Title: Wild holothurian fishery in the southwest Madagascar

The Southwest region of Madagascar is the largest producer of holothurians on the island. Since 1990, this resource has been overexploited and measures have been established for a sustainable exploitation, including aquaculture. But ever since, very few assessments of holothurian fishery have been made. From January to December 2018, we performed an assessment of fishery activities (fishing effort, catches, processing and marketing of products) at 3 main holothurian fishing villages: Sarodrano, Ankiembe and Andrevo as well as socio-economic and governance analysis by means of interviews with key stakeholders. Results showed that twelve species are collected by fishers in the study area. The catch of holothurians depends on the fishing effort deployed and the average weight of the individuals harvested. The analysis of these variables has allowed us to understand the difference between the study sites. Andrevo is significantly the most productive village with $5903.25 \pm 2059.30$ kg of fresh holothurians.month$^{-1}$, followed by Sarodrano with $2923.90 \pm 769.98$ kg.month$^{-1}$ and Ankiembe with $2850.25 \pm 1363.52$ kg.month$^{-1}$. Three forms of holothurian commercial chains were identified involving fishermen, fishmonger and private operators. Fishermen and/or fishmonger take care of part of the processing (evisceration, first cooking, salting and second cooking), and the operators complete process to obtain exportable trepang. Holothurian fishery in the Southwest appeared to be very poorly controlled by fishery authorities: the minimum legal size for fishing is very weakly respected, and none of the holothurian actors in the villages have an operating licence from the competent authority. This study permitted to find out that the holothurian fishery in the southwest Madagascar develops without being influenced by the rules and restrictions imposed by the administration. Thus, it is recommended to set up a more effective monitoring system of fishery and expanding the study area including operators and exporters.

Key words: holothurian, fishery, governance, Southwest Madagascar