

A study case of promotion opportunities of invasive marine resources: Development of fishing and commercialization of blue swimming crab in North Tunisian waters (Central Mediterranean)

Sami MILI: University of Carthage, Faculty of Sciences of Bizerte, (FSB), Tunisia

Rym ENNOURI: National Institute of Marine Sciences of Bizerte (ISSMB), Tunisia

Safa BEJAoui: University of Carthage, Faculty of Sciences of Bizerte, (FSB), Tunisia

Simone LIBRALATO: National Institute of Oceanography and Applied Geophysics (OGS), Italy

INTRODUCTION

The blue crab, a species of crustaceans which originally came from the Red Sea through the Suez Canal.

Appeared, for the first time, in Tunisian waters in the cities of Skhira (governorate of Sfax) and Ghannouch (governorate of Gabes), at the end of 2014.

After a year, this species adapted to the environment and proliferated throughout the Gulf of Gabes, to subsequently appear in the Gulf of Hammamet in 2016.

In 2018, this invasive species emerged in the lagoons of Bizerte and Ghar El-Melh.

AIMS & SCOPE



MARKET OPPORTUNITIES FOR THE BLUE CRAB IN TUNISIA

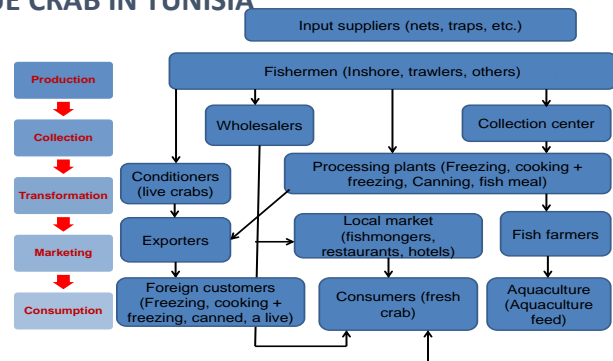
The majority of the crab caught is used by freezing units whose production is intended exclusively for export as frozen, frozen-cooked, preserved or live products;

Small amounts are used by the canning industry (0.1%) and for the production of animal meal for fish farming (0.5%);

The fresh channel is intended mainly for the local market;

The crab is drained on a short cycle due to the short shelf life;

It is mainly done through fishmongers, markets and supermarkets and it usually goes through fishmongers as intermediaries.



SWOT ANALYSES

Strengths

- The use of specific traps to catch crabs will be a useful asset in the fight against their propagation and multiplication in the two lagoons.
- The international market already exists for crabs caught in the southern region of Tunisia.
- Blue crab marketing has been successful in the southern region of Tunisia (Kirkennah).
- Targeted blue crab fishing in the Gulf of Gabes (where this species has settled since 2014) has resulted in ecosystem resilience.
- The specific traps for catching the blue crab have already been tested and adapted to its capture.
- Involvement of civil society and the general public in other previous projects will have a positive impact on the success of the different project actions.
- The Tunisian consumer is beginning to appreciate the consumption of these invasive species



- Lack of data relating to the eco-biology and the state of exploitation of crab stocks in the two lagoons of Ghar El Melh and Bizerte.
- Lack of a relative value chain for crab fishing in the northern region of Tunisia.
- Lack of tradition of consuming crabs in Tunisia.
- Lack of zoosanitary classification related to this fish resource.

Opportunities

- Creation of new jobs.
- Improvement of fishermen's income.
- Improvement of the income of women who earn their livings from making fishing gears.
- Resilience of the two weakened lagoon ecosystems due to the blue crab invasion.
- Valorization of consumption and export of blue crab.

Threats

- Economic crisis in Tunisia.
- COVID19 pandemic.
- Reluctance of the beneficiaries of this project (fishermen, unemployed young people from the two municipalities, women) to join.
- Insufficient blue crab stocks for marketing and setting up a specific activity.
- Non-acceptance of the product by the Tunisian consumer or customer.

PROJECT IMPACTS

Science

- Targeted blue crab fishing, which is starting to settle in the two lagoons of Bizerte and Ghar El-Melh is a method of control, mitigation and protection of marine resources.
- The success of this strategy will allow the preservation of artisanal fishing in the two lagoon ecosystems invaded by blue crabs and the re-establishment of fish stocks in the two lagoons which are of economic, social and cultural importance.
- In this project we will use innovative and solid methods for scientific and management analyses based on the use of new participatory tools for monitoring, management and mitigation.
- Making LEK an ideal tool to study large spatial and temporal scale ecological models, such as biological invasions.
- The resilience of the ecosystems studied.

Economy

- This project will promote the development and improvement of the economic situation of fishermen, women who make fishing nets and unemployed (vulnerable) young people who, in most cases, live in precarious conditions due to the scarcity of fish and marine resources following the proliferation of blue crab.
- The realization of this project will allow the creation of new jobs in the blue economy while preserving and improving the initial traditional fishing activity in the two lagoons.

Society

- The project will guarantee gender equality
- Young unemployed people will have an increased chance of working in their localities and more opportunities to earn a living.

Future careers

- This project will be the subject of oral communications, posters, articles in daily journals as well as scientific articles.
- A seminar is planned after the end of the project
- Our commitment and the success of this project, which falls within the framework of the blue economy, will allow the team of our institution to familiarize themselves with this field and to be able to subsequently propose other projects in the field of sustainable development of the blue economy.