



Darwin Initiative: Final Report

Darwin Project Information

Project reference	24-008
Project title	Effective marine resource co-management in the Pemba Channel Conservation Area
Country(ies)	Tanzania
Lead organisation	Fauna & Flora International
Partner institution(s)	Mwambao Coastal Community Network (Mwambao) Wildlife Conservation Society, Tanzania programme (WCS) Department of Fisheries Development Pemba, Ministry of Natural Resources, Livestock and Fisheries (DFD-Pemba) GreenFi Ltd [a recently established company, registered in Ireland]
Darwin grant value	£ 402,663
Start/end dates of project	Apr 2017 – Mar 2021
Project leader's name	Alison Mollon
Project website/blog/social media	https://www.fauna-flora.org/projects/implementing-effective-marine-resource-co-management-pemba-channel-conservation-area
Report author(s) and date	Tanguy Nicolas, Lorna Slade, Alison Mollon, Kristen Fraley June-July 2021

1 Project Summary

Pemba Island forms part of the Zanzibar archipelago and is the second largest behind the main island of Unguja. Pemba Island's west coast is part of the Ecologically and Biologically Significant marine Area (EBSA) Pemba-Kisite-Shimoni and was designated as the Pemba Channel Conservation Area (PECCA) in 2005. It is considered a hotspot for cetaceans and has high coral and associated species' diversity. Its marine resources are vital for artisanal fishing, supporting livelihoods and food security for 191,588 people in 34 coastal communities (Shehias) (of whom 45% are classified as poor and >80% are fishers), along with other fishers from Tanzania.

Biodiversity surveys, fisher interviews, and research demonstrate that PECCA's integrity and people's wellbeing were threatened by:

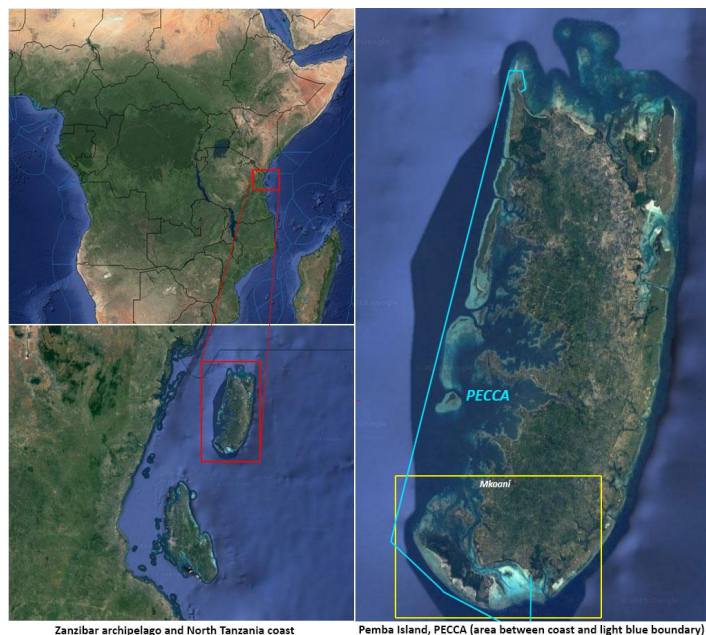


Figure 1 Map of Pemba Island and the project area (yellow rectangle)

- Coral damage by fishers using drag nets, dynamite and anchors reduces biodiversity, reef habitat, and the protection they offer against storm surges and sea-level rise, confirmed in [IUCN's Reef Resilience Assessment](#).
- Overfishing of locally important reef fish (e.g., emperors, snappers) and octopus by an increasing number of fishers, is demonstrated by an increase in the proportion of smaller fish or undersize individuals caught, and in turn, an increase in the use of small mesh nets and traps in order to catch small fish species and juveniles. It has also resulted in an absence of apex predators (e.g., groupers, reef sharks).
- Hunting and/or by-catch of globally vulnerable species, including four Red-listed Sea turtle species, Indian Ocean humpback dolphins (proposed as Endangered), humphead wrasse (Endangered), bumphead parrotfish (Vulnerable), and blacktip reef sharks (Near Threatened), with drift nets, spear guns with SCUBA, and nest poaching.
- Exclusion of fisher women and men from marine resource decision-making due to limited knowledge and management capacity, reducing compliance with regulations.

Given the above, this project was designed to address the capacity, skills and knowledge gaps for Shehia Fisher Committees (SFCs) to directly implement sustainable marine resources management measures in local fishing grounds (of 34 SFCs, only two actively manage marine resources which is as a result of our pilot (2015-16)). This would tackle overfishing, illegal fishing including use of illegal gear, and coral and habitat damage. In addition, the project was designed to enable multiple SFCs to work collaboratively to address larger area, seascape management issues that particularly affect wider ranging species such as sharks and rays.

With poverty an important issue in the region, the project was also designed to increase wellbeing benefits to communities and incentives to both male and female fishers in the six target communities to participate in and benefit from new marine resources co-management measures. From the pilot project the results included three-fold increases in octopus catch weight; more abundant, larger reef fish; and increased participation in decision-making. This provided a solid basis upon which the project is now building.

2 Project Partnerships

Fauna & Flora International (FFI) has coordinated all project management and implementation and provided technical advice on governance, reef ecology, ecosystem and fisheries management, data collection, livelihoods, market system development, participatory impact analysis and monitoring and evaluation. FFI has coordinated the writing of half year, annual and the final report, with direct input from Mwambao and contributions from the Wildlife Conservation Society, Tanzania programme (WCS).

FFI convened an inception meeting with Mwambao and Department of Fisheries Department-Pemba (DFD-Pemba) in September 2017, hosted at DFD-Pemba. FFI and Mwambao have organised 1-2 informal project steering meetings per year with DFD-Pemba and WCS (individually), at each of the partners' respective offices throughout the project. FFI and Mwambao have maintained fortnightly and/or weekly calls and conducted 2-3 visits per year between inception in July 2017 and December 2019. A steering group meeting with Mwambao and DFD-Pemba took place in December 2019 to review progress against the project's theory of change and monitoring data. A final project meeting was held (29 March 2021) between Mwambao, WCS and DFD-Pemba (Annex 09). FFI was unable to attend due to travel restrictions but actively participated in coordinating the meeting.

Mwambao's Pemba-based Field Officer has been responsible for day-to-day engagement with focal communities and DFD-Pemba, with the support from Mwambao team in Unguja. WCS' Tanzania programme led the community-based evaluation of the fishing of sharks and rays within the project area. WCS and Mwambao currently work alongside each other in Mkinga District (North of Tanga city, mainland Tanzania) and have a positive working relationship.

DFD-Pemba has been very supportive of the project: the PECCA Manager has supported activity implementation and the Officer-in-Charge has helped to resolve challenges. DFD-Pemba has also seconded a Field Officer to Mwambao to strengthen links between these two partners. DFD-Pemba has hosted FFI and WCS during fieldwork.

GreenFi was officially incorporated as a project partner through a Change request (LTS672) in March 2020. They have been a key partner in the development of the MKUBA eco-credit pilot in Kuuu, investing almost half of the initial grant to the 123 members. Their mentorship has led to replication of the pilot outside the project area (in 3 other villages in Zanzibar and one in coastal Kenya).

Overall, relationships between FFI, WCS, Mwambao and DFD-Pemba, and later GreenFi, have been strong throughout, bringing together a range of skills and technical capacities. FFI, Mwambao and GreenFi intend to continue collaboration with DFD-Pemba after this project, and have already developed joint proposals for future work.

The British High Commissioner for Tanzania based in Dar-es-Salaam visited the project site in December 2019. They were briefed on the project activities and visited two project sites including a boat trip of the area. The former Commissioner (Sarah Cooke) has since left Tanzania however we have contacted the new Commissioner (David Concar).

3 Project Achievements

3.1 Outputs

Output 1. Six SFCs have the skills, knowledge and confidence to implement sustainable marine resources management measures in local fishing grounds.

Output 1.1 (*SFCs are functioning and represent a cross-sector of society, including an average composition across all SFCs of 30% women, in three communities by Y1, four communities by Y2, 5 communities by Y3, and 6 communities by Y4*) has been largely achieved. All 6 SFCs were trained by the end of Y3, with 5, all except Kisiwa Panza (KP) (see paragraph below and Annex 2, Output 1.1), having increased skills, knowledge and confidence to function at the end of the project. This increased capacity includes the essential aspects of practicing good governance, including voting rights and what the different roles and responsibilities of an SFC should be, and how the SFC mechanism is important within the wider fisheries regulation, policy and legislation context. In addition to governance, they now understand how to formulate by-laws and standard operating procedures (SOPs) and also how to design, conduct and schedule patrols in different areas. They are able to effectively communicate within the SFC group and with the community, and also how to communicate with external stakeholders, from neighbouring communities to local authorities, and with PECCA management staff and rangers.

By the end of the project, the SFC's were composed of 64 Men and 17 women with 20-25% of members in each individual SFC being women. While this is slightly lower than the target of 30%, it is worth noting that many SFCs within PECCA outside of the scope of this project, do not have any women members. The project recognises that greater effort is needed to increase women's active participation in SFCs, including the establishment of women's groups to discuss their management priorities and resolve issues, and further outreach work with men in the SFCs to better facilitate considering these priorities more systematically. This was due to place at the end of Y3 and in Y4 but could not be implemented due to the fieldwork restrictions encountered during most of 2020 (see assumptions 0.3 and 2.3 and section 8 "Impact of COVID-19 on project delivery").

Challenges with Kisiwa Panza (KP) KP SFC ceased operations at the very start of the project in 2017, following a disagreement over how SFC Leaders and the volunteers in charge of the patrols responded to a poaching event during a temporary closure, which ultimately led to a loss of trust. KP SFC resumed activities from the end of 2017-October 2018, however tensions around closures arose. The Project has communicated these challenges to the Darwin Initiative in Year 2 and Year 3 reports. Resuming active management and mentoring the KP SFC was a key priority for Y4 and was scheduled for Q2 2020, however the fieldwork restrictions in 2020 (see assumptions 0.3 and 2.3 and section 8 for details) prevented these activities from being implemented. The KP SFC held elections in 2020 to elect a new chair. The project team remained in contact with KP SFC and have involved the chair in the community biodiversity surveys throughout. Promisingly, in late 2020 the SFC agreed to become part of a second Collaborative Management Group (CMG) known as KUKACHOKI, see Annex 12) and members joined the CMG committee. This inclusion in a wider group of SFCs, including joint awareness raising and the introduction of joint patrols in the area may encourage more reluctant fishers in KP.

Output 1.2 (*Six SFCs have implemented sustainable marine resource management plans to address locally defined conservation priorities (e.g. temporary or permanent closures, gear restrictions), against a baseline of 2, by 2021*) was achieved. Written by-laws have been established for all six communities, against a baseline of 2, and implemented in five SFCs (all but KP). At the end of the project, 1 management plan, in Kuuu, is actively being implemented. Given the strong degree of overlap in the respective fishing grounds of Stahabu, Michenzani, Shidi and Makoongwe, the project established the first Collaborative Management Group (CMG), named “STAMISHIMA”, rather than focusing on local management plans and preventing any anticipated disagreements over boundaries. The initial local management actions decided by these 4 SFCs have each been formalised into by-laws (Annex 10) that respective SFCs are entitled to use/enforce. The local management planning process began with KP in 2018 when local management was active however the closure of the SFC prevented management planning until after the project end.

Output 1.3 (*12 community monitors trained and implementing fisheries catch data collection; 12 community monitors trained and implementing coral reef monitoring; six patrol teams trained and implementing patrols by 2021*) was achieved. By the end of the project, 12 community members: 6 Community Monitors (6 male), 5 Data Entry Officers (1 male, 4 female) and 1 Community Data Officer (1 male) who has been the project’s main focal point for fisheries data have been trained and are implementing fisheries catch data collection; Twelve (all male) community reef monitors have been trained and are implementing coral reef monitoring in all communities alternatively; and by 2021, 6 patrol teams were trained, with 5 actively enforcing the closures established by by-laws (KP patrol team is not active, see Annex 2, Output 1.1 “Challenges in Kisiwa Panza”).

The project team has trained new community reef monitors or “surveyors” from new communities supported gradually, for example those from Shidi, Michenzani and Stahabu were trained in Q1-2020, and were therefore able to visit the closures implemented by other target communities. As a result, a Pemba-based team of local reef surveyors was created during the project, using the following method: “Coral reef monitoring in Eastern Africa. A guide for communities”. Encouragingly, one of these trained surveyors is now training teams in Mwambao project sites Ushongo and Boma on mainland Tanzania.

The SFC is responsible for holding regular patrol records (for every patrol conducted) noting details such as time, areas patrolled, mode of patrol (generally on foot, canoe or sometimes using a motorised vessel), members of the team and arrests made. All 6 supported communities have been conducting patrols (Annex 11), some more consistently than others, and the frequency/number of patrols has depended on the phases of active management actions (temporary, permanent closures). Through additional funds secured from WildAid and the United States Agency for International Development (USAID), Mwambao purchased a boat for both STAMISHIMA and the new CMG ‘KUKACHOKI’ to carry out joint patrols in January 2021.

Output 1.4 (*60% average reduction in the number of breaches of SFC by-laws across all six communities as compared to the first year of by-law implementation in each community by 2021*) has been largely achieved. The frequency of temporary closures and level of patrolling and arrests has varied across the six communities. Communities have recorded that when an illegal activity was encountered, this resulted in an arrest, thus number of arrests can be used as a proxy indicator for breaches of SFC by-laws. Four of the six communities were able to carry out patrols under covid restrictions in Y4 with three of the four recording no arrests and the other recording only one arrest. In terms of assessing the rate of reduction, accounting for effort as a patrol day, we have a series of patrols through several years in both Kuuu, where the arrest rate has decreased from 0.01(Y1) per patrol, to 0.008(Y2), to 0.003(Y3) to 0(Y4), and in Makoongwe which has reduced from 0.047(Y2) to 0.055(Y3) to 0.006(Y4). It should be noted that detection rates were affected by covid as patrol effort was reduced in Y4 and neither Kisiwa Panza nor Michenzani were able to patrol in Y4 but did manage varying levels of patrols in other years of the project (see Annex 16 for patrol and arrest data per year / per community). It should also be noted that patrols and those joining the patrolling teams are not paid for by the project, these are voluntary patrols; although some SFCs have managed to gather collective revenue (e.g. during fishing open days on the temporary reef closures) and provide a stipend to volunteer patrol members. It will be essential to continue this effort to develop sustainability.

Output 2. A Collaborative Management Group is formed between the six target SFCs to determine and address seascape management issues.

