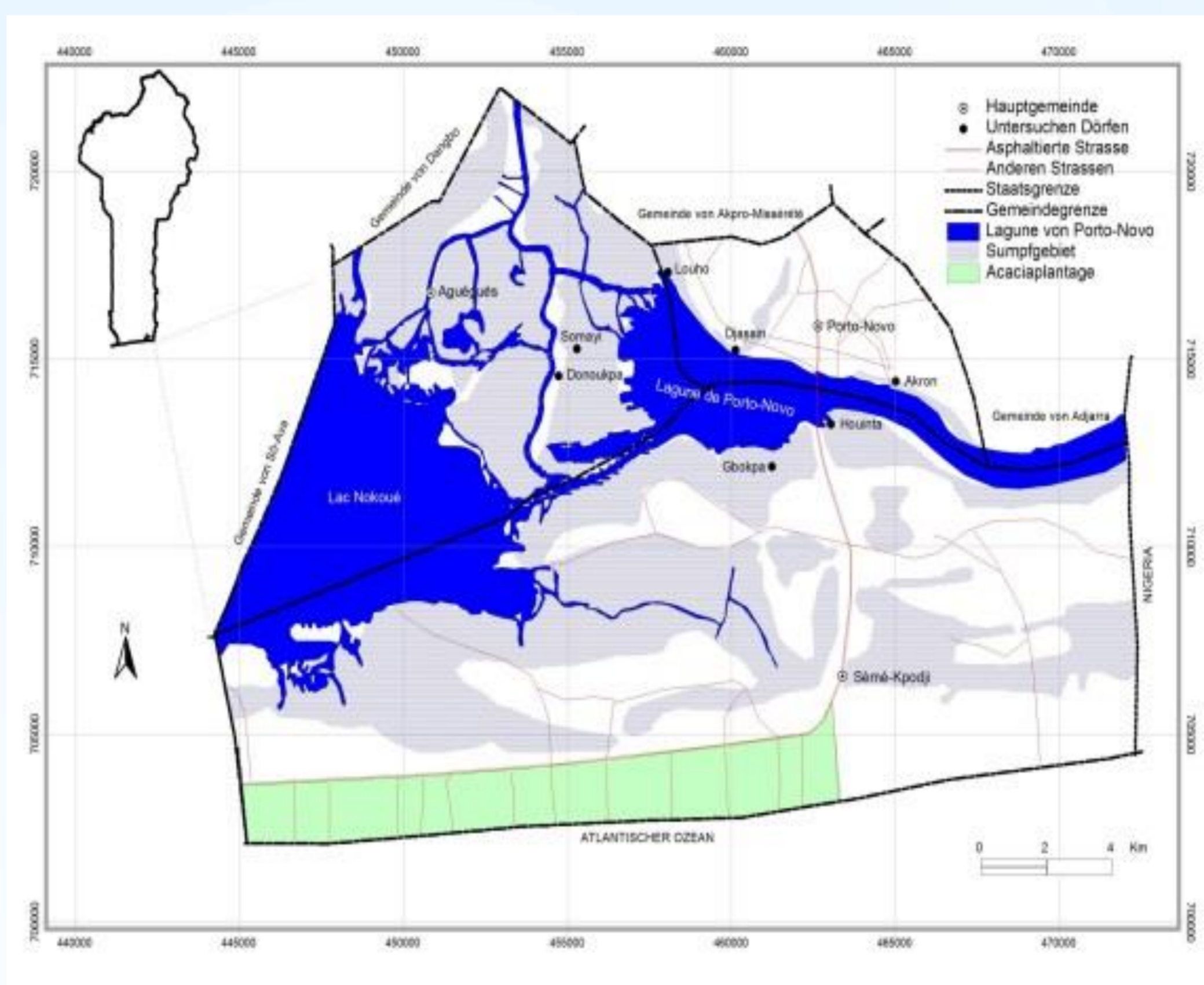
CONCLUSION

The sustainable management of lagoon of Porto-Novo in Benin is required through an integrated approach which combines fish productivity assessment as well as the involvement of local population and different stakeholders for an effective management and sustainable use of the lagoon resources. Moreover, this study provides useful information for policy makers to reverse the process of the lagoon overuse by promoting participation and sensitization of the population for sustainable use of the lagoon and by developing alternative activities (aquaculture) to increase population income.

