

# Assessing mud crab livelihood projects in Bua Province, Fiji

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*We evaluated the effectiveness of mud crab projects implemented in two districts in Bua Province, Fiji in 2017. The lessons learned will help other fisheries practitioners interested in implementing projects with this women-dominated fishery.*

## Background

The term “livelihood” has been defined as “people, their capabilities, and their means of subsistence,” including necessities such as safe drinking water, food and shelter (Mangotra et al. 2019:11). Livelihood projects are often carried out by partner institutions and organisations (e.g. government, non-governmental organisations) to support existing livelihoods in communities in a manner that does not jeopardise future livelihoods (O’Garra 2007). Many partners invest in capacity building to expand and build on existing livelihood knowledge and skills within the unique social and cultural contexts of the geographies they work.

The Wildlife Conservation Society (WCS) had supported several livelihood projects in the Bua Province, including the production and sale of virgin coconut oil, honey and *kuta*<sup>2</sup> mats (WCS 2019). Since 2016, WCS has focused on the women-dominated mud crab (*Scylla serrata*) fishery in Bua Province, conducting a preliminary assessment of mud crab stocks in the province (Nand and Mangubhai 2016), undertaking a value chain analysis of the fishery (Mangubhai et al. 2017), establishing fisher-led catch per unit effort (CPUE) monitoring (WCS, unpublished data), carrying out mud crab awareness campaigns, introducing mud crab fattening techniques (WCS 2021), and assisting fishers with establishing locally managed mud crab management plans (Giffin et al. 2019).

Mud crab fishing is an important source of income for fisherwomen in Bua Province. Fishers travel to catch crabs on a weekly or monthly basis, or catch them only during certain

lunar phases (seasonal). The mud crabs caught are either eaten, sold or shared within and outside the community. In addition, some fishers travel to Labasa or Savusavu to sell their catch, or sell to middlemen or middle-women and local shops in the neighborhood. The mud crab fishery was affected by category 5 tropical Cyclone Winston in 2016, and an assessment (with individual fishers) found that there had been changes to harvesting patterns, changes in the use of harvested crabs, change in sales, and changes in livelihoods (Thomas et al. 2019).

In March 2019, focal group discussions and individual interviews were done in two communities in Waisa Village in Kubulau District, and Navunievu Village in Bua District, where WCS introduced a mud crab fattening project to help improve catch sales and income for mud crab fishers.

## Mud crab post-harvest fattening and handling

The mud crab post-harvest handling training had been conducted as part of the project and was aimed at improving a source of income for mud crab fishers in the communities through the post-harvest fattening of mud crabs in pens before sale. It involved both theory on the life cycle and safe stress-free, post-harvest processes of mud crabs, and fieldwork involving the construction and installation of mud crab fattening pens in the mangrove areas. The pens were all made from locally sourced materials at no financial cost to the fishers. However, over time, fishers shifted from the use of bamboo to wood. Some were frustrated by pens being removed and crabs going missing. Although income was lost, 43.8% of the respondents (mostly from Navunievu Village) felt that they had gained value-adding skills that would prove beneficial in the long run. Only two out of the eight crabs placed in the fattening crabs in Waisa Village survived. Respondents blamed the location of the fattening site being too exposed to sunlight, which was a major contributing factor to the increased mortality of the crabs, and no suitable market, and at the time, there was no existing mud crab management plan in Waisa Village. Regardless of the challenges of these first attempts, fishers were eager to participate as it would contribute to capacity building, sustainable harvesting of mud crabs and an increase in their sources of income. While the training was delivered in two communities, active mud crab fishers from neighboring villages were also invited to attend.

Several issues were identified during the evaluation of the mud crab project in these communities. Issues relating to the project included the location of mud crab fattening cages that led to high mortality and parts of cages missing.

Pen construction in Navunievu Village. ©WCS



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<sup>2</sup> Mats woven using freshwater reeds grown in wetlands. Women from the two provinces of Macuata and Bua are well-known for this specialty.

### Other issues identified

- *Lack of interest and ownership.* Interest in the project waned due to high crab mortality and lack of support and ownership from mud crab fishers. Crab mortality occurred due to the pens being exposed to direct sunlight, and although it was intended to change sites, this was not done because no one led this work. There was also frustration that crabs went missing. As a result, some women gave up, and a number of pens were left idle, unattended and unused.
- *Challenges accessing markets.* Mud crab fishers sometimes had to travel far to access markets in Labasa and Savusavu to sell their catch, and travelling costs were a burden. Fishers also feel that the current selling price to middlemen is low and do not match the time and effort used to catch mud crabs.
- *Exclusion in decision making process.* The majority of decisions made with regards to resource use are made by men, and women and youth continue to feel left out. This is due to the “culture of silence,” in which women rarely speak in village meetings and silently agree to all decisions made by men in society (Vunisea 2008).
- *No management plan.* There is no management plan in Waisa Village to ensure the sustainability of the mud crab fishery. District-level, ecosystem-based management plans are not species-specific to meet the needs of individual fishers and specific fisheries.

### Recommendations

Several recommendations were made because of this assessment.

- It is important to continue monitoring the levels of participant engagement from beginning to the end, and how best to structure the roles and responsibilities that come with the project.
- There is a need to support gender equity and social inclusion inclusive decision-making on resource use to ensure all voices are heard, and the collective decision benefits everyone involved. This applies to any decision-making process, whether it pertains to implementing a

livelihood project, or establishing a management plan. The assessment suggests that women and youth are not content with being *passive bystanders* and would welcome opportunities to engage in decision-making that affects their livelihoods.

- It is important to invest in a broad range of training sessions, including financial literacy, simple book-keeping, and refresher programmes on the project itself. One-off training sessions do not have a long-lasting positive impact.
- A project evaluation is valuable to help stakeholders assess what worked, what did not work, and what the teams can improve on (i.e. lessons learned).
- Continuous support is needed from stakeholders to ensure the project's longevity. Longer-term investments are needed to provide support to fishers, particularly to women in rural areas that may not have benefited from training workshops and support.
- For future studies, an initial feasibility study should be carried out before implementing a project, and should consider external factors such as climate change and natural disasters.

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Proper method of tying crabs in Navunievu Village. ©WCS