Output 2.1 (*There is a functioning Collaborative Management Group of 12 members between the six target fishing communities by 2020, supported by DFD-Pemba*) was achieved: STAMISHIMA CMG was established in Y3Q3, comprised of 16 members (11 men, 5 women) from the 4 communities/*Shehias* (Makoongwe, Shidi, Michenzani, Stahabu), and supported by DFD-Pemba (Annex 12), following the learning exchange visit in Y3Q1 to Rufiji-Mafia-Kilwa Seascape programme (see Activity Annex 13). Members of the project team, 16 community members, 1 SWIOFish co-management consultant and 5 DFD staff gained valuable information about the coordination across neighbouring community institutions (Beach Management Units (BMUs) in mainland Tanzania, equivalent to SFCs) under Collaborative Fisheries Management Areas (CFMAs). This framework has been integrated in fisheries regulations in mainland for a decade; it was stimulating and inspiring for Zanzibari and Pemban participants to see how the system was coordinated, and the respective roles and responsibilities of the different actors required to improve the overall management effectiveness of the coastal and marine resources. A first draft of Standard Operating Procedure and structure was created during the establishment of STAMISHIMA (Annex 12), creating 3 main subcommittees (inspired from how the CFMAs are managed) as follows (1) Patrols; (2) Finance, statistic and surveillance and (3) "Doctrine" (in charge of community engagement, education and conflict resolution).

Despite the governance issues and local management challenges with KP SFC, the project team was able to establish a second CMG, "KUKACHOKI", capitalizing on the interest of Kangani and Chokocho, two communities outside of the scope of the project and located between Kuuu and KP, in local management. This fell outside of the Darwin funded project as the activities began after project end, however they indicate a possible option to resume local management in KP by including its SFC in a broader, collective co-management effort.

Output 2.2 (*A joint management plan is established between six SFCs and the Collaborative Management Group to address threats to priority habitats and species of conservation and livelihoods importance by 2021*) was not achieved. However, the 2020 fieldwork restrictions during Y4 prevented the project team from starting the collaborative management planning process. However, the CMG has been able to plan joint patrols and the project team plans to resume the collaborative management planning process with STAMISHIMA as soon as restrictions allow. This process will agree co-management targets across the four member communities to define new zones of management, such as temporary/permanent closures or specific gears restrictions within shared fishing grounds, a value add for the CMG that is not achievable by individual communities. Mwambao was further able to provide professional training to STAMISHIMA in Monitoring Control and Surveillance procedures and, in early 2021, provided them with a patrol boat. Mwambao also supports Pemba's Mkoani District Officers with development plans and articulating roles and responsibilities, with the aim to enable and operationalise joint-patrols with the CMG.

Output 2.3 (*Briefing paper for possible interventions to reduce megafaunal mortality is produced, shared and discussed with project partners by 2021*) was achieved. The collaboration with WCS Tanzania (Annex 14) has focused on sharks and rays (as agreed in Change Request no.2 approved in March 2018) and a briefing paper has been produced and distributed (see Annex 06.) A community-based sharks and rays fisheries monitoring system demonstrated that many endangered species of elasmobranchs (specifically sharks and rays) were caught in Pemba, more so than in Unguja and mainland Tanzania. The briefing paper has highlighted the scale of the problem in Pemba and the importance of species-level data collection in artisanal elasmobranch fisheries. The improvement of the data collection method throughout this project has been noticeable, and these important lessons will be taken forward in future shark and ray catch surveys and resulting management actions. Further investigations will be also required to identify where key zones are per species/families, but data collected by the project is a strong base to build-on.

Due to the overlap of sharks and rays with multiple management areas, and because of the more stringent fishing regulations required, multi-sector management plans will be essential across PECCA. However, several of the species recorded are highly migratory, suggesting that regional

(Western Indian Ocean) management plans are also necessary. Data collected during the project will also be used to inform a National Plan of Action for Shark Conservation and Management in Tanzania in the coming year, and provide excellent support and justification regarding which species need better management and protection. This project has therefore provided important baselines highlighting the importance of PECCA and the wider region from which to measure the effectiveness of future shark and ray management interventions.

Output 3. Training and capacity building provided to DFD-Pemba to effectively support marine resources co-management in the long term.

Output 3.1 (*5 key DFD-Pemba staff attend institutional governance training (according to needs assessment), and SFC capacity building training by 2019*) was achieved. In Y2Q1, the project organised two workshops on co-management governance and conflict management, held during one week at PECCA management offices. The workshops were attended by DFD-Pemba, Marine Conservation Unit (MCU) staff and representatives of all the communities (*Shehia* -wards) encompassed in PECCA (totalling 34 heads of SFCs). The two workshops laid the foundations for PECCA co-management, and for roles and responsibilities to be shared by the MCU and DFD staff, and SFCs and communities. Feedback from the workshops also generated a list of next steps and recommended areas of improvements for the World Bank (WB) SWIOFish programme. These recommendations supported DFD and MCU to ensure necessary guidelines and regulatory documents to be finalised and fully operational. The Y2Q1 workshop identified that the lack of clarity on the regulations and processes for PECCA management was a main challenge to its success. By working regularly with PECCA and DFD staff throughout the project, and engaging collaboratively with the SWIOFish programme, information relative to local management such as SOPs for SFCs and enforcement roles and responsibilities, became much clearer. There has been strong buy-in and support from DFD-Pemba on the work conducted with the six communities supported and the development of a co-management framework.

Output 3.2 (*The project's contributions to (a) define a co-management approach to be implemented for the management of PECCA and to (b) the creation of a new General Management Plan are considered by DFD and the consultants leading the work*) was achieved. In Y3, the project team supported the WB Bank-funded SWIOFish programme to revise PECCA's General Management Plan (GMP), including its Management and Advisory Committees. A consultancy started in September 2019, with an initial term scheduled ahead of October 2020 elections. The project provided direct input to the consultants' team. Restrictions of travel since mid-March 2020 and the electoral campaign disrupted the consultants' schedule, in particular preventing consultation workshops with key stakeholders. At the same time, there has been restructure within government with the creation of a new ministry, the Ministry of Blue Economy and Fisheries (MBEF), and a new department, the Department of Marine Conservation (DMC). Until this re-structure, marine conservation matters in Zanzibar have been integrated with fisheries issues under DFD, in turn under the Marine Conservation Unit (MCU). Thus in addition to the elections and covid, these institutional changes have delayed the completion of the SWIOFish consultants' work on PECCA's GMP. A new timeline for the finalisation of the framework has not been agreed at the time of writing this Final Report. The project team remains in contact with the consultants and are ready to participate in and contribute to a final/validation workshop. FFI and Mwambao have provided SWIOFish consultants with data and recommendations on co-management including roles and responsibilities to be under a CMG co-management regime, based on findings from this project.

Output 4. Sufficient knowledge and incentives provided for both male and female fishers from the six target communities to participate in new marine resources co-management measures.

Output 4.1 (*A minimum of 10 radio announcements on local stations relating to at least 10 incidents (e.g. new SFC by-laws; enforcement of by-laws; events) by the end of 2021, against a baseline of three*) was achieved. In total, 10 radio announcements were made when first closing a new area: Kukuu and KP had 2 in 2018, Makoongwe had 2 in 2019. During Y3 (2019-2020): 6 new radio announcements were broadcast in relation to the new closures in Shidi, Michenzani and Stahabu. These programmes and announcement have contributed to the dissemination of information across neighbouring communities that local management actions were being implemented in the South of PECCA. Anecdotal evidence during Participatory

Impact Assessments (PIAs) have shown interviewees heard which communities had started closures on the radio. The announcements also explained what the by-laws for these new closures entailed and detailed specific penalties incurred for arrests.

Output 4.2 (*50% increase in the number of women and number of men attending regular meetings with SFCs by 2021 against the baseline set with each community at the start of the project's engagement with them*) was not achieved. This indicator has been challenging to track and report back on due to the multiple different types of meetings taking place and factors influencing attendance. It is clear when looking at meeting records during the project timeline that attendance from the project team has influenced communities to hold more regular meetings.

Kukuu has been regular in holding community and SFC meetings, with attendance remaining strong throughout the project, except in 2020. There was a decrease in the frequency of all meetings across all communities in 2020 due to Covid-19 and the government restriction of only 10 people meeting and a ban on community meetings. In Makoongwe the progress in community meeting attendance has been important, with a 2.5-fold increase between baseline (2018) and the end of the project for men participation, and more than 4-fold for women. This seems related to the change of SFC leadership in 2019 following distrust expressed by a growing part of the community. In Shidi and Michenzani and Stahabu, we haven't been able to see a 50% increase in the attendance to meetings; attendance seems to fluctuate significantly between meetings.

Output 4.3 (*Credit scheme is accessed by c.110 men and 110 women in one pilot community by 2021*) has been achieved, with 213 community members (54% women, 9% below 25 years old) accessing the MKUBA eco-credit scheme (see Annex 17).

The pilot "MKUBA" – which stands for Mfuko wa Kutunza Bahari ("Fund to care for the sea" in Swahili), is located in Kukuu, at the South of Mkoani district and Pemba Island. It is an incremental development of the Community Environmental Conservation Fund, (IUCN, which has 20,000 members in Uganda, Kenya and Malawi). CECF is itself an adaptation of the widespread Village Savings and Loans Model (VSLA) model (with 17million plus members worldwide). The community eco-credit scheme is a mechanism to incentivize improved local ecosystem management, by establishing small revolving loan schemes where voluntary environmental actions are included as part of the loan terms and conditions. It has been implemented by the project team supported by GreenFi Ltd (a proponent and developer of the model in co-design with the project).

The MKUBA pilot is the first to use the model in a community marine management context. It began with 8 eco-credit groups (originally 5 with 3 additional groups formed in Y4Q4. The MKUBA pilot has disbursed 370 loans of an average size of \$, amounting to \$ worth of economic activity generated in the 2.5-year life of the pilot. There has been no repayment default after nearly 3 years of activity, although late repayments are relatively common (57% of loans) and have been made worse by the Covid 19 pandemic and Tanzanian elections.

The scheme is an incentive for improved awareness about the local management measures agreed by the community and increased compliance to the related by-laws. MKUBA borrowers have been able to cite the main management measures in Kukuu by-laws, there is a stronger adherence to fishing gears' restrictions (e.g. no iron bars for octopus gleaning), indicated by only 3 infringements by MKUBA members in the closure areas. The MKUBA has strengthened local management plan implementation, with MKUBA groups' participating in community patrols (additional to those piloted by the SFC) and ~20,000 mangrove propagules have been planted since inception (conservation and improve of mangrove areas is part of Kukuu's local management plan). As a result, 213 community members have had a better understanding of marine management and have been carrying out practical actions.

A majority of participants reported a high degree of satisfaction with the pilot, with community requesting to roll out more MKUBA groups and neighbouring communities expressing willingness to replicate the scheme. This high degree of satisfaction provides the community with a tangible link between locally-led coastal and marine resource management, within PECCA and the improvement of residents' livelihoods. Beneficiaries self-reported positive impact on their life by diversifying their livelihoods opportunities and income sources.

Output 5. Conservation and social outcomes of the project are evaluated and findings shared with target audiences (communities, local government, and conservation community)

Output 5.1 (*Information sharing meetings hosted by DFD on implementing effective marine resource co-management in Pemba in 2019 and 2021*) was achieved. A participatory data analysis has taken place annually with the communities engaged in regular catch monitoring (Kukuu, KP during Y1-2 and Makoongwe since 2019). Catch recorders, data officers and SFC members were present and results for average total octopus catch per spring tide (kg) and average octopus size per spring tide were charted against each spring tide since respective records began. The results and trends were discussed on site with the SFC and community members with the objective to understand and monitor the impact of their management measures and connect to any particular factors influencing the changes (e.g. issues with enforcement, meteorological events). The community monitors and representatives of the SFC then presented the data to the DFD-Pemba offices in Wete (North Pemba). For octopus catch data, the typical trends observed with the temporary closure regime shows a doubling of the size of individual octopus during the opening periods, and an increase in the total volume caught accounting for Catch Per Unit Effort (CPUE). In cases where there was a lack of effective enforcement, such as for Makoongwe's first closure, there were limited increases during opening periods.

DFD expressed regular appreciation for receiving this annual feedback from the communities, and the community members present gained confidence in engaging with DFD staff, and having interesting discussions and debates that were often triggered by the objective to see the future results further improved (Annex 18).

A final project workshop was held for all stakeholders in Pemba in March 2021 and was attended by 36 people including members from government (the acting Director of Fisheries, a representative from the Officer in Charge of the Blue Economy in Pemba, the new PECCA manager, and the MCS Officer from DFD) and WCS. The Mwambao data officer and representatives from each of the six communities supported also attended (Annex 09).

Output 5.2 (*Uptake of SFC training materials and standard operating procedures by MCU and associated DFD initiatives (SWIOFish) based on success of project interventions by 2020*) was achieved, with the SFC SOPs developed and the by-laws development process informally reviewed and validated by DFD-Pemba. This has been discussed during the co-management workshop held in Y2 with DFD attendees supporting the process proposed by the project team for SFCs to prepare and formalise local management rules and by-laws. There has been good collaboration with the SWIOFish consultancy (working within DFD) aimed at proposing a co-management framework. It has resulted in the uptake of the SFC SOPs proposed by the project team, into those proposed by the SWIOFish consultant for formal uptake by DFD.

Output 5.3 (*Project case study documents downloaded from partner websites 200 times by the end of 2021*) was not achieved, however a case study has been written about the innovative MKUBA eco-credit model for publication on Panorama/Blue Solutions platform (Annex 19). Mwambao is already replicating this scheme into other communities in PECCA as well as Unguja. Unfortunately, this case-study is not published yet due to the validation timeline, but it is aimed to be so before the end of August 2021.

3.2 Outcome

The project outcome of “*Six communities and DFD-Pemba manage marine resources sustainably in key sites, stabilising reef health and function across 10,500ha of PECCA, leading to improved wellbeing for c.10,000 fisher men and women*” was achieved.

This project has engaged with six coastal communities in the South of PECCA (Mkoani district). The area of fishing grounds coverage falling under these six communities' local management responsibilities has been estimated at 10,500 ha (5,000 ha for the four communities grouped as STAMISHIMA, 1,500 ha for Kukuu and 4,000 ha for Kisiwa Panza – KP). These six communities accounted for c. 10,000 fishers, which corresponds to ~65% of the communities' population according to the latest census (2012).

During Y3 the project made amendments to two outcome indicators, reviewing the wording of indicators 0.1 and 0.3 to make them more adapted to the reality of the project (change request no.3 approved in January 2020).

0.1 No significant incidents of coral damage (greater than an area of 1 m squared) caused by human activity in any reef sites protected by community by-laws, against baselines by 2021.

No significant coral damage has been detected since the coral reefs baseline surveys (2016 for KP, 2017 for Kuuu, March 2019 for Makoongwe, March 2020 for Shidi, Michenzani and Stahabu – Annex 20). This is a significant achievement as, prior to the project's start and the implementation of reef closures, damage linked to the use of nets on nearshore coral reefs were reported. The implementation of closures and related patrols seems to have eliminated new damage from nearshore reefs in the areas managed.

0.2 60% average reduction in number of boats observed using damaging or illegal fishing gears (e.g. drag nets, small mesh nets and traps, spear fishing with SCUBA) in sites patrolled by communities by 2021, as compared to the baseline at each site.