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STUDY SITE



RESULTS AND DISCUSSION

2) Intensity use of Porto-Novo lagoon: Lagoon of Porto-Novo is intensively used for Fishing (Acadja) and Sand extraction. 3.4% of the lagoon area is used for the Acadja Fishing and 2.7% for Sand extraction. Several fishing technics were used by the local population (Figure 2) but the most important is Acadja Fishing because of the harvested fish stock.

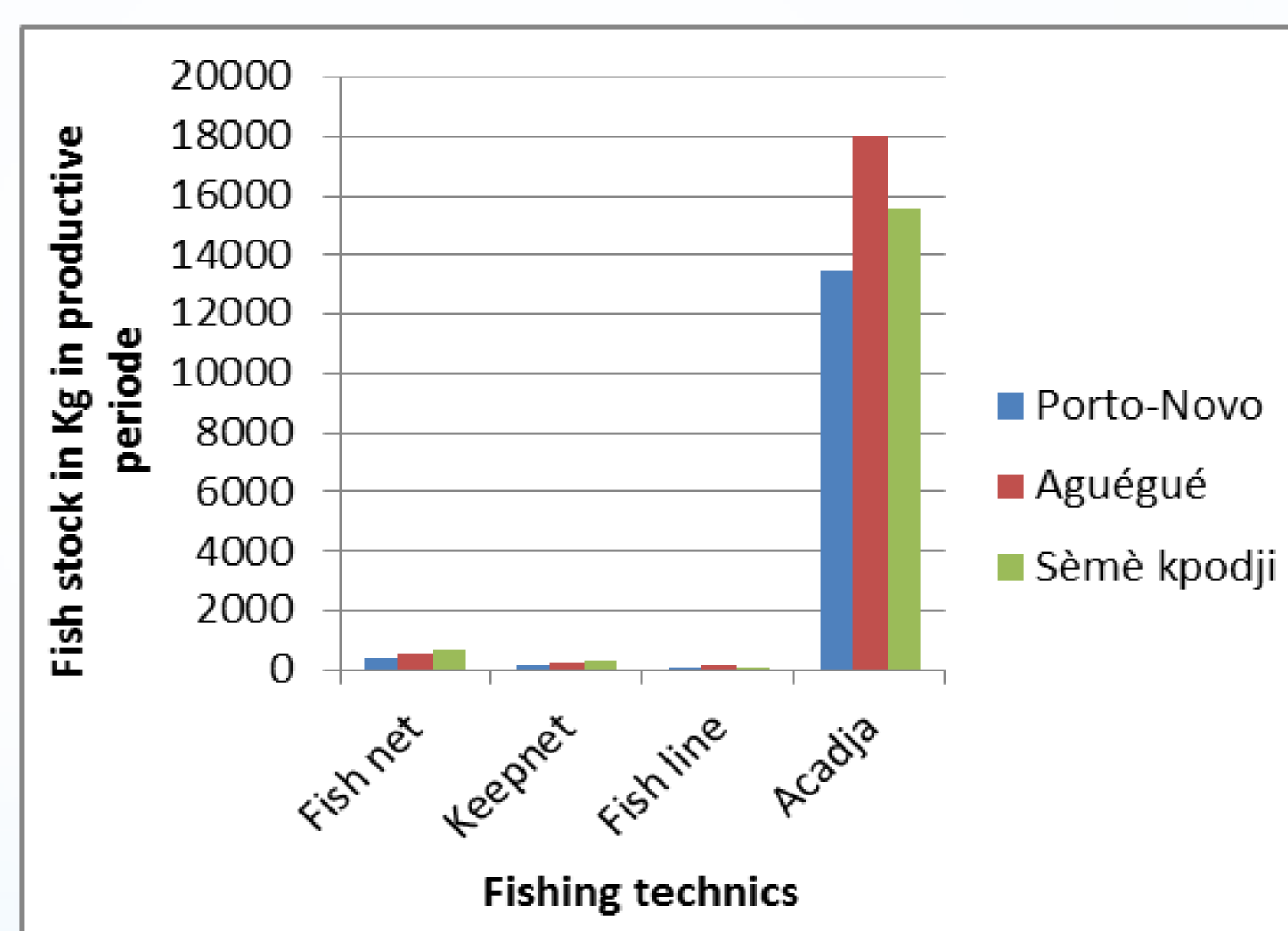


Fig 2: Fishing technics



Acadja



Sand extraction and Sand trader

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