

# Fishers' knowledge identifies potential socio-ecological impacts downstream of a proposed dam in a tropical river

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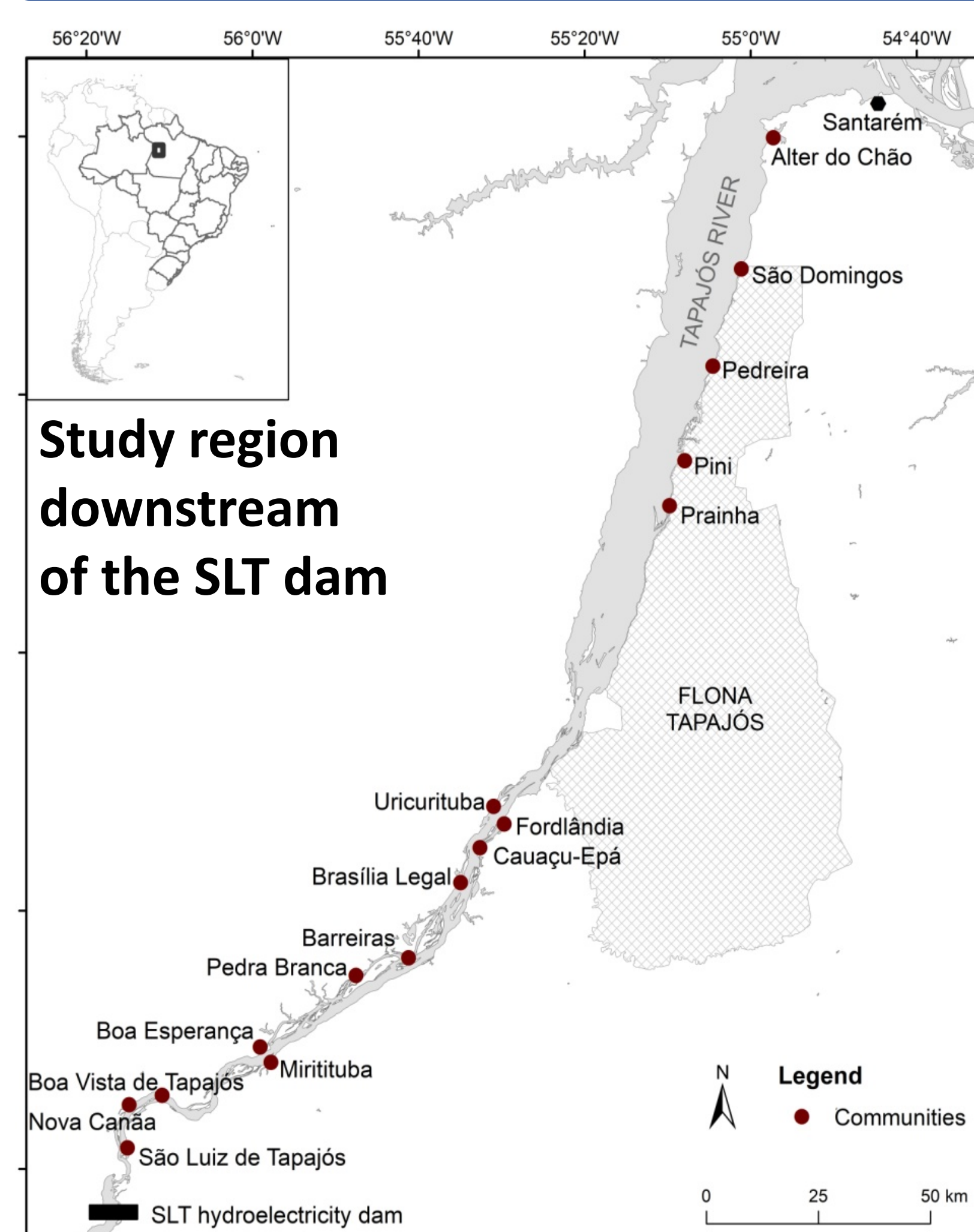
## Introduction

Brazil's hydroelectricity sector is rapidly expanding (Latrubesse et al., 2017). Impacts of dams on fisheries downstream have been overlooked by impact assessments (Castro-Diaz et al., 2018).