There has been a confirmed reduction in 5 sites of the number of boats using damaging or illegal gear, although the rate of reduction has varied. In Kuuu and Shidi, there were no known encroachments in Y4. In Makoongwe, there has been a 90% reduction in illegal fishing acts observed and caught. In Stahabu and Michenzani, which began patrols in Y3Q3, no one has been identified infringing by-laws. In KP, 11 arrests have been made in 2018, but no reduction could be observed as patrols stopped with local management was halted (Oct. 2018).

0.3 50% increase in the individual weight of reef fish caught from selected key families in reef closure sites by 2021, as compared to the baseline number at each site, and a two-fold increase in average individual weight of octopus caught in the days immediately following a reef closure, as compared to the average weight of octopus caught with no management intervention, by end of project.

Octopus The impact on fisheries (Annex 21) has been significant regarding octopus, with a near two-fold weight increase observed when averaged across closed and open periods. The average weight of octopus during closed periods (i.e. caught outside the closures) has been maintained over the respective monitoring periods of each community (closed and open merged), where octopus stocks were reported as in decline before the project.

	Kisiwa Panza	Kuuu	Makoongwe
Avg. octopus weight (g) during closed periods	674	432	547
Avg. octopus weight (g) during opening periods	860	1198	929
Multiplying factor between closed and open periods (X-fold)	1.27	2.77	1.69

Shidi, Michenzani, Stahabu created a site closure that comprised mostly seagrass beds, more suitable for seashell collections and some fin fish species, and were therefore not covered by this indicator.

Fish Fish weight: Goatfish and Rabbitfish caught are heavier during closure-opening days (it is not possible differentiate accurately if they have been caught in the closure area). Increases range from 14% (goatfish) to 59% heavier (rabbitfish), with an average increase of 19%. Parrotfish have displayed a decrease in average weight (-15%) during opening periods compared to closed periods (when fishes are only caught outside the closure site). The reason for this is not yet clear.

Fish numbers: In addition to the general gain in fish weight, there is a significant increase in the number of these fish caught on opening days versus closed days: from 1.3-fold more parrotfish to 5.8 more goatfish (with an average of 3.5 more fish for all 4 families monitored). This is a significant result and is generating strong interest and satisfaction from the community and fishers as they see increased stocks in the closure sites for locally-important fish.

0.4 50% increase in the number of fishes over 30 cm total length observed from selected key families in reef closure sites, against baselines set for each community by 2021.

Baseline: No fish over 30cm were observed in any survey (snorkelling belt transects) [Kuuu Oct. 2017; Makoongwe March 2019; Shidi, Michenzani and Stahabu April 2020]. However, for fish catches by the selected 4 families, 3 fish of size 15-30cm were recorded in Kuuu's closure areas, 2 in Shidi, 1 in Stahabu, and none in Makoongwe and Michenzani.

Endline; Again, no fish over 30cm were identified during snorkelling belt transects. For temporary closures, this may be related to the too-short period of closure (3 to 6 months generally), which does not allow enough time for these species to grow and is better suited for octopus population recovery. For permanent closures, these are possibly too small and fishes growing there could be caught when moving outside these. The increase in number of fishes between 15 and 30cm in the closures is however encouraging, with increases observed in both Kukuu and Makoongwe. The project was unable to repeat in-water surveys in 2021 for Shidi, Michenzani and Stahabu due to travel restrictions.

No. of indicator reef fish of 15-30cm observed in the closures	Makoongwe	Kukuu	Shidi	Michenzani	Stahabu
Baseline	0	3	2	0	1
2020 surveys	22	9	n/a	n/a	n/a

0.5 60% of women and 60% of men surveyed in the six communities report an improved sense of overall wellbeing as a result of project activities by 2021 (including targets for: reduction in numbers of meals skipped, participation in decision-making, income as a result of either or both improved catch and access to credit).

The impact on community members' wellbeing was monitored through household surveys and participatory impact assessments (PIAs). When comparing baseline (January 2019) and end-of-project (January 2021) (Annex 20), there was an increase in the sense of overall wellbeing compared to the previous year, for both men (from 6% to 9%) and women (from 4% to 6%); an increase in the percentage of people reporting they feel the same, (men from 34% to 54% and women from 53% to 56%); and a decrease in the proportion reporting their overall wellbeing has worsened (men from 60% to 37% and women from 43% to 38%). These changes may seem small but when viewed in light of the global covid pandemic which has caused numerous hardships impacting material wellbeing, including disruption of fisheries value-chains, a drop-in revenue from the formal sector, in particular tourism, as well as tensions associated with the elections (July-November 2020); a reported improvement in wellbeing can be seen as a meaningful success.

Food security: the proportion of men and women reporting that they have not had enough food for an evening meal has dropped by an average of 25% (-30% men, -21% women) from baseline to end line.

Consultation: The proportion of men and women reporting that they are never consulted has also dropped, from 34% to 28% for men and from 46% to 32% for women. Additionally, those reporting that they feel they are consulted be that always, often/most of the time or sometimes have increased, from 36% to 46% of men and from 16% to 43% of women. This is a particularly encouraging response from women, indicating that project efforts towards gender equality are creating change.

0.6 70% of women, 70% of men, and 70% of SFCs/DFD-Pemba representatives surveyed perceive an improvement in SFC and DFD-Pemba's management effectiveness by 2021 as compared to the baseline.

Despite some challenges to sustain active management in Shidi, Michenzani and Stahabu, there are promising signs that collaboration and capacity-building of SFCs in some new communities are having a positive effect on the perception of SFC efficiency.

Through household surveys, it was identified that more women (from 52% to 63%) and men (from 55% to 64%) found their SFC effective or very effective when comparing responses from 2019 and 2021 (Annex 22). Through the PIA (Annex 23), some of the highest-ranked changes for women in Shidi, Stahabu and Michenzani was strengthening of SFC efficiency and positive impacts of reef closures, with resultant material wellbeing impacts of increased incomes, and relational wellbeing impacts of increased trust and cooperation in the community. In Stahabu, women reported substantial positive subjective wellbeing impacts as a result of 'increased involvement of women in conservation matters', which can be directly attributed to this funding.

3.3 Monitoring of assumptions

3.3.1 Outcome level

Assumption 0.1: Community and government stakeholders are willing to participate in collaborative co-management of PECCA. All stakeholders remain willing to participate in collaborative co-management of PECCA, with the exception of a small group in KP community (see assumption 1.1). The project has fully cooperated with District Fisheries Officers in all activities, although with the government restructure, the role of the district authorities was often unclear. However, the new Minister of the Blue Economy and Fisheries officiated the handover of patrol equipment to the newly created CMGs (including STAMISHIMA) in January 2021 demonstrating support for the project and our approach to community-based co-management.

Assumption 0.2: Climate change does not result in a significant increase in demand for marine resources if droughts are more severe, or lead to significant coral bleaching, which will degrade the shallow reef habitat. No significant coral bleaching has taken place over the project period and no significant increase event in the demand for marine resources has been noted. Covid-19 however led a number of individuals formerly employed (in particular in the tourism sector) to shift towards fishing temporarily in 2020; but that increase has been limited due to the general drop of seafood prices locally (less market opportunities from the tourism sector and very limited exports).

Assumption 0.3: The political landscape provides a stable environment in which to work over the project period. The 2020 election year resulted in far greater restrictions than those anticipated following previous elections. Mwambao were thus delayed significantly in conducting activities from January 2020, and eventually unable to conduct any fieldwork from July to December 2020.

In January 2020, additional requirements were introduced regarding the legal status of NGOs in Zanzibar, which required Mwambao to re-register. The process was successfully completed with a new registration formalised on 25th June 2020, but it required the team to spend significant time on the matter, and thus had a serious knock-on impact on some project activities, then exacerbated by Covid-19 restrictions in March-May 2020, see section 8). This has been communicated to the Darwin Initiative by email in August 2020. Other restrictions related to the political climate of 2020 came into play in July 2020. They are detailed under the assumption 2.3.

Assumption 0.4: Population growth and immigration do not increase beyond predicted estimates. There has been no change in predicted estimates.

3.3.2 Outputs level

Assumption 1.1: Communities wish to engage in local marine resource management. Our pilot study and awareness-raising activities reveal that the majority of local people in the area are supportive of conservation measures. This assumption holds true with the exception of Kisiwa Panza (KP) fishing community, specifically young male skindivers from that community. The Participatory Impact Assessments showed however during the active management phase the situation was more positive, with increased price for octopus, better relationships (especially reported by women), and better catch during opening times. For details about the actions taken to adapt to and resolve local management challenges in KP, see Output 1 (section 3.1).

Assumption 1.2: Community-led management is effective in achieving our outcome (based on initial successes during the pilot). This assumption was correct, although the approach needs to be adapted for other fisheries, for communities engaged in other types of fishing e.g. shellfish.

Assumption 1.3: The number of fishers from outside PECCA does not significantly increase, and thus limit the effectiveness of community-led conservation. There has been no noticeable increase in fishers from outside of PECCA, however an increase in fishers as a result of the COVID pandemic has been noted. The unpredicted COVID pandemic has depressed markets and prices for marine products, and caused high levels of unemployment due to the impact of COVID on the tourist industry.

Assumption 1.4: Local community politics do not interfere with agreed management strategies; i.e. kinship, party allegiances. There have been no new incidents of community politics interfering with agreed management strategies

Assumption 2.1: Communities are willing to collaborate in the management of their shared resources. Initial awareness-raising activities suggest that there is appetite for this. The four communities who have engaged in collaborative management have demonstrated a willingness to collaborate throughout the project. In 2021 these communities have also initiated joint patrols with the support of funds raised from USAID under their Tanzania Protect programme.

Assumption 2.2: Neighbouring communities based elsewhere in Pemba who fish within the area are willing to recognise established collaborative management measures. This assumption has not yet been tested, although we note that Kuuu has faced some challenges with neighbouring communities.

Assumption 2.3: There are no significant social or political conflicts that hamper any attempt at collaborative management. Beyond the new legal requirements (see assumption 0.3 above), the run-up to Tanzania's presidential elections (held in the end of October 2020) led to a higher level of scrutiny over NGOs and their activities in both mainland Tanzania and Zanzibar. During July 2020, some of Mwambao's communications with different administrations indicated that the project team should not continue any planned field activities with coastal communities whilst the election campaign was running. While we were expecting some restrictions on engagement with communities, we had not anticipated such increased scrutiny so far ahead of the election. A more stable situation began to return in November, and fieldwork was effectively resumed from mid-December 2020, once agreement from government had been secured. These challenges were communicated by email to LTSI/Darwin Initiative from August 2020 and have also partly been the subject of the latest change request sent in December 2020 (submitted once we knew the project could resume fieldwork and had estimated the extent of outstanding activities that could take place by the end of project).

Assumption 3.1: The MCU and the Department of Fisheries remain supportive of engaging in activities to improve their effectiveness. As they are formal project partners, we do not foresee that this will be a problem. The Pemba office of the Department of Fisheries have been very supportive of the project efforts engaging wherever possible.

Assumption 3.2: Zanzibar's government continues to support the PECCA initiative. The government continues to support Marine Conservation Areas (MCAs) and has recently declared 2 new areas in Unguja. This is aligned with the ongoing SWIOfish consultancies.

Assumption 4.1: Activities under an existing grant improve economic incentives for locally led marine resource management, through positive engagement of the tourism and seafood sectors. The tourism sector has been disrupted by the COVID pandemic, with most hotels closed since April 2020, so it is hard to assess their engagement with locally led marine resource management. However, the seafood sector, especially local buyers, have engaged positively with the Participatory Market Systems Development (PMSD) approach.

Assumption 4.2: Community members are able to attend regular meetings, and willing to engage in credit schemes. Our pilot project suggests that we need to enable women to attend meetings in particular. From mid-March 2020, COVID-19 affected our ability to hold meetings, and the pre-election period also prevented village-level meetings from July-November 2020. Before this, all community members were able to engage and MKUBA in particular has encouraged this.

Assumption 4.3: Accountability and transparency mechanisms are upheld for the community credit scheme. Stronger governance was found necessary for the community credit scheme and this led to the formation of a management committee. There are some issues with repayments but most groups are doing well with some on their fourth loan cycle since inception.

Assumption 5.1: Our data are able to detect a beneficial impact of the project. The household survey provided a baseline and the repeat household survey in 2021 has highlighted project impacts (please see section 3.2 for details).

Assumption 5.2: The government and project partners remain committed to sharing knowledge and learning. There is tremendous goodwill locally to share knowledge and learning. DFD staff (both those based in Pemba and those based in Unguja) regularly attended project workshops, however it has been difficult to access clear and timely information from DFD regarding the devolution/decentralisation process and on a timeline for SWIOFish work related to PECCA's GMP revision and co-management framework. Mwambao has reported to government throughout to ensure they are informed of activities. Mwambao has also conducted several meetings with the new Principal Secretary for the Ministry of Blue Economy and Fisheries and the new Directors of Fisheries and Marine Conservation to explain our work, since their inception (Dec. 2020-Feb. 2021). An end-of-project comprehensive feedback meeting has also held on 25 March 2021 in Pemba (Annex 09) held jointly with WCS Tanzania and Mwambao. The new director of DFD has expressed general appreciation about the work conducted during these four years, in good collaboration between the 3 NGOs (FFI, Mwambao and WCS) and the institutions, and has wished the collaboration to continue moving forward.

3.4 Impact: achievement of positive impact on biodiversity and poverty alleviation

The intended impact of the project was that PECCA's healthy and diverse marine ecosystem would be managed effectively by empowered local communities and DFD-Pemba, increasing populations of vulnerable species, locally important marine resources, and peoples' wellbeing.

The project contributed to the higher-level impact by empowering local communities and DFD-Pemba to establish co-management of PECCA's ecosystem. As detailed in the Outcome-level achievements (section 3.2), progress of the six SFCs varied, however PIAs and household surveys reveal that across the six project sites, community members widely feel better included in decision-making and value the opportunity to manage their fishing grounds. The link to wider management efforts is not as well understood as PECCA and its boundaries remain abstract to most of the surveys' respondents. DFD now better understand and appreciate the importance of co-management, and expressed an interest in continuing this collaboration beyond the project period, aware that many more communities need to be engaged and further mechanisms have to be created and implemented for co-management to operate at scale across the entire PECCA.

The project has successfully proposed and demonstrated a viable co-management model for PECCA; implemented at community level, with groups of communities collaborating with each other, and clarity on the roles of different government entities (PECCA, DFD, and the new Department of Marine Conservation (DMC)) and how they support this approach. The mechanisms are in early stages and require further development and implementation, however there is now a wider understanding and buy-in from stakeholders of this co-management model.

