Rationale for EU-Pacific Cooperation with regard to coastal ecosystem disturbances, fish and shellfish poisoning and their socio-economic implications

EU	Pacific
Offers opportunity to for European scientists, resource managers and policy makers to learn from experiences and technology relating to blooms to help EU in the future	EU could provide support for coordination with regional / local organizations. EU has the ability to provide large injection of funding
Opportunity for European researchers to come to Pacific to learn local, traditional and scientific knowledge	Development of drugs and vaccines for CFP and other poisoning to increase food security, cultural continuation and quality of life in the Pacific
South Pacific acts as important reference/comparative site in global-scale studies due to high diversity in communities and oceanographic lifestyles	Economic opportunities from fish and shellfish from Pacific countries to Europe. Develop regulations for ensuring fish is secure. Requires regional coordination.
Offers opportunity for economic return on technology e.g. toxin testing kits (in fish, shellfish and humans), patented techniques (e.g. precipitation of CaCO3 for reef restoration 'bio-rock') – flow of trade back to Europe	Allows more research opportunities to help better manage environment for Pacific peoples + drug development opportunities and associated revenues.
Safe travel and tourism – being able to understanding where & what species are affected to provide travel warnings to European tourists	Building capacity of Pacific scientists & researchers, to allow Pacific researchers e.g. summer schools, environmental biotech courses, staff / student exchanges (two-way) from government departments and university groups. Student exchanges to EU institutions help to build local capacity (many degree programs in Europe are now in delivered in English). Increase qualifications for research. Capacity building in restorative technology. Also increasing manpower in the field.
Insuring sustainable supply of tuna to European markets. Europe is a large market for Pacific tuna, with the western and central Pacific providing 70% of the global tuna supply. Research could help to better understand tuna biology and ecology (migration patterns, diets). There is risk of toxins (for example ciguatera or *Trichodesmium* toxins) finding their way into	Ecosystem disturbance and HAB problem is most probably beyond scope of the capacity within the region. Inputs from European institutions may help to find solutions.

tuna foodwebs, with implications for European consumers. Increases in fish poisoning in the Pacific could also increase local demand for tuna, decreasing supply for Europe.	
Increase in aquaculture may bring greater risk of fish poisoning – Europe can learn from problems in the Pacific	High biodiversity in the Pacific managed by small populations, bringing in European researchers helps to manage
Ensuring seafood safety – local testing and research capacity can protect both local and foreign (high-end European) markets – makes economic sense to do testing locally to cut down costs of testing, risk of disease and transportation costs of affected products to Europe. No toxic *Tridacna* in Parisian restaurants (!)	Food safety, security and sustainability – assistance from Europe helps to maintain food safety, security and sustainability for local/subsistence consumption and cultural continuity. Fish and shellfish particularly important as sources of protein helping protecting populations from NCDs. Securing local wholesome foods reduces reliance on store-bought foods. Involvement from EU could help to develop / strengthen coastal fisheries management plans.
High end consumers also interested in sustainable seafood	Building capacity allows research and testing facilities to be in-house. Allows to manage/contain poisoning issues at a local level and small audience. Important for local containment of poisoning instances to avoid global, regional and local market breakdown from one specific case.
Bioprospecting - Potential medical benefits from Pacific organisms. Toxins from fish and shellfish poisoning organisms may have medical applications with benefits to global community (e.g. conotoxins from cone shell as a pain medicine, prilat, cytotoxins as cancer treatments)	Information sharing – being connected to European researchers allows greater information sharing.
Limiting ecosystem disturbance will protect biodiversity (important to drug discovery)	Building additional technical infrastructure? Ensuring infrastructure is tailored to local capacity that fit needs of local situation. Innovation and monitoring tailored to a Pacific context e.g. field toxin portable testing kits where situation unsuitable for advanced infrastructure, flexible decision tree approach to monitoring tailored to local situation. Needs effective coordination and training. E.g. development of tiered monitoring program
Pelagic algal blooms may be critical to mediating local, regional and global climatic patterns e.g. CO2 sinks	Better knowledge, more data, better understanding of systems helps PICTs to meet requirements from conventions e.g. biodiversity convention,
EU could be key player in regional/global observatory systems	Development of a rapid response team, perhaps tiered at regional, national and locals levels.
Important and strategic for EU to fund research into orphan / neglected diseases – orphan	Economic opportunities – links to Europe allows diversification of funding sources

diseases have no treatments and no economic push to develop treatments from pharmaceutical companies which will not move into this areas as too few (< 5 million) cases make research not economically viable. Request to recognize CFP as a neglected tropical disease.	
Pacific region could act as a looking glass / natural laboratory for EU into the future - how humanity might deal with global change (e.g. climate change, food security issues)	Strengthened existing monitoring systems and support for new monitoring initiatives.
Important to examine flow-on effects of deep-sea and terrestrial mining. Might be potential for mining (including tailings disposal) to increase instances of fish poisoning – very little research has been directed into effects of mining and associated waste disposal (tailings) on fish and shellfish poisoning. Tailings are high in metals and nutrients which may favour blooms of toxin-causing organisms.	**Increase quality of life and livelihoods of local people.**
EU to meet its obligations on global issues e.g. climate change through partnerships with PICTs.	Access to existing databases and information. A key challenge for PICT researchers due to infrastructure and cost issues
	Raised visibility of Pacific in the context of the global community
	EU involvement helps to increase transparency and exchange of information within the Pacific region
	Re-enforce ecosystem and resource management capacity. Avenues for multi- and bi-lateral networking. Establishment of Centres of Excellence?
	Platforms such as this can help Pacific realize the resources and leverage it has (e.g., tuna, biodiversity, mineral deposits for deep-sea mining) in the global community. Ties can be made to ensure research by EU scientists or development (e.g. deep-sea mining) is linked to ensuring local food security. Pacific peoples are custodians of disproportionate percentage of global biodiversity.

Important to start at bi-lateral meeting with statement of global importance of the Pacific region – e.g. high biodiversity, opportunities for bioprospecting (e.g. for medical application) higher latitudes of the region could provide refugia for coral reefs, tuna supply (70% of global supply), region is an important driver of global climate patterns (e.g. ENSO).
EU committed to developing Blue economy