

PhD Opportunity: Determining the economic benefits of mangrove restoration augmented with mud crab farming

Mangroves provide critical habitat for many species of animals, some of which are commercial and/or community-targeted fishing species. Mud crab species such as *Scylla serrata* are a high value food species and often forms the main source of income for many artisanal fisher communities dwelling near mangrove forests in the Pacific. Mangroves and the mud crab have a symbiotic relationship with the abundance of mud crabs a good indicator of mangrove health. Due to urban development, agriculture and housing, many areas of mangroves have disappeared or have been highly degraded. In the Pacific all the mud crabs that are sold are captured from the wild, therefore, mangroves are essential for the long-term sustainability of this fisheries. With increasing human populations, more fishers, high demand, lucrative prices, and tourism development there is high exploitative pressure on mud crabs, particularly in Fiji. Therefore, increasing the area of mangrove coverage has the potential to uplift the mud crab and other mangrove-based fisheries.

An opportunity exists to join the [Project Halo](#) team to research the benefits of nature-based harvesting and food security as part of on-the-ground activities in Fiji. Project Halo is a collaborative research project between the University of New South Wales (UNSW) and the University of the South Pacific (USP). The research intends to quantify the food provisioning services and potential of nature-based farming of restored mangrove habitats. The PhD research proposes measuring the abundance of various food species, and particularly the mud crab production. Further, social and economic indicators will be used to estimate the direct and secondary impacts and its sustainability and appropriateness. The assessment will be developed in partnership with USP and will consider the region's community values, biodiversity and local economy.

The successful candidate will thrive as part of a multidisciplinary and international team and should have exceptional research and communication skills. The candidate should have a background in either aquaculture, environmental engineering, geography or science (or similar), and a demonstrated ability to conduct some or all of: fieldwork in Fiji, numerical modelling (prior knowledge of "R" skills or willing to learn; or other statistical packages), and community household surveys.

The opportunity is to enroll in a [Cotutelle PhD](#) with both UNSW and USP, and will be considered on a case-by-case basis with each applicant. The PhD degree awarded by both UNSW and USP upon completion of the research. The successful domestic or international candidate will be eligible to receive a Research Scholarship for 3.5 years funded and a potential top-up scholarship is available for exceptional candidates. Domestic applicants will need to be competitive for an Australian Government Research Training Program (RTP) Fees Offset Scholarship and Stipend Scholarship. A successful international candidate will need to satisfy the requirements for a Research Training Program Fee offset or Tuition Fee Scholarship. Please see <https://research.unsw.edu.au/higher-degree-research-programs> for information on your eligibility, competitiveness and PhD entry requirements.

For further inquiries or to express your interest in the project, please contact Dr. Andrew Dansie (a.dansie@unsw.edu.au), Prof. Will Glamore (w.glamore@unsw.edu.au), and Dr. Rajesh Prasad (rajesh.prasad@usp.ac.fj).