### Objective:

To **analyse the socio-ecological vulnerability of small-scale fisheries located downstream** from the proposed São Luis do Tapajos (SLT) dam.

## Methods



16 communities



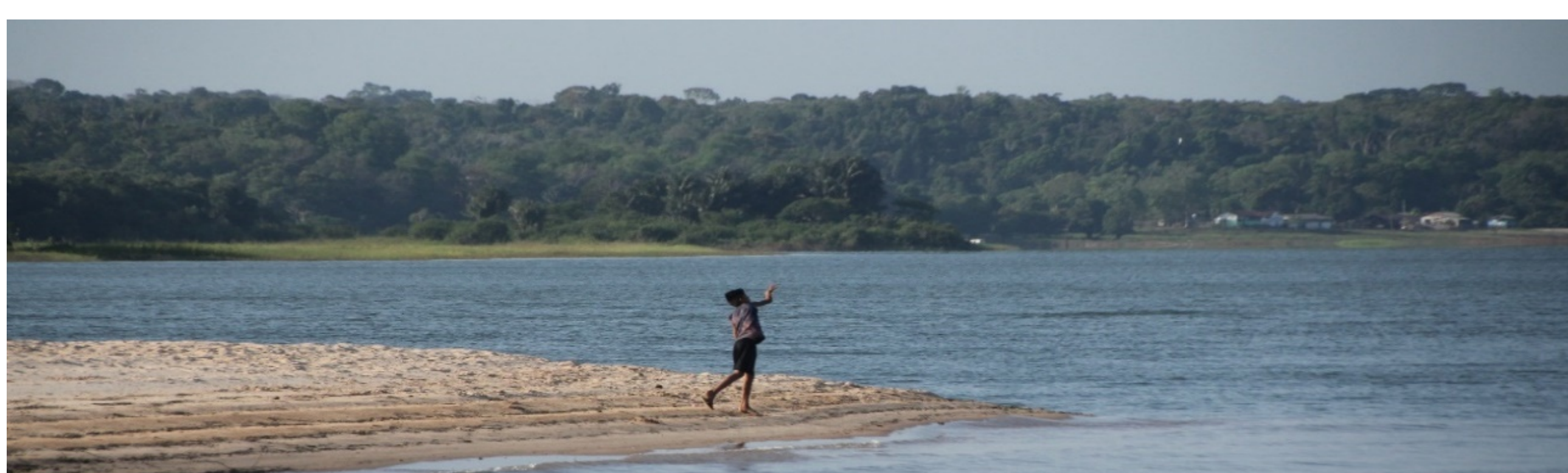
171 interviews



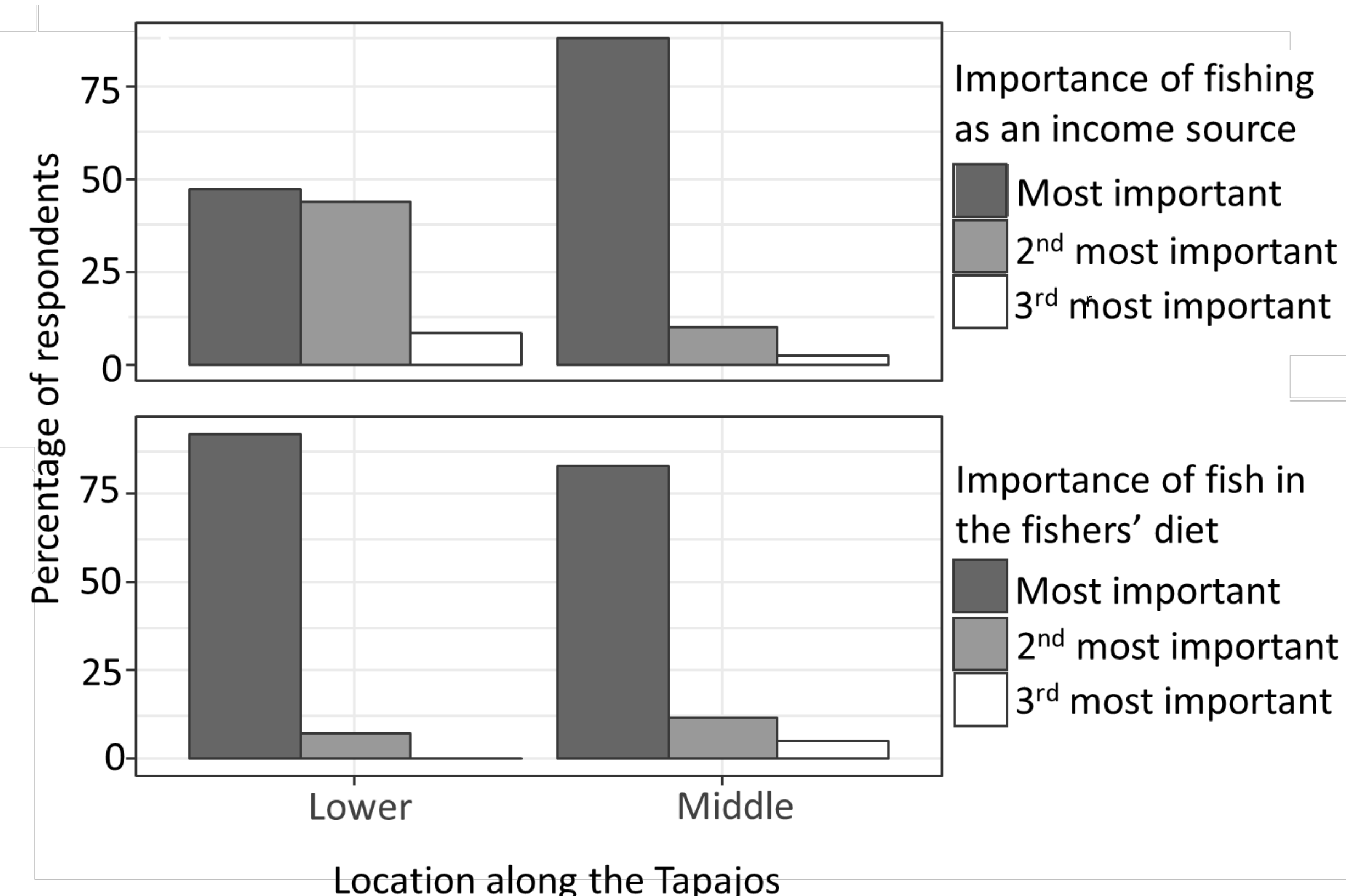
27 (groups of) prioritised fish species

Fish were **divided into susceptibility categories** (considered potentially affected through damming) **according to their biological characteristics**:

- Use of **floodplain**
- **Spawning** at the beginning or during flooding
- **Other biological characteristics** (e.g. migration within Tapajós)