Increasing locally important marine resources: The project approach was tested for two years in two pilot communities, Kisiwa Panza and Kukuu, and their respective SFC through temporary closures targeting octopus recovery. Octopus gleaning is a widespread key fishery in Pemba, involving women and men of all ages, and due to their positive response to temporary closures, they can demonstrate the feasibility and impact of local management to communities involved. However, not all communities supported have suitable near-shore octopus fishing grounds where locally-led closures can be implemented. While Shidi, Michenzani and Stahabu host octopus fishers, their fishing grounds are further off-shore, making closures more challenging to monitor and enforce as a single SFC. In response, the project established the first Collaborative Management Group STAMISHIMA (see 3.2 – Output 2). In addition, locally important reef fish species were targeted by local management, resulting in an increase in snorkelling observations and in catches (Kukuu and Makoongwe), however longer periods of closure are clearly required. Longer closures require the SFCs to have stronger management effectiveness and increased trust from the community, balancing the costs and benefits for fishers to generate stronger social consensus, which takes experience and committed local leaders.

Increasing population of vulnerable species: The project has identified the species of sharks and rays that are important to be monitored, with wide ranging differences between pelagic and coastal, and those restricted to the region or moving across Exclusive Economic Zones (EEZs) of the region. These new data are critical to develop management measures, which need to have new and specific fisheries regulations. The project has provided key, missing information required to enable management actions, but hasn't been able to pilot the implementation of such measures at the scale we have been working with communities.

Improved human wellbeing and poverty alleviation: 2020 has exacerbated a number of ongoing challenges experienced by coastal communities on Pemba; illegal fishing remains widespread and enabled by corruption and weak mechanisms for accountability both within communities (including in some of the supported ones), and across different scales of government. These structural challenges beyond the boundaries of communities are pervasive and to a large extent outside the scope of the project to address. Successes so far have been founded on the enabling of community agency to draft and implement by-laws that support collaborative fisheries management.

The local management activities leading to community benefits sharing mechanisms, in particular around the reef closures' opening periods, and the broader co-management activities, have had a range of positive relational wellbeing outcomes, including increased trust and cooperation, broad community respect for laws, and high community willingness to volunteer. SFC member and male participants viewed the main contributing factor to ongoing successful closures and sustainable marine resource management as Mwambao's ongoing support, through Darwin funding, of the SFC through capacity-building. SFC participants expressed positive subjective wellbeing outcomes of a sense of pride at recognition of their work within their Shehia as well as among other communities who have visited Kuuu for exchange visits. Kuuu continues to be an inspiration and best practice model for communities engaged in coastal resource management in Tanzania. The perceived strength, transparency and leadership skills of the SFC - including for individual and community benefit-sharing mechanisms - is a major enabling factor.

4 Contribution to Darwin Initiative Programme Objectives

4.1 Contribution to Global Goals for Sustainable Development (SDGs)

SDG 1 (No poverty): The role of local men and women in natural resources management has notably increased through their respective SFCs in Makoongwe, Shidi, Michenzani, Stahabu, where no active management was in place previously. This contributes to the target of no poverty by supporting people living below or close to the poverty line to sustainably manage and profit from the natural resources they depend on. This contribution has been evidenced by Participatory Impact Assessments and household surveys (see section 3.2, outcomes 0.5 and 0.6 for details).

SDG 2 (Zero Hunger): Octopus fishery is one of the most accessible forms, with little capital investment required (e.g. no boat required). Measures have been included in management plans specifically to avoid harming the ecosystem (coral reefs and reef flats) targeted by the closures, such as only allowing sticks as fishing gear, forbidding anchoring in the area and prohibiting travel by boat through the area at low tide. The proportion of men and women reporting that they have not had enough food for an evening meal has dropped by an average of 25% (-30% men, -21% women) from baseline.

SDG 5 (Gender Equality): Women's representation among SFCs members has increased as a result of the project, from 17% in 2 SFCs before the project, to between 20-25% in 6 SFCs by project end.

SDG 14 (Life below water): The project made progress to sustainably manage and protect the marine and coastal ecosystems in and with six communities in PECCA. These actions regulate harvesting of octopus and reef fish, and this also has a regulating impact on other species. Overfishing is reduced and the by-laws also restrict and further enable enforcement on the use of illegal/destroying fishing practices. Collection of landing data provided critical new information on shark and ray species which has been fed back into the latest revision of PECCA's general management plan. Using the PMSD approach has increased buyers' awareness that they can both support local management efforts and have access to larger catches that are more often landed during opening periods, increasing support for sustainable management.

SDG 16 (Peace, justice and strong institutions): The project team insisted on transparency of benefit sharing from the income generated during opening days. There is relatively good clarity now on these mechanisms in Kuuu and Makoongwe, both community's SFCs are effectively pooling and sharing some revenue during opening periods. Particular attention has also been put on representing the various marine resources user groups' (e.g. seaweed farmers, boat fishers, octopus fishers, skin divers) and the different fishing villages within a coastal community. Women's participation has been encouraged throughout (see SDG5 above, and section 4.3).

4.2 Project support to the Conventions or Treaties (e.g. CBD, Nagoya Protocol, ITPGRFA, CITES, Ramsar, CMS, UNFCCC)

The project supported the government of Tanzania towards the Convention on Biological by contributing to achieving Aichi Targets 6, 10 and 11:

Aichi Targets

6: SFCs have been involved in implementing management interventions (including closures, gear restrictions) to support sustainable management of marine resources

10: Destructive fishing practices have been reduced (through enforcement of regulations and implementation of closed areas), protecting remaining coral reef habitat

11: Capacity building for both SFCs and DFD Pemba has improved delivery of PECCA management

Project support to poverty alleviation has been achieved in the following ways:

Increase influence over marine resource access and management gained through: locally accountable SFC governance in six communities. The Participatory Impact Assessments conducted in Kuuu and KP show that a majority of the respondents valued the sense of influence to decision making that the project has provided through their SFC.

Increased food security and income from 50% increase in individual size/weight of locally important reef fish and octopus catches from managed areas. Community surveys have showed increased fish stocks and CPUE compared to areas of marine habitat that remain unmanaged. Throughout project term, the percentage of households never, or rarely skipping meals due to lack of food rose from 38% in 2019, to 63% in 2021.

Diversified and enhanced livelihoods for women and men through the MKUBA eco-credit scheme piloted in Kuuu. Business opportunities have been created and diversified by the provision of MKUBA loan facilities to 132 persons in Kuuu. As a result of the project there are now plans to expand this scheme to 3+ more communities with further funding.

4.3 Gender equality

SFCs first were established in 2006, but before project start there was no specific consideration of gender equity and little representation of women on the committees (17% in 2 SFCs). The project has put an emphasis on a minimum 30% women representation on the SFC and have advocated the draft SFC election guidelines to follow the same protocol. These have not yet been incorporated into law but the project has established a precedent with the six communities supported. The current women fisher representation on the 6 SFCs with whom the project works is 20-25%. Throughout project delivery, the percentage of women MKUBA borrowers has increased from 54% of the original 5 groups, to 59.7% of the total including the 3 new groups in 2021.

The PIA conducted in 2021 showed that women in particular have appreciated their increased recognition as marine resource users during the project. Women fishers in Stahabu have commented that Governance has improved particularly from the perspective of women fishers who felt much more involved in decision-making and have been given more responsibility. They felt their importance was being recognised and they were more involved in planning. They ranked the involvement of women in decision-making as the fourth most important change they have experienced over the project period.

4.4 Programme indicators

Did the project lead to greater representation of local poor people in management structures of biodiversity?

Yes. The local level marine management (fisheries) institutions were formally created in 2006 but were not active at the beginning of the project. This project built the capacity of 6 SFCs, involving 81 committee members (64 men (79%) and 17 women (21%)) and has guided an election process enabling fairer and more equitable representation on these committees by members of all resource users. This election process has been promoted under the SWIOfish co-management programme and has been implemented over 2019-2020.

Were any management plans for biodiversity developed and were these formally accepted?

A practical local biodiversity management plan (referred to as 'marine resource management plan') was developed for one village but implementation has not been formally accepted (by government) as legislation does not formally allow for local management plans. Project partners were consulted on the government commissioned development of the PECCA MPA management plan (under SWIOfish funding) but due to COVID the final consultations have not taken place and the plan has not been completed as yet.

Were they participatory in nature or were they 'top-down'? How well represented are the local poor including women, in any proposed management structures?

The local resource management plan was entirely participatory and was the result of a 5-day workshop with the village concerned identifying conservation targets and resulting in a zoning plan. The PECCA management plan involved consultations but the final plan will be written by commissioned consultants.

How did the project positively influence household (HH) income and how many HHs saw an increase?

At the end of the project there were more households recording stable or increasing income (compared to the year before) than at project start. The 2021 socio-economic survey demonstrated that in the past year, 6% of households (32 HHs) felt their income had increased (5% in 2019), with 49% of households recording stable income (24% in 2019).

How much did their HH income increase (e.g. x% above baseline, x% above national average)? How was this measured?

The project did not record measures of income in monetary terms. Socio-economic surveys monitored changes in income (detailed above), as well as perception of income levels and changes in overall wellbeing to demonstrate how income levels are impacting households within the project area. Overall wellbeing increased slightly during project term, with more households saying it had increased or remained the same (63%) over the past year in 2021 compared to 2019 (49% households).

4.5 Transfer of knowledge

The knowledge and experience generated through implementing the project has been shared with national stakeholders in several ways: The project team has been invited to be part of many fora (including webinars in 2020) with the aim of transferring these; notably, they gave a presentation at the SWIOCEPH (SWIO octopus project led by MSC – Marine Stewardship Council) webcast in 2020. The project team has since been invited to participate in the Tanzanian national octopus management strategy as well as part of three international consultant teams under World Bank's SWIOFish project to draft the national management plans for octopus, small pelagics and tuna. Mwambao has been the in-country lead for the SWIOfish octopus management project in Zanzibar in 2019 including a key component on building SFC capacity on good governance with the elaboration of a manual for octopus closures (Annexes 31a and 31b).

On a more local scale the villages with which we have worked during the Darwin project have received multiple visitors to learn about both octopus management, collaborative fisheries management and eco-credit programmes (including from other NGOs such as WWF with whom the sharing of knowledge is going in both directions).

4.6 Capacity building

The creation of a new Ministry for Blue Economy and Fisheries in Zanzibar in early 2020 resulted in a much higher priority being given to our work in community-based co-management and one member of the team (female) was invited to a national workshop to give input on the revised policy for the Blue Economy in Zanzibar. Another female member of the team was invited to participate in a national workshop on building awareness and creating a national strategy to address the impact of climate change. Additionally, Mwambao-MCCC was invited during the course of the project to be a member of the Tanzanian National Task Team on implementing the FAO guidelines for sustainable small-scale fisheries (VGSSF) as well as to hold a series of introductory workshops for the VGSSF in Zanzibar under FAO.

5 Sustainability and Legacy

The sustainability of the project is based on building the capacity of local communities and their local institutional structures (the SFCs) to participate in the co-management of fishery resources in PECCA. In doing this, the project has adopted a participatory approach that has cultivated ownership and stewardship of the SFCs in fishery management. Each AR records that this is not always a straightforward process: the SFCs are relatively young and with a sometimes-unstable membership structure due to internal community dissent, however a major legacy is the confidence which has been built amongst those SFCs which have been trained and are implementing management. These communities are examples for others and Kukuu in particular has been the subject of exchange visits by many other communities. The approach taken is a long-term process and is thus likely to take longer than a standard three to four year funding cycle. Annual Report 3 records the additional support provided by the SWIOFish programme and records that a new grant from project co-funders, The Arcadia Foundation has been approved to fund this project for 3 additional years (starting from November 2019). Project Lead, FFI and Mwambao have begun further joint fundraising efforts to ensure the work started continues to upscale co-management efforts in PECCA, central to our vision of more effective management of the overall MPA. Mwambao has successfully raised funding from the EU-Ecofish project to 5 more villages within PECCA MCA.

6 Lessons learned

A key lesson learned has been the importance of having flexibility to adapt project approaches – in this case, to take advantage of the synergies offered by combining efforts with other partners, including new opportunities that arise during the project period such as the World Bank funded SWIOFish programme to better build PECCA management capacity.

The second half of the project has been implemented over a particularly challenging period because of the COVID-19 pandemic but also political tensions. Resilience and patience are often required as well as full disclosure to Darwin of the challenges being faced. It is necessary to keep local and national government offices informed of all progress, as well as to meet as a steering group on a regular basis to involve all stakeholders.

We have also learned that not all communities progress at the same rate – it is necessary to be consistent and to try to identify the root causes of the problem and resolve conflicts where possible e.g. in Kisiwa Panza this was due to high proportion of young fishers and lack of trust in the SFC. Not all issues can be resolved during the lifetime of the project.

Another key lesson that, primarily through interactions with our first SFC in Kisiwa Panza, is the primary importance of equitable election procedures. The entire programme of capacity building with regard to good governance is most impactful when working with a representative committee elected for the right reasons. In hindsight we might have given more importance to this at the beginning of the project rather than working immediately with pre-elected SFCs.

An additional lesson is that good governance is the backbone of successful local marine management. Despite the most appropriate management interventions, if any benefits (monetary or other) accrue from the intervention, all successes can be undermined through lack of accountability and community trust. The project has demonstrated that community-based co-management can work in Pemban fishing communities and that good governance is key for implementing sustainable management measures (demonstrated by both successes and challenges in different communities).

We have learned that where there is an octopus fishery, there is a great opportunity to demonstrate successful co-management (and revenue collection) in a relatively short time period i.e. 6 months. Successful octopus closures have given communities (and SFC) confidence that they can successfully implement management measures with minimal external input and in the face of everyday hardships. The importance of clear processes for official adoption of local by-laws as the main tool available for community managers is paramount and lack of clear procedures has hindered us on occasion. Legislation that is supportive of community co-management and fair gender representation is vital for real progress to be made and therefore lobbying is often necessary.

The project has been responsible for the first introduction of collaborative fishery management groups in Zanzibar. The SFC framework has differences when compared with the Beach management system implemented on the mainland but the collaborative management principle where local fishery institutions work together on key issues such as management planning is applicable in both. We are hopeful that Zanzibar DFD will adopt this approach as part of the forthcoming review of MCU regulations.

The project has shown that eco-credit creates both conservation awareness as well as being a positive incentive for change and supporting sustainable management. We have learned that implementation is not as simple as we at first thought (various levels of accountability are needed and regular follow-up on both loan repayments and eco-compliance measures) but that there is much potential as a model.

6.1 Monitoring and evaluation

In Year 3, the following changes to the logframe were agreed:

- In two outcome indicators:
 - Indicator 0.1: mean of verification changed from “*quarterly* in-water surveys with communities” to “*annual* surveys” - this is much more realistic and in line with the budget.
 - Indicator 0.3: was initially “50% increase in the individual size of reef fish caught from selected key families and a three-fold increase in average individual weight of octopus caught in reef closure sites by 2021, as compared to the baseline number at each site.” (changed to 50% increase in individual fish weight and a two-fold increase in individual weight of octopus)

- In two output indicators:

Indicator 4.3: was initially “Credit scheme is accessed by c.270 men and 270 women across all 6 communities by 2021 (1 community in y1, 3 in y2, 4 in y3 and 6 in y4).” - this was changed to 110 men and 110 women in one pilot community and more accurately reflects the time and resources to set up the eco-credit scheme in one community.

The M&E system as designed we found to be a useful and practical method of monitoring change over the project lifespan. During the design period, it was difficult to accurately predict what might be realistic changes in terms of fish weight for example or changed wellbeing but Darwin allowed logframe changes when requested, to more accurately reflect expected change based on data collected – this ability to adapt indicators during the project lifetime is crucial for capturing real ‘successes’ in project implementation.

Indicators at the outcome level in terms of quantification of reef damage for example, or positive impacts such as reduction in use of illegal gear, can be biased by external variables that were not possible to monitor as part of the project e.g. availability and price of fuel. These kinds of changes do rely on accurate records but it is also important to record external influencing factors wherever possible.

Indicators regarding food security are also subject to many external factors and change cannot always be easily attributed to a few, targeted interventions when issues such as the global COVID-19 pandemic impact local market opportunities and prices.

Overall, the M&E framework has proved useful in promoting the forethought and planning and systematic recording of indicators during the programme that provides results on which to measure success. There has not been an external evaluation of the project.

6.2 Actions taken in response to annual report reviews

The project has addressed all actions to annual report reviews in subsequent yearly reports. The outstanding reviews from AR3Review are provided below:

1. Comment on management of / communication with partners: How is this effected on a day-today / week-by-week basis?; Provide *minutes* of Steering Committee meetings (if any held).

Project steering between the two main partners FFI and Mwambao, was done via fortnightly or weekly calls, and 2-4 FFI visits in Tanzania per year (July 2017-Dec. 2019). Staff from Mwambao also visited FFI in its UK HQ (April 2018, August 2019). 2 meetings with WCS took place and FFI convened an end-of-project feedback meeting with WCS, Mwambao and DFD in March 2021 (FFI could not attend due to travel restrictions – Annex 09)

2. Summarise presented data (especially where this is available in Annexes): use same metric as indicator (e.g. percentage vs value) when discussing progress. Addressed, using %.

7 Darwin identity

Darwin is the main funder of this project and has been acknowledged as such. The Darwin logo is used throughout the project on publicity materials – such as SFC posters, letters of invitation, projects documents sent to DFD-Pemba e.g. Standard Operating Procedures for SFCs. Stickers of the logo were placed on equipment purchased for the project team or communities including the motorbike for Pemba Field officer and in the notice boards displaying educational posters in the communities supported.

FFI's partnership manager (Tanguy Nicolas) presented [a poster at 11th WIOMSA symposium](#), including a presentation of the work to facilitate engagement of SFC members with buyers in the frame of reef closures' opening periods, all with the Darwin logo. During that symposium Darwin was also acknowledged as a funder of the Sharks and Rays data collection in a presentation of initial findings by WCS Tanzania's marine programme director (Michael Markovina).

GreenFi's CEO (Rob Wild) has presented to the Cambridge Conservation Initiative on the initial findings and reflections, taken from the review conducted at end of Y2, about the MKUBA scheme piloted in Kuuu, acknowledging Darwin as principal funder of the work. Further information about that activity: [a blog article has been published on FFI's website on 16th October 2019](#), to explain about the innovative aspects it represents and how we want to continue exploring its impact for sustained local management in the communities supported. The project team organised a visit to the project site for the British High Commissioner in Tanzania on 5th December 2019. [FFI, Mwambao](#) and the [BHC in Tanzania communicated on twitter](#) on this occasion, mentioning the support provided by UK government for this project. The Darwin Initiative team (LTSI) were made aware of the visit ahead of it taking place.

8 Impact of COVID-19 on project delivery

The covid-19 outbreak has prevented planned interactions with various stakeholders in 2020. Between March-May, activities with coastal communities and concerned authorities were curtailed and many offices were closed. Some activities continued with small groups of people and focus was given instead to internal training and planning. Two Mwambao staff expatriates (the Technical Advisor, Lorna Slade and the Technical Data and Monitoring & Evaluation Advisor, Danielle Stern) returned to the UK at the end of March following FCO recommendations. Lorna Slade returned to Zanzibar in July and Danielle Stern in August. The WCS Tanzania project manager relocated to South Africa for March-July 2020 before resigning. The recruitment of his replacement is still ongoing but a new marine programme coordinator position has been created and enabled to resume work from Sept. 2020 onwards. WCS Tanzania, suspended Sharks and Rays catches monitoring in March 2020 (due to Covid-19 restrictions), however these activities resumed again in June 2020 (creating a gap of data for 2 months).

The delays in implementation meant that there was increased pressure to deliver outstanding activities during the remaining project period which was further compounded by the elections. This has affected all of Mwambao's work (including other funded work) and has made it difficult to deliver all expectations within the allocated time. Pemba is the more politically sensitive of the two Zanzibar islands and is often the subject of political unrest. The Mwambao Project Officer had to be especially careful to restrict his field activities over the last three months of 2020. The Mwambao team took the opportunity to carry out other work where possible including a co-management workshop with the SWIOFish co-management advisor.

COVID has impacted communities and individuals' revenues, e.g. prices of marine produce and lack of hotel clients but export opportunities. But it has also meant that it is harder to maintain reef closures because of the increased numbers of fishers over this period, with many having lost employment in the tourism industry.

9 Finance and administration

9.1 Project expenditure

Project spend (indicative) since last annual report	2020/21 Grant (£)	2020/21 Total actual Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items				
Monitoring Evaluation (M&E)				
TOTAL				

Staff employed (Provide name and position)	Cost to IWT/Darwin (£)
Project Leader – Alison Mollon	
Partnership manager – Tanguy Nicolas	
Livelihoods & governance – Helen Anthem	
Finance & admin – Jasmien Verheyen	
Finance & admin – Jessica Farish	
Project coordinator – Lorna Slade	
Community facilitator - Ali Thani	
Field Officer - Ali Said	
Finance & admin – Fatma Khamis	
Accountant – Rashid Abdallah	
Head of Prog & MKUBA adviser – Juma Mohammed	
WCS Marine prog director – Jean Mensa	
WCS Research assistant - Abdulaziz Mussa	
WCS Field data collection assistant - Abdalla Abdulla	
TOTAL (must match Staff Costs total in Section 6)	

Capital items – description	Capital items – cost (£)
Smartphones and mobile phones	
Motor bike	
Laptops, cases and hard drives	
Patrol equipment: boots, raincoats, etc.	
Monitoring equipment	
TOTAL	

Other items – description	Other items – cost (£)
Bank charges	
Communication materials Mwambao	
TOTAL (Must match Others total in Section 6)	

9.2 Additional funds or in-kind contributions secured

Source of funding for project lifetime	Total (£)
CML Family Foundation	
Arcadia foundation	
GreenFi Ltd	
TZ Protect (USAID) in partnership with WildAid	
TOTAL	

Source of funding secured for additional work after project lifetime	Total (£)
Arcadia foundation	
CORDIO	
EU – EcoFish	
TOTAL	

9.3 Value for Money

Community-based natural resources management can be considered a lower cost and the most sustainable model for conservation in the long term, as it taps into local communities' capacities and daily presence on the areas targeted for management to be implemented. However it requires strong initial investment to build those community capacities, which this project addressed.

Staff have been the most expensive budget heading, as much of the work consisted of training, mentoring and facilitating either directly with communities or with DFD or DMC staff (which is the aim in the medium/long term, as an exit strategy). The systems in place do not require expansive capital resource to be continued but we observed that momentum can quickly fade away for communities with no regular follow-up. We have worked to involve DFD staff as much as possible and some are now able to play the facilitator role our project team has played thus far with communities. The learning exchanges relied on local consultants and trainers (e.g. Mkuba in Pemba building on Care's VSLAs, existing similar initiatives in Tanzania mainland: WWF in Kilwa district, former TCZCDP in Tanga region), thus not requiring more expansive foreign consultants and associated international travel costs. All exchanges have been done on a voluntary basis, and have strengthened marine conservation practitioner's links in Tanzania.

9.4 OPTIONAL: Outstanding achievements of your project during the (300-400 words maximum). This section may be used for publicity purposes

I agree for the Darwin Secretariat to publish the content of this section (please leave this line in to indicate your agreement to use any material you provide here)

Annex 1 Project’s original (or most recently approved) logframe, including indicators, means of verification and assumptions.

Note: Insert your full logframe. If your logframe was changed since your Stage 2 application and was approved by a Change Request the newest approved version should be inserted here, otherwise insert the Stage 2 logframe.

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: PECCA’s healthy and diverse marine ecosystem is managed effectively by empowered local communities and DFD-Pemba, increasing populations of vulnerable species, locally important marine resources, and peoples’ wellbeing.</p>			
<p>Outcome: Six communities and DFD-Pemba manage marine resources sustainably in key sites, stabilising reef health and function across 10,500ha of PECCA, leading to improved wellbeing for c.10,000 fisher men and women.</p>	<p>0.1 No significant incidents of coral damage (greater than an area of 1 m squared) caused by human activity in any reef sites protected by community by-laws, against baselines by 2021.</p> <p>0.2 60% average reduction in number of boats observed using damaging or illegal fishing gears (e.g. drag nets, small mesh nets and traps, spear fishing with SCUBA) in sites patrolled by communities by 2021, as compared to the baseline at each site.</p> <p>0.7 50% increase in the individual weight of reef fish caught from selected key families in reef closure sites by 2021, as compared to the baseline number at each site, and a two-fold increase in average individual weight of octopus caught in the days immediately following a reef closure, as compared to the average weight of octopus</p>	<p>0.1 Snorkel survey assessments of reef sites before protection, and annually afterwards, to record and photograph coral damage.</p> <p>0.2 Patrol record books of SFCs and Collaborative Management Group patrols of fishing grounds; observations by fishers are reported to and recorded by SFCs.</p> <p>0.3 Community monitors measure the individual weight of fish from selected families and individual octopus weight caught from temporary reef closure sites.</p>	<p>Community and government stakeholders are willing to participate in collaborative co-management of PECCA.</p> <p>Climate change does not result in a significant increase in demand for marine resources if droughts are more severe, or lead to significant coral bleaching, which will degrade the shallow reef habitat.</p> <p>The political landscape provides a stable environment in which to work over the project period.</p> <p>Population growth and immigration do not increase beyond predicted estimates.</p>

	<p>caught with no management intervention, by end of project.</p> <p>0.8 50% increase in the number of fish over 30 cm total length observed from selected key families in reef closure sites, against baselines set for each community by 2021.</p> <p>0.9 60% of women and 60% of men surveyed in the six communities report an improved sense of overall wellbeing as a result of project activities by 2021 (including targets for: reduction in numbers of meals skipped, participation in decision-making, income as a result of either or both improved catch and access to credit – see section 14).</p> <p>0.10 70% of women, 70% of men, and 70% of SFCs/DFD-Pemba representatives surveyed perceive an improvement in SFC and DFD-Pemba's management effectiveness by 2021 as compared to the baseline.</p>	<p>0.4 Underwater Visual Census transects counting the number of individuals over 30cm in these fish families before, and once a year after, management is implemented.</p> <p>0.5 Household-level surveys and group discussions conducted across all 6 communities ensuring a representative sample of different types of fishers, including 50% women before management interventions, and in 2019 and 2021.</p> <p>0.6a Participatory governance assessments conducted with members of each participating community during household-level surveys and focus groups.</p> <p>0.6b Organisational capacity assessments conducted with each SFC and DFD-Pemba.</p>	
<p>Outputs:</p> <p>1 Six SFCs have the skills, knowledge and confidence to</p>	<p>1.1 SFCs are functioning and represent a cross-sector of society, including</p>	<p>1.1 SFC meeting minutes; election records.</p>	<p>Communities wish to engage in local marine resource management. Our pilot</p>

<p>implement sustainable marine resources management measures in local fishing grounds.</p>	<p>an average composition across all SFCs of 30% women, in three communities by y1, four communities by y2, 5 communities by y3, and 6 communities by y4.</p> <p>1.2 Six SFCs have implemented sustainable marine resource management plans to address locally defined conservation priorities (e.g. temporary or permanent closures, gear restrictions), against a baseline of 2, by 2021.</p> <p>1.3 12 community monitors trained and implementing fisheries catch data collection; 12 community monitors trained and implementing coral reef monitoring; six patrol teams trained and implementing patrols by 2021.</p> <p>1.4 60% average reduction in the number of breaches of SFC by-laws across all six communities as compared to the first year of by-law implementation in each community by 2021.</p>	<p>1.2 Management plans; by-laws; patrol records.</p> <p>1.3 Training records; monitoring data collection records; patrol data records; post-training surveys.</p> <p>1.4 Patrol records; surveys of community perception of change in the frequency of breaches</p>	<p>study and awareness-raising activities reveal that the majority of local people in the area are supportive of conservation measures.</p> <p>Community-led management is effective in achieving our outcome (based on initial successes during the pilot).</p> <p>The number of fishers from outside PECCA does not significantly increase, and thus limit the effectiveness of community-led conservation.</p> <p>Local community politics do not interfere with agreed management strategies; i.e. kinship, party allegiances</p>
<p>2. A Collaborative Management Group is formed between the six target SFCs to determine and address seascape management issues.</p>	<p>2.1 There is a functioning Collaborative Management Group of 12 members between the six target fishing communities by 2020, supported by DFD-Pemba.</p> <p>2.2 A joint management plan is established between six SFCs and</p>	<p>2.1 Standard Operating Procedures; meeting records, confirming DFD-Pemba presence.</p> <p>2.2 Management plan.</p>	<p>Communities are willing to collaborate in the management of their shared resources. Initial awareness raising activities suggest that there is appetite for this.</p>

	<p>the Collaborative Management Group to address threats to priority habitats and species of conservation and livelihoods importance by 2021.</p> <p>2.3 Briefing paper for possible interventions to reduce megafaunal mortality is produced, shared and discussed with project partners by 2021.</p>	<p>2.3 Briefing paper; project steering group notes.</p>	<p>Neighbouring communities based elsewhere in Pemba who fish within the area are willing to recognise established collaborative management measures.</p> <p>There are no significant social or political conflicts that hamper any attempt at collaborative management.</p>
<p>3. Training and capacity building provided to DFD-Pemba to effectively support marine resources co-management in the long term.</p>	<p>3.1 5 key DFD-Pemba staff attend institutional governance training (according to needs assessment), and SFC capacity building training by 2019.</p> <p>3.2 The project's contributions to (a) define a co-management approach to be implemented for the management of PECCA and to (b) the creation of a new General Management Plan are considered by DFD and the consultants leading the work.</p>	<p>3.1 Training attendance records; surveys before and after training demonstrating a change in knowledge in institutional governance and SFC capacity building.</p> <p>3.2 Contributions submitted to DFD and the SWIOFish consultants' team (data, reports, detailed email suggestions)</p>	<p>The MCU and the Department of Fisheries remain supportive of engaging in activities to improve their effectiveness. As they are formal project partners, we do not foresee that this will be a problem.</p> <p>Zanzibar's government continues to support the PECCA initiative.</p>
<p>4. Sufficient knowledge and incentives provided for both male and female fishers from the six target communities to participate in new marine resources co-management measures.</p>	<p>4.1 A minimum of 10 radio announcements on local stations relating to at least 10 incidents (e.g. new SFC by-laws; enforcement of by-laws; events) by the end of 2021, against a baseline of three.</p> <p>4.2 50% increase in the number of women and number of men attending regular meetings with SFCs by 2021 against the baseline set with each community at the start of the project's engagement with them.</p>	<p>4.1 Records of dates and times of radio broadcasts, and announcement transcripts, verified by radio stations.</p> <p>4.2 SFC meeting records</p>	<p>Activities under an existing grant improve economic incentives for locally led marine resource management, through positive engagement of the tourism and seafood sectors.</p> <p>Community members are able to attend regular meetings, and willing to engage in credit schemes. Our pilot project suggests that we need to enable women to attend meetings in particular.</p>

	4.3 Credit scheme is accessed by c.110 men and 110 women in one pilot community by 2021.	4.3 Credit scheme records; interviews with a sample of beneficiaries to verify records.	Accountability and transparency mechanisms are upheld for the community credit scheme.
5. Conservation and social outcomes of the project are evaluated and findings shared with target audiences (communities, government, conservation community).	5.1 Information sharing meetings hosted by DFD on implementing effective marine resource co-management in Pemba in 2019 and 2021. 5.2 Uptake of SFC training materials and standard operating procedures by MCU and associated DFD initiatives (SWIOFish) based on success of project interventions by 2020. 5.3 Project case study documents downloaded from partner websites 200 times by the end of 2021.	5.1 Meeting minutes; presentation slides. 5.2 SFC training manual and letter of support from SWIOFish project coordinator. 5.3 Google analytics for partner websites.	Our data are able to detect a beneficial impact of the project. The government and project partners remain committed to sharing knowledge and learning.

Output

1

Activity 1.1 Train four new SFCs in good governance principles, conflict resolution, by-law formulation processes, patrolling, patrol record keeping, and financial management, and establish standard operating procedures, through three five-day training workshops held with each SFC (using materials developed during the pilot) and four learning exchange visits to pilot sites.

Activity 1.2 Conduct participatory assessments of key habitats, fisheries, and threats (to habitats, vulnerable species and livelihoods) with each SFC to establish possible reef management sites, using adapted Participatory Rural Appraisal tools as developed in the pilot.

Activity 1.3 Facilitate participatory management planning workshops, totalling 9 days with each SFC, to establish local marine resource management interventions (e.g. temporary/permanent closures, gear restrictions) covering: identification of conservation targets (based on data from 1.2), by-law development; monitoring, control and surveillance planning.

Activity 1.4 Provide training and ongoing mentoring to SFCs, patrol teams, and monitoring data recorders (2 per community) to effectively implement management plans.

Activity 2.1 Establish a Collaborative Management Planning Group with representatives from each of the six target SFCs, and hold a learning exchange visit with the group and key DFD-Pemba staff to other collaboratively managed fishing grounds in Tanzania e.g. Mafia Marine Park.

Activity 2.2 Develop standard operating procedures to establish the roles, rights and responsibilities of the Collaborative Management Planning Group in collaboration with the MCU, to ensure harmonisation with MCU legislation and based on learning from the exchange visit.

Activity 2.3 Plan and implement joint management measures with the Collaborative Management Planning Group in priority areas of shared fishing groups for key fisheries and vulnerable species (e.g. fishing gear restrictions), using baseline information from 1.2 and 5.1. Plans will be compatible with the PECCA General Management Plan and embedded into SFC by-laws and communicated through SFCs to ensure adherence to MCU legislation.

Activity 2.4 Determine the scale of threats to vulnerable species across the shared fishing grounds through an effective reporting network, including landing site data collection across the six target communities, and adjacent landing sites (in the case of legally fished species, e.g. sharks, humphead wrasse) and mortality reporting of illegally caught species (cetaceans, turtles). This will build on WCS's existing baseline data on marine megafauna by-catch.

Activity 2.5 Identify possible interventions to minimise by-catch and hunting of vulnerable species, including megafauna across the collaboratively managed fishing grounds, based on findings in 2.4 and 5.1, and global conservation research and practice.

Activity 3.1 Hold a series of workshops to train key DFD-Pemba and MCU staff in good governance practice, in accordance with the findings of the capacity assessment (January 2017), to improve implementation of existing governance platforms. Including: meeting facilitation skills (for Management Committee meetings); conflict resolution (between communities, and between SFCs and DFD-Pemba); transparency in sharing information regarding MCU legislation and procedures (e.g. SFC elections, distribution and use of income generated through tourism revenue).

Activity 3.2 Hold a 3-day 'training of trainers' workshop, to enable DFD-Pemba staff to use the SFC training manual developed during the pilot project, in order to increase the number of communities engaged in marine resources co-management. Involve DFD-Pemba staff in ongoing SFC training for on-the-job training.

Activity 3.3 Facilitate a strategic planning workshop (5 days) with DFD-Pemba to develop an action plan setting out 3–5-year management goals within PECCA for biodiversity conservation and community-based fisheries management. This will be in consultation with SFCs, relevant government departments, and initiatives (SWIOFish) to ensure harmonisation of marine-co management measures.

Activity 3.4 Mentor DFD-Pemba to hold regular Management (twice a year) and Advisory (once a year) Committee meetings, inviting relevant government departments and actors (including the tourism sector and other NGOs) concerned with marine resource use and conservation within PECCA where necessary to share information, harmonise activities with national development plans, and facilitate collaboration.

Activity 4.1 Create awareness raising materials (e.g. posters) with SFCs regarding by-laws and management plans, and distribute in Pemba at landing sites across the Mkoani District, to enforcement authorities, fish traders, MCU rangers, community meetings. Also raise awareness across Zanzibar through radio programmes.

Activity 4.2 Initiate regular joint meetings between SFCs and community members to enable community members to hold SFCs to account, in accordance with MCU legislation and SFC Standard Operating Procedures. Ensure meetings are held separately for men and women to maximise women's participation.

Activity 4.3 Establish a rolling community credit fund with at least two project communities, available to each community member upon compliance with SFC-led marine resource management plans. Based on IUCN's Community Environment Conservation Fund, seed funding will be provided by the project, and compliance will be checked by an appointed official (possibly from local government). Access to the funds will be through public meetings, and credit loan periods will be a few months long.

Activity 4.4 Explore additional incentives, such as gear exchange, to ensure fishers' compliance with resource management measures (especially gear restrictions).

Activity 5.1 Design surveys of fisher behaviour (including catch of vulnerable species), and perceptions of household wellbeing, and marine resource governance effectiveness, and conduct them with representatives of each of the six communities when first engaging with them (to ensure that we have a good understanding of the context and baseline data), and then in year 4 to assess project impacts. The surveys will utilise a variety of methods, including participatory techniques and a Participatory Impact Assessment (PIA).

Activity 5.2 Use organisational capacity assessments (adapted from the tool provided on Capacity for Conservation), to establish effectiveness of governance training and support, and identify further training and mentoring needs (at the collaborative and MCU level). This will be analysed in conjunction with participatory governance data collected under 5.1.

Activity 5.3 Conduct participatory data analysis with community monitors and the SFCs of data collected through local monitoring plans (e.g. octopus and fish catch, change in gear use) and use findings to inform management planning.

Activity 5.4 Analyse and assess changes in governance, wellbeing, and reef ecosystem health in response to management interventions.

Activity 5.5 Produce posters, presentations and reports to communicate data findings to communities, government departments (especially DFD) and the conservation community, and generate support for marine resources co-management.

Annex 2 Report of progress and achievements against final project logframe for the life of the project

Project summary	Measurable Indicators	Progress and Achievements
<p>Impact:</p> <p>PECCA's healthy and diverse marine ecosystem is managed effectively by empowered local communities and DFD-Pemba, increasing populations of vulnerable species, locally important marine resources, and peoples' wellbeing.</p>		<p>Sustainable use as evidenced by temporary reef closures to all fishing has resulted in marked catch increases of octopus in particular (a product of significant income value) as well as doubling of CPUE in well-managed closures. In all cases a percentage of revenue from the closures has been used to cover partially the costs of community patrol (SFC-led) as well as contributing to local development initiatives. This is an important and critical demonstration of practical SFC self-financing. (see Annex XX for details on the latter)</p>
<p>Outcome</p> <p>Six communities and DFD-Pemba manage marine resources sustainably in key sites, stabilising reef health and function across 10,500ha of PECCA, leading to improved wellbeing for c.10,000 fisher men and women.</p>	<p>0.1 No significant incidents of coral damage (greater than an area of 1 m squared) caused by human activity in any reef sites protected by community by-laws, against baselines by 2021.</p> <p>0.2 60% average reduction in number of boats observed using damaging or illegal fishing gears (e.g. drag nets, small mesh nets and traps, spear fishing with SCUBA) in sites patrolled by communities by 2021, as compared to the baseline at each site.</p> <p>0.3 50% increase in the individual weight of reef fish caught from selected key families in reef closure sites by 2021, as compared to the baseline number at each site, and a two-fold increase in average individual weight of octopus caught in the days immediately following a reef closure, as</p>	<p>- No significant coral damage has been detected since the coral reef baseline surveys (2016 Kisiwa Panza (KP), 2017 Kuuuu, 2019 Makoongwe, 2020 Shidi, Michenzani and Stahabu); No dynamite incidents were reported from anecdotal evidence.</p> <p>- No record of boats using damaging or illegal gear in the sites patrolled by communities. Regarding any type of encroachment: Makoongwe is in its first year of patrolling so it is too soon to evidence any trends, however 2 arrests were made in Feb 2019; in Kuuuu there has been a 90% decrease in Y2 compared to baseline (2 arrests); in KP 11 arrests took place during 2 periods of restarted closure in Y2 (2018)</p> <p>- 1198g average octopus size in Kuuuu during openings compared to 432g at other times (177% increase). In Makongwe a 70.1% increase was detected (546g average to 929g average during opening) No fisheries monitoring could be established in Shidi, Michenzani and Stahabu due to landing sites being in Mkoani.</p> <p>- On reef fish catch monitoring: There is a marked increase in numbers of fish caught from all families from the closure area during opening when compared to catches from without the area; most noticeably goatfish and emperors (both omnivorous families that are not restricted to reef areas).</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>compared to the average weight of octopus caught with no management intervention, by end of project.</p> <p>0.4 50% increase in the number of fish over 30 cm total length observed from selected key families in reef closure sites, against baselines set for each community by 2021.</p> <p>0.5 60% of women and 60% of men surveyed in the six communities report an improved sense of overall wellbeing as a result of project activities by 2021 (including targets for: reduction in numbers of meals skipped, participation in decision-making, income as a result of either or both improved catch and access to credit – see section 14).</p> <p>0.6 70% of women, 70% of men, and 70% of SFCs/DFD-Pemba representatives surveyed perceive an improvement in SFC and DFD-Pemba’s management effectiveness by 2021 as compared to the baseline.</p>	<p>Average fish size is not as markedly different although all fish families fished in the closed areas do show a slight increase in size when compared to those caught outside with the exception of parrotfish. Rabbitfish show the most marked increase in average size with an increase of c. 50% from 377g to 599g.</p> <p>- Some notable differences in fish observed in the temporary and permanent closures are the higher diversity index (reef fish diversity increased) and especially increase number of parrotfish (by 475% between 2017 and 2019 in Kukuu). This is also observed by local fishers. See Annex 12.</p> <p>- Comparison in household surveys’ (Annex 14) answers conducted in supported communities compiled between 2019 and 2021 indicated an improved sense of several types of wellbeing:</p> <ul style="list-style-type: none"> ○ improved food security: less females (-21%) and males (-30%) have indicated they faced food shortage “every month” or “every week”, and those answers have shifted to “some days in worst months” or to “never” – two answers indicating less frequent food insecurity from the respondents. ○ improved participation in decision making: less females (-27%) and males (-10%) have answered they are rarely or never consulted, and these answers have shifted to “sometimes”, “often/most of the time” or “always”. <p>Therefore we fell short of meeting the target of 60% but have been heading into the right direction.</p> <p>-</p> <p>- In 2021, 22% more women and 15% more men in the target communities (compared to 2019 common baseline) indicated that their SFC was effective or very effective in household surveys. Overall, at the end of the project, 63% of females and 64% of males surveyed answered that their SFC was effective or very effective. It hasn’t been possible to survey DFD-Pemba staff in 2020 (before the end of the project) due to pre-election restrictions and sensitive political context (see 3.3 monitoring of assumptions for details)</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>Output 1:</p> <p>Six SFCs have the skills, knowledge and confidence to implement sustainable marine resources management measures in local fishing grounds.</p>	<p>1.1 SFCs are functioning and represent a cross-sector of society, including an average composition across all SFCs of 30% women, in three communities by y1, four communities by y2, 5 communities by y3, and 6 communities by y4.</p>	<p>- In total, all 6 SFCs were trained by the end of Y3, with 5 functioning at the end of the project, composed of 64 Men and 17 women in total. The average representation of women in the six SFCs ranges between 20% and 25% (SFC members records – Annex 16).</p> <p>Challenges with Kisiwa Panza (KP) KP SFC ceased operations prior to the start of the project in 2017, following a disagreement over how SFC Leaders and the volunteers in charge of the patrols responded to a poaching event during a temporary closure, which ultimately led to a loss of trust. In response, the project supported the election of a new SFC in June 2017 (Y1Q1) with the support and approval of the relevant authorities. Following the initial trainings of the new members, KP SFC resumed local management measures from the end of 2017 until October 2018. The SFC was managing their closures successfully, however the project noted internal tensions resurfacing in the spear fishing/free diving group (a small minority in the overall fishing community of KP) who were opposed to ongoing closures. They acknowledged that the SFC's capacity has been built and that illegal fishing in their fishing grounds was less prevalent when the SFC was active, but they felt there was a lack of information sharing. As a result of these ongoing disagreements on the way forward for local management, KP SFC has not been able to conduct local management activities, including implementing temporary reef closures, monitoring control and surveillance activities, hosting regular community meetings and interacting with the community fishers they represent, since October 2018 (Y2Q3). The Project has communicated these challenges to the Darwin Initiative in Year 2 and Year 3 reports.</p> <p>Two consultations were carried out in June 2019 and October 2019 at Kisiwa Panza with the village chief and the SFC members to discuss resuming the closure in one part of the fishing grounds, where spear fishers do not operate and under the supervision of community members strongly in support of closures. Resuming active management and mentoring the KP SFC was a key priority for Y4 and was scheduled for Q2 2020, however the fieldwork restrictions in 2020 (see assumptions 0.3 and 2.3 and section 8 for details) prevented these activities from being implemented. The KP SFC held elections in 2020 to elect a new chair. The project team remained in contact with KP SFC and have involved the chair in the community biodiversity surveys throughout PECCA. Promisingly, in late 2020 the SFC agreed to</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>1.2 Six SFCs have implemented sustainable marine resource management plans to address locally defined conservation priorities (e.g. temporary or permanent closures, gear restrictions), against a baseline of 2, by 2021.</p> <p>1.3 12 community monitors trained and implementing fisheries catch data collection; 12 community monitors trained and implementing coral reef monitoring; six patrol teams trained and implementing patrols by 2021.</p>	<p>become part of a second CMG known as KUKACHOKI, see Annex 12) and members joined the CMG committee. This inclusion in a wider group of SFCs, including joint awareness raising and the introduction of joint patrols in the area may encourage more reluctant fishers in KP</p> <ul style="list-style-type: none"> - 1 management plan is actively implemented (in Kukuu). By-laws have been established for all six communities and implemented in five SFCs (all but KP – although original by-laws created in Year 1 are still technically in existence). Annex 02 - During Y3, a joint management planning process was planned for Year 4 to include the following 4 neighbouring communities Stahabu, Michenzani, Shidi and Makoongwe, forming the Collaborative Management Group (CMG) “STAMISHIMA”. Due to 2020 fieldwork restrictions, the CMG has been established but the joint management planning and implementation is yet to start, however this should be completed by the end of 2021 owing to the continuation of the project via match-funding). - A total of 12 community members, 6 Community Monitors (6 male), 5 Data Entry Officers (1 male, 4 female) and 1 Community Data Officer (1 male) have been trained for fisheries catch data collection to conduct monthly fish catch monitoring tasks (recording landings of octopus and reef fish 12 to 16 days per month and entering records into a database) The Community Data Officer (from KP community) verifies, collates and cleans data recorded by the 11 fisheries monitors monthly. Fisheries monitoring concerned Kukuu, KP and Makoongwe for octopus, and Kukuu and KP for reef fish. No adequate landing site has been identified for Shidi, Michenzani and Stahabu, whose fishers were mostly landing their catches at the district port town of Mkoani, which has a large landing site and fish market, making it impracticable to disentangle catches coming from the 3 communities targeted. For that reason, no fisheries monitoring has been implemented for these three communities. - 12 community reef surveyors (2 in each community – all male) have been trained and are implementing coral reef monitoring in all communities alternatively. The project team has been gradually training new surveyors

Project summary	Measurable Indicators	Progress and Achievements
	<p>1.4 60% average reduction in the number of breaches of SFC by-laws across all six communities as compared to the first year of by-law implementation in each community by 2021.</p>	<p>originating from the new communities supported (i.e. those from Shidi, Michenzani and Stahabu were trained in Q1-2020). The community surveyors have therefore been able to visit the closures implemented by the other communities supported by the project and a Pemba-based team of local reef surveyors has thus been created during the project. The method used is the following one: “Coral reef monitoring in Eastern Africa. A guide for communities”. It is worth noting that one of these trained surveyors is now being used to train teams in Mwambao project sites Ushongo and Boma on mainland Tanzania.</p> <p>- 6 patrol teams have been trained but only 5 have been implementing patrols (enforcing the closures established in the by-laws) in Y3-Y4 (KP patrol team isn't currently active but they are part of the new CMG known as KUKACHOKI which is currently performing marine patrols). The training of patrol teams in each community approaching enforcement in its different dimensions, e.g. national fisheries regulations, roles and responsibilities between the community and the authorities, different types of patrols and how to maximise chances to catch infringements, etc.</p> <p>- For all communities by-law breaches will be charted for all years and the average reduction calculated. Makoongwe recorded a total of 11 arrests during 2019, their first year. Kuku: Kuku recorded 3 arrests in 2019 a decrease of 84% on the first year. KP: no records kept during 2019. Shidi, Michenzani, Stahabu: first year.</p>
<p>Activity 1.1 Train four new SFCs in good governance principles, conflict resolution, by-law formulation processes, patrolling, patrol record keeping, and financial management, and establish standard operating procedures, through three five-day training workshops held with each SFC (using materials developed during the pilot) and four learning exchange visits to pilot sites.</p>		<p>-In total, 6 SFCs have received the complete five-day series of local governance workshops (for a total of 84 participants including 17 women – example in Annex 25</p> <p>-). The training sessions were repeated in KP in 2017-2018 and in Makoongwe in 2019 as the composition of the SFC changed and new members were elected. The project held 3 refresher trainings in response to changes within SFCs membership, which varied across communities. These refresher sessions are key for enabling future progress of local management at community level (see activity 1.4). The four SFCs forming the CMG “STAMISHIMA” attended a learning exchange visit with Kuku SFC in Q4-</p>

Project summary	Measurable Indicators	Progress and Achievements
		2018 and Q3-2019, after completion of their initial trainings, to learn from their experience.
Activity 1.2 Conduct participatory assessments of key habitats, fisheries, and threats (to habitats, vulnerable species and livelihoods) with each SFC to establish possible reef management sites, using adapted Participatory Rural Appraisal tools as developed in the pilot.		-Participatory assessments using adapted Participatory Rural Appraisal tools of the main fishing activities and resources were carried out initially through a scoping report in 2018 (Annex 19) which informed the selection of target communities. The project team then mapped fishing grounds and key habitats with each community (examples in Annexes 18a et b), which fed into discussions with each community's SFC to agree on the sites where local closures (temporary or permanent) were going to be established.
Activity 1.3 Facilitate participatory management planning workshops, totalling 9 days with each SFC, to establish local marine resource management interventions (e.g. temporary/permanent closures, gear restrictions) covering: identification of conservation targets (based on data from 1.2), by-law development; monitoring, control and surveillance planning.		<p>-In total, 5 days of participatory management planning workshops were held with each SFC (twice for Makoongwe and Kisiwa Panza), covering the identification of conservation targets (based on data from 1.2), by-law development; monitoring, control and surveillance planning. All the members from each SFCs (in total 64 men and 17 women) attended each.</p> <ul style="list-style-type: none"> -Kukuu, in 2017 year (10 men, 3 women) -Kukuu in 2017 (17 men, 3 women) -Makoongwe in 2018 (10 men, 4 women) -Shidi in 2019 (10 men, 2 women) -Michenzani in 2019 (9 men, 3 women) -Stahabu in 2019 (8 men, 2 women) <p>-The management planning approach adopted early in the project in Kukuu (Annex 20) and KP could not be replicated in the 4 communities forming "STAMISHIMA", due to their proximity and overlapping use of the same fishing grounds. In response, we opted for a collaborative management planning process across these 4 communities, see Activities 2.1, 2.2).</p>
Activity 1.4 Provide training and ongoing mentoring to SFCs, patrol teams, and monitoring data recorders (2 per community) to effectively implement management plans.		-Trainings and ongoing mentoring have been provided to the different communities supported, adapting to each community's dynamic. For instance, refresher trainings have been provided to the SFCs in Makoongwe and KP when new SFC members and their patrol team were elected to reflect modifications in local closures, and encroachment incidents, (see Activity 1.1).

Project summary	Measurable Indicators	Progress and Achievements
		<p>-11 community monitors (6 beach recorders and 5 data entry officers, of which 4 women) and 12 reef surveyors have benefited from annual training (refreshers) or on-the-job mentoring, together with those from other communities (e.g. for in-water monitoring training sessions) and from annual participatory data analysis conducted in the communities (drawing graphs from catch-data and reflecting with the SFC members before presenting the data to DFD). In Year 2 of the project the data officer from KP was selected to monitor data collection from all Mwambao Pemba sites, thus checking and collating all data monthly.</p>
<p>Output 2. A Collaborative Management Group is formed between the six target SFCs to determine and address seascape management issues.</p>	<p>2.1 There is a functioning Collaborative Management Group of 12 members between the six target fishing communities by 2020, supported by DFD-Pemba.</p> <p>2.2 A joint management plan is established between six SFCs and the Collaborative Management Group to address threats to priority habitats and species of conservation and livelihoods importance by 2021.</p> <p>2.3 Briefing paper for possible interventions to reduce megafaunal mortality is produced, shared and discussed with project partners by 2021.</p>	<p>-The first Collaborative Management Group (CMG) “STAMISHIMA” was established in Y3 (Annex 04), comprised of 16 members (including 5 women) from 4 communities/<i>Shehias</i> (Makoongwe, Shidi, Michenzani, Stahabu), and supported by DFD-Pemba, following the learning exchange visit to Rufiji-Mafia-Kilwa Seascape programme (see Activity 2.1, 2.2 and Annex 05).</p> <p>-The 2020 fieldwork restrictions during (Y4) prevented the project team from kick-starting the ‘STAMISHIMA’ CMG. As flagged under Output.1, the collaborative management planning process and related activities, such as establishing regular catch-ups, providing mentoring, and sharing progress across members haven’t been started (see Activities 2.2, 2.3).</p> <p>-The collaboration with WCS Tanzania (Annex 06) has focused on Sharks and Rays (as agreed in Change Request no.2 approved in March 2018). A community-based sharks and rays fisheries monitoring system has allowed the project team to identify and highlight to national authorities (in Zanzibar as well as in mainland Tanzania, via WCS Tanzania national works) that many endangered species of elasmobranchs were caught in Pemba, more so than in Unguja (Zanzibar’s other island) and mainland Tanzania. Some annual briefing reports have been produced and shared with DFD and other partners (e.g. SWIOFish consultants). It has thus clearly put Pemba Island on the map of priority areas to be considered to improve the conservation of these species.</p>
<p>Activity 2.1 Establish a Collaborative Management Planning Group with representatives from each of the six target SFCs, and hold a learning exchange visit with the group and key DFD-Pemba staff to other collaboratively managed fishing grounds in Tanzania e.g. Mafia Marine Park.</p>		<p>In Y3Q1 12 representatives from 6 SFCs attended a peer-learning exchange visit to Rufiji-Mafia-Kilwa Seascape programme in mainland Tanzania where WWF Tanzania has established a Collaborative Fisheries Management Area</p>

Project summary	Measurable Indicators	Progress and Achievements
		<p>joining efforts of the local fishers committees (referred to as Beach Management Units (BMUs) in Mainland Tanzania).</p> <p>5 DFD staff and attended the visit and, together with a SWIOFish co-management consultant, expressed interest in adopting this approach in Zanzibar’s Marine Conservation Areas (including PECCA). The learning exchange visit resulted in the establishment of the first CMG “STAMISHIMA” (see Activities 2.2, 2.3)</p> <p>Mwambao has added value to the initiative by partnering with WildAid and USAID to provide professional training to “STAMISHIMA” in Monitoring Control and Surveillance (patrol) procedures and, in early 2021, provided them with a patrol boat. Mwambao will also support Mkoani District Officers with the development of compliance plans and articulated roles and responsibilities within PECCA-led (rangers) enforcement, with the aim to enable and operationalise joint-patrols (CMG-authorities).</p> <p>In addition towards the end of 2020 a new CMG was initiated involving the communities of Kuuu and Kisiwa Panza known as ‘KUKACHOKI’; this CMG also received MCS training and was issued with a patrol boat. STAMISHIMA and KUKACHOKI have been working alongside each other in patrol planning and reporting. The Darwin-funded project has enabled this activity to take place.</p>
<p>Activity 2.2 Develop standard operating procedures to establish the roles, rights and responsibilities of the Collaborative Management Planning Group in collaboration with the MCU, to ensure harmonisation with MCU legislation and based on learning from the exchange visit.</p>		<p>In Year 3 of the project, 16 participants (9 men, 5 women) from the four communities of Makoongwe, Shidi, Michenzani, Stahabu convened to plan the CMG ‘STAMISHIMA’. Individuals were selected to sit in different positions, and a structure was agreed for how activities would work. Participants defined 3 subcommittees: (i) patrolling, (ii) finances and records keeping, and (iii) liaising with community-level attributions (e.g. community engagement, conflict resolution, etc.). The Marine Conservation Unit’s (MCU), within DFD, legislation does not currently recognise this level of institution but the SWIOFish co-management team support the approach, which will, in time, lead to more supportive legislation.</p> <p>Since the national elections in October 2020, a new ministry has been created: the Ministry of Blue Economy and Fisheries, including a new department: the Department of Marine Conservation. We therefore expect an overhaul of MCU regulations and have been advocating for allocating a formal role to CMGs, to facilitate co-management’s gradual structuration.</p>

Project summary	Measurable Indicators	Progress and Achievements
		<p>This position has also been advocated by SWIOFish consultant on co-management.</p>
<p>Activity 2.3 Plan and implement joint management measures with the Collaborative Management Planning Group in priority areas of shared fishing groups for key fisheries and vulnerable species (e.g. fishing gear restrictions), using baseline information from 1.2 and 5.1. Plans will be compatible with the PECCA General Management Plan and embedded into SFC by-laws and communicated through SFCs to ensure adherence to MCU legislation.</p>		<p>The 2020 fieldwork restrictions prevented the project team from putting the 'STAMISHIMA' CMG into operation with support from the project team to kick-start the CMG and provide examples, regular catch ups and mentoring.</p> <p>In PECCA's current General management plan (GMP, dated from 2010), and in the MCU regulations (2013), there is no provision for CMGs. However this intermediary community structure exists in mainland Tanzania (managing Collaborative Fisheries Management Areas) and has started to be promoted during SWIOFish co-management consultancy. DFD-Pemba staff as well as some who joined the learning exchange visit in Kilwa/mainland Tanzania in Y3Q1 have also become supportive of the idea to create and operationalise CMGs to structure PECCA's co-management.</p> <p>PECCA's GMP has been subject to another SWIOFish consultancy aiming to update the 2010 and integrate more management zones. The project team and some members of DFD have advocated for it to include provisions for CMGs to have a role in the overall management. The consultancy stalled in 2020 due to travel restrictions and the electoral campaign. In June 2021 no new date of completion had been yet communicated.</p>
<p>Activity 2.4 Determine the scale of threats to vulnerable species across the shared fishing grounds through an effective reporting network, including landing site data collection across the six target communities, and adjacent landing sites (in the case of legally fished species, e.g. sharks, humphead wrasse) and mortality reporting of illegally caught species (cetaceans, turtles). This will build on WCS' existing baseline data on marine megafauna by-catch.</p>		<p>A network of 5 sharks and rays Community Data Collectors has collected, via mobile phones, catch data from 3 sites in the project area for the past 2.5 years. The report, provided by WCS, identifies which species are caught/landed, discusses their threatened status and the likely threats affecting those species (see Annex 06).</p> <p>WCS has started to work on a National Plan of Action for Sharks and Rays (for Zanzibar and mainland Tanzania) and will use these datasets to inform management priorities and recommend measures in the plan. With the most numerous catches of threatened species (particularly in sharks) in all the sites surveyed by WCS in Tanzania, Pemba seems to be a key priority and some particular emphasis should be put on sharks and rays conservation measures in PECCA's General Management Plan (currently under review).</p>
<p>Activity 2.5 Identify possible interventions to minimise by-catch and hunting of vulnerable species, including megafauna across the collaboratively</p>		<p>The data collected from this project will be used to inform a National Plan of Action for Shark Conservation and Management in Tanzania in the coming year (piloted by WCS Tanzania), and provide excellent support and</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>managed fishing grounds, based on findings in 2.4 and 5.1, and global conservation research and practice.</p>		<p>justification regarding which species need better management and protection.</p> <p>These data have also been shared with SWIOFish consultants in charge of updating PECCA's General Management Plan (GMP). Their consultancy started in September 2019, and it is currently unclear when it will be completed (2020 restrictions of travel and elections have led to postponing the stakeholder workshops to finalise the GMP). The data has raised the importance of conservation measures to address the fisheries threats affecting local communities and the need for a clear conservation target in the future GMP. Recommended measures include specific gears restrictions, seasonal and spatial closures.</p>
<p>Output 3.</p> <p>Training and capacity building provided to DFD-Pemba to effectively support marine resources co-management in the long term.</p>	<p>3.1 5 key DFD-Pemba staff attend institutional governance training (according to needs assessment), and SFC capacity building training by 2019.</p> <p>3.2 The project's contributions to (a) define a co-management approach to be implemented for the management of PECCA and to (b) the creation of a new General Management Plan are considered by DFD and the consultants leading the work.</p>	<p>-The workshop took place in Y2 to establish a vision for co-management in PECCA, including how SFCs can obtain by-laws, the skills needed to do co-manage PECCA, and an agreed way forward. More than 10 DFD staff attended (from DFD Pemba and central DFD), including at least 5 key members of staff (Annex 29).</p> <p>-The GMP for PECCA (and the other MCAs of Zanzibar) has been subject to a review by a SWIOfish consultancy since September 2019 (see activity 2.5) The project had also planned to take part in the workshops to finalise the plans mid-2020, but these have been postponed. It is currently unclear when the new expected completion date is and the project team remains in contact with SWIOFish consultants and has provided information through interviews and by email. The project team has significantly contributed to SWIOFish co-management consultancy by regularly discussing options for the co-management framework in PECCA. The SFC Standard Operating Procedures developed by the project team have also served as a key basis to develop official guidelines proposed (Annex 22) to DFD during this consultancy. The project team has also provided input on SFC election procedures that have been integrated into these guidelines (See Activity 3.1)</p>
<p>Activity 3.1 Hold a series of workshops to train key DFD-Pemba and MCU staff in good governance practice, in accordance with the findings of the capacity assessment (January 2017), to improve implementation of existing governance platforms. Including: meeting facilitation skills (for Management Committee meetings); conflict resolution (between communities, and between SFCs and DFD-Pemba); transparency in sharing information</p>		<p>-These 2 activities have been grouped and carried out in Y2Q1 (change request approved in March 2018), the workshop has been designed in collaboration with our consultant PHeylings and included 2 days of training with DFD-Pemba and MCU on the priorities listed in Output 3.</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>regarding MCU legislation and procedures (e.g. SFC elections, distribution and use of income generated through tourism revenue).</p>		<p>-The workshop held in Y2Q1 (April 2018), attended by 55 participants in total (over 4 days – 24 on the first 2 days and 31 on the last 2 days), created a common understanding on why and how co-management of PECCA would work in articulating the roles of communities and authorities. We have been in regular contact with the SWIOFish consultant leading the co-management phase of this programme over joint approaches (General Management Plan and decentralisation process)</p>
<p>Activity 3.2 Hold a 3-day 'training of trainers' workshop, to enable DFD-Pemba staff to use the SFC training manual developed during the pilot project, in order to increase the number of communities engaged in marine resources co-management. Involve DFD-Pemba staff in ongoing SFC training for on-the-job training.</p>		<p>-Mwambao was able to use the materials generated for SFC capacity building to train DFD staff under a complementary SWIOFISH funded project on building the capacity of DFD to facilitate community reef closures. A series of training modules were developed and delivered to DFD staff in 2019. Mwambao also produced a manual on implementing octopus closures based on our experiences under this project (Annexes 23a and b).</p>
<p>Activity 3.3 Facilitate a strategic planning workshop (5 days) with DFD-Pemba to develop an action plan setting out 3–5-year management goals within PECCA for biodiversity conservation and community-based fisheries management. This will be in consultation with SFCs, relevant government departments, and initiatives (SWIOFish) to ensure harmonisation of marine-co management measures.</p>		<p>-This activity was initially planned for Y2, however, the start of both SWIOFish consultancies (on structuring a co-management framework and on updating the GMP of PECCA) has made this activity not relevant anymore (see section 3.1 for details). Instead, as explained in the change request sent in December 2020, we have contributed to 2 distinct SWIOFish consultancies: (1) on co-management in PECCA (providing input based on our project's experience on SFC's operating procedures) and (2) on management zones in the South of PECCA and the conservation situation in particular of Sharks and Rays.</p> <p>-In 2020-Y4, restrictions of travels and the electoral campaign also disrupted the consultants' schedule, in particular preventing consultation workshops with key stakeholders to take place, a critical step of the process.</p> <p>-We had been expecting the process would be able to move forward again from early 2021 (in particular for the GMP update consultancy) but it has not yet (latest contact with SWIOFish consultant in June 2021). We have continued to provide additional input as new information was ready (for instance the final Sharks and Rays report from the collaboration with WCS)</p> <p>-Both project FFI and Mwambao have therefore provided SWIOFish consultants with data and suggestions on matters of co-management (e.g. areas to be under CMG co-management regime, most logical/realistic roles for several layers of authorities see XXX) based on our work funded on this grant. We provided such input at several instances since inception of GMP</p>

Project summary	Measurable Indicators	Progress and Achievements
		<p>revision's consultancy (Sept. 2019), and via continuous coordination with the co-management consultancy (as reported in HYR3 and AR3).</p> <p>-It has not been possible to convene any Advisory committee meetings as this structure has never been formally convened by DFD, which we learned during the workshop conducted in early Y2 (activities 3.1 and 3.2 above). We have offered on several occasions to help facilitate a Management meeting (convening the Fishers Executive Committee as well) but DFD has never replied to such invitations. We have nonetheless contributed to several elements of the agenda discussed (in collaboration with SWIOFish consultant for co-management)</p> <p>-Mwambao has facilitated a first meeting with tourism actors of Pemba Island active in PECCA in September 2019. This has generated interest from the participants, asking for it to be repeated under future Management meetings by DFD, but has not been followed on to date.</p>
<p>Output 4.</p> <p>Sufficient knowledge and incentives provided for both male and female fishers from the six target communities to participate in new marine resources co-management measures.</p>	<p>4.1 A minimum of 10 radio announcements on local stations relating to at least 10 incidents (e.g. new SFC by-laws; enforcement of by-laws; events) by the end of 2021, against a baseline of three.</p> <p>4.2 50% increase in the number of women and number of men attending regular meetings with SFCs by 2021 against the baseline set with each community at the start</p>	<p>-2 new radio announcements (March and Dec. 2018) relating to 2 new closures (KP then Makoongwe) in Y1-2. During Y3 6 new radio announcements were broadcasted in relation to the new closures in Shidi, Michenzani and Stahabu. SFC representatives from Kukuu were also invited to discuss about their experience throughout the diversity of local management actions they have on a 30-minute radio programme that was first broadcasted in May 2018 and repeated the following year just before the end of Ramadan fasting month (May 2019).</p> <p>-A radio programme was convened in Chake Chake in February 2021 to explain about the roles of Collaborative Management Groups in conservation of marine resources. Interviewees included two members from both STAMISHIMA and KUKACHOKI CMGs as well Mwambao programme manager for Pemba, Mr. Ali Said Hamad (Annex 15).</p> <p>-The first community and SFC meetings took place in Y3 for Makoongwe, Shidi, Michenzani and Stahabu and served as these communities had no active management in place beforehand. The records have begun in 2018 for Kukuu (Annex 16). Overall, we haven't been able to see a general 50% increase in the attendance to regular meetings; the attendance seems to fluctuate significantly between meetings.</p>

Project summary	Measurable Indicators	Progress and Achievements
	<p>of the project's engagement with them.</p> <p>4.3 Credit scheme is accessed by c.110 men and 110 women in one pilot community by 2021.</p>	<p>-The pilot MKUBA scheme in Kuuu has reached its objectives in terms of credits being accessed by 110 men and 110 women in the last year of the project. Initially, in the second half of 2018, 131 borrowers (68 females and 63 males) in 5 groups (managing revolving funds) have been accessing the funds and taking out loans in turns with regular repayments. In early 2021 the number of groups has been increased to 8 i.e. 240 loan-ees.</p> <p>-The project team engaged with MKUBA in Kuuu from February to October 2020 by remotely supporting the community-based trainers and officers supporting the MKUBA activities. Due to Covid and the elections, the project team could not, however, make in-person follow up visits, which are a critical extension methodology. The lack of in-person presence from mid-level and senior staff meant that to some extent the scheme was left to fend for itself. The scheme, however, has been tested and survived with some groups continuing to do well but with reduced performance both financially and environmental across other groups. The survival of the groups is, in itself, a positive result. Several groups, however, required reviving through an activation process particularly with the repayment of outstanding loans (Annex 17).</p>
<p>Activity 4.1 Create awareness raising materials (e.g. posters) with SFCs regarding by-laws and management plans, and distribute in Pemba at landing sites across the Mkoani District, to enforcement authorities, fish traders, MCU rangers, community meetings. Also raise awareness across Zanzibar through radio programmes.</p>		<p>-A poster representing the SFCs and map of Makoongwe and the nearby communities of Stahabu, Shidi and Michenzani has been created to be displayed in the communities' notice board.</p> <p>-The complementary USAID funded programme has allowed printing of CMG explanatory posters and leaflets and these have been distributed at the main town centres in PECCA as well as at Misali Island.</p> <p>The community of Kuuu featured in two videos used for training purposes with other communities. The first video is focusing on good governance link and focused on the good example provided by Kuuu (Kuuu: Kamati ya uvuvi yenye ufanisi "an effective SFC") and the second video was a training video produced by Mwambao under SWIOfish funding as training material for both DFD and communities (Kuuu/Fundo: Closure of Fishing Areas to Increase Octopus Production). Although the video production was funded from other sources, the knowledge and experience highlighted in these videos by Kuuu community is solely a result of the Darwin-funded project.</p>
<p>Activity 4.2 Initiate regular joint meetings between SFCs and community members to enable community members to hold SFCs to account, in</p>		<p>-The SFCs in the supported communities once they have completed their series of trainings, meet regularly, usually at least once a month. Community</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>accordance with MCU legislation and SFC Standard Operating Procedures. Ensure meetings are held separately for men and women to maximise women's participation.</p>		<p>meetings called by the SFC are less frequent and sometimes require encouragement. The project continues to keep records of such meetings and attendance.</p>
<p>Activity 4.3 Establish a rolling community credit fund with at least two project communities, available to each community member upon compliance with SFC-led marine resource management plans. Based on IUCN's Community Environment Conservation Fund, seed funding will be provided by the project, and compliance will be checked by an appointed official (possibly from local government). Access to the funds will be through public meetings, and credit loan periods will be a few months long.</p>		<ul style="list-style-type: none"> -The pilot community credit scheme launched, named MKUBA, was officially started in July 2018. The total amount of loans that has been given out to the members is TSh 63.6 Million (\$27,574). Late payments have been more of an issue with 46% of total percentage of late repayment these have been largely on the first loan cycle. -Action has been taken to improve the repayment rate with the development of a stronger overall institutional structure. The first Members Assembly (to be held annually) was held in November and this agreed formation of the MKUBA Management Committee (MMC), established in Feb. 2020. This fulfilled a one of the main recommendations of the formal MKUBA review carried out by GreenFi in April 2019. The assembly also agreed and proceeded to the formation of new MKUBA groups in 2021. The scheme has been accessed by 213 individuals at the end of project -Ongoing training has been provided in Kuuu to link the new MKUBA activities to the management plan and monitor activities of MKUBA groups' members. We will seek to improve the tracking tools for this activity to account for the increase patrol effort resulting from MKUBA including use of a phone-based app. -In terms of the environmental commitments, community patrols of the fishing closures have reduced the burden on the SFC. In July and August 2019 alone, a total of 327 hours of additional community patrol was recorded. 20,000 mangrove propagules have been reported to have been planted on communal planting days. Improvements of the mangrove planting and patrol reporting score cards are underway. Overall, groups report an improved understanding, management & conservation of marine resources, increased people participating in patrol, reducing illegal activities in natural resources management, restoration of mangrove ecosystem due to mangrove planting, increase social cohesion and interactions. -The pilot has been set up and monitored with the help of GreenFi Systems (environmental, social and financial performance) a project partner who has also explored developing a smartphone application to help streamline monitoring of the loan cycles and of the overall scheme. This app is now

Project summary	Measurable Indicators	Progress and Achievements
		ready to be deployed and the project team has replicated the scheme to two communities in Zanzibar and another planned in Pemba before the end of 2021.
Activity 4.4 Explore additional incentives, such as gear exchange, to ensure fishers 'compliance with resource management measures (especially gear restrictions).		-Mwambao have added value to the Darwin project by engaging with CORDIO in a complementary project to look at gear modifications within project villages and is focusing on the use of traditional traps and different hook sizes. This complements a similar programme in Kenya.
<p>Output 5.</p> <p>Conservation and social outcomes of the project are evaluated and findings shared with target audiences (communities, government, conservation community).</p>	<p>5.1 Information sharing meetings hosted by DFD on implementing effective marine resource co-management in Pemba in 2019 and 2021.</p> <p>5.2 Uptake of SFC training materials and standard operating procedures by MCU and associated DFD initiatives (SWIOFish) based on success of project interventions by 2020.</p> <p>5.3 Project case study documents downloaded from partner websites 200 times by the end of 2021.</p>	<p>-An annual participatory data analysis has been hosted by DFD-Pemba in December each year. The last one took place in December 2019 where Kuuu and Makoongwe SFC representatives and community data officers (Annex XX).</p> <p>-The SFC Standard Operating Procedures (SOPs) developed by the project team, and the by-laws development process has been informally reviewed and validated by the DFD-Pemba. This has been discussed during the co-management workshop held in early Y2 and DFD attendees supported the process proposed by the project team for SFCs to prepare and formalise local management rules and by-laws. There has been good collaboration with the SWIOFish consultancy (working within DFD) aimed at proposing a co-management framework. It has resulted in strong uptake of the SFC SOPs proposed by the project team into the those proposed by the SWIOFish consultant for formal uptake by DFD (Annex 30).</p> <p>-A case study (Annex 19) has been written about the innovative MKUBA eco-credit model for publication on Panorama/Blue Solutions platform. As we plan to replicate this scheme into other communities in PECCA (and possibly beyond for Mwambao and GreenFi). Unfortunately, this case-study is not published yet due to validation timeline, but it should be so before the end of August 2021.</p> <p>-A final project workshop was held for all stakeholders in Pemba in March 2021 and was attended by 36 persons including members from government and WCS, including the acting