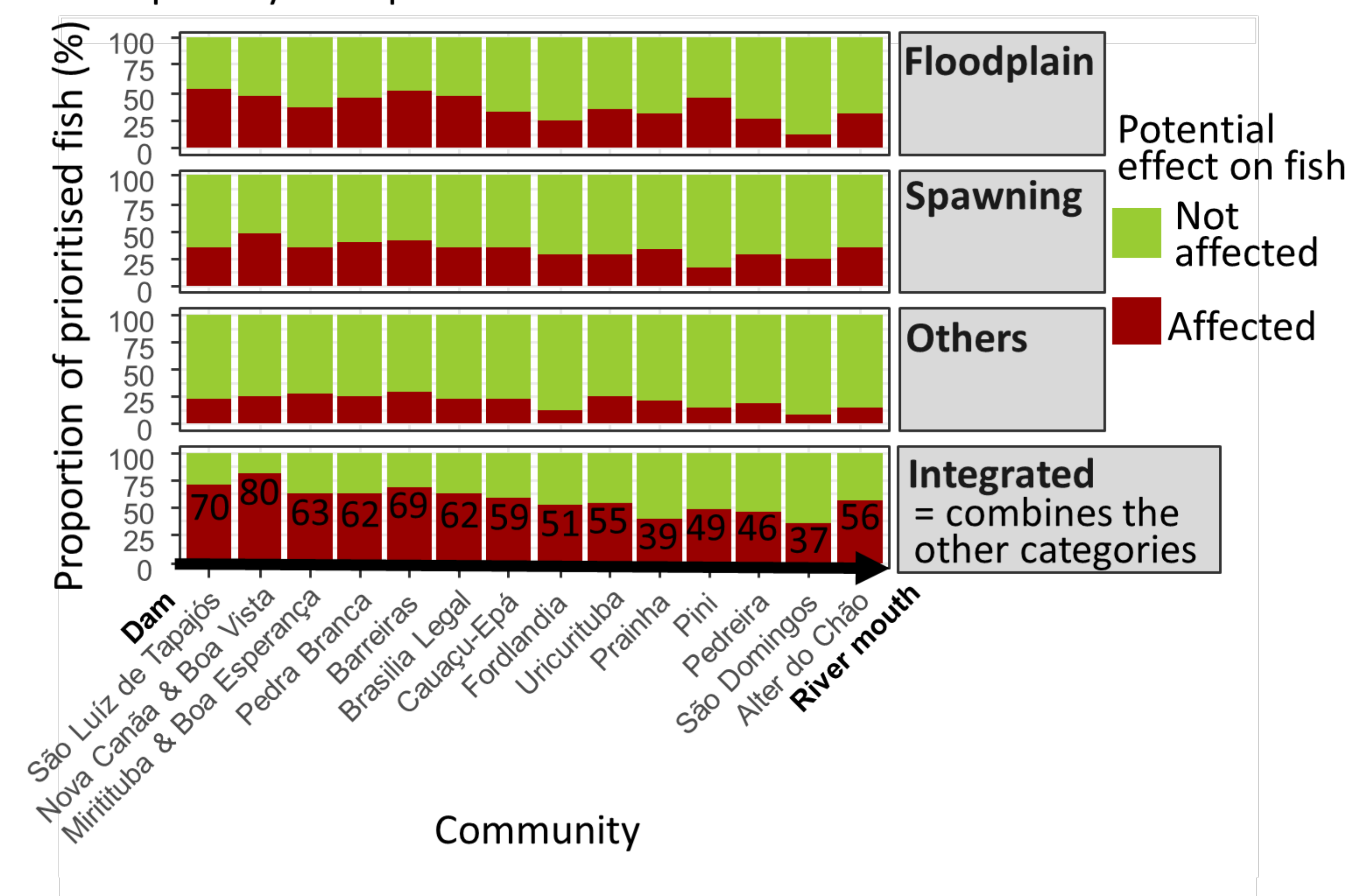
## Results



**Fish has a great importance for the fishers' diet and economies.**



Estimated potential effects of damming on fishing on the communities, based on the proportion of prioritised fish and their susceptibility to impoundment



**Impacts of the dam on fisheries potentially extend to the mouth of the river** contrary to the idea that the impact ceases few kilometer downstream of the dam.

## Discussion

**Expected losses in fishery catches** to households as well as local and regional **economies** could:

- **lead to financial shortcomings & emotional disruption** at the household & community level
- **threaten food security** on a household (food provisioning) and regional (fish market) scale

Regional differences in fishing have to be considered to **develop mitigation measures tailored to the communities specific needs**.



## Conclusion

**Ignoring the potential effects of the SLT dam is a serious understatement of its real socio-ecological impacts.**

**Without more careful consideration, declines in small-scale fisheries and the pressure this puts on their associated fishers, their families and both the local and regional economies are certain to accompany the development of the SLT.**

## Acknowledgements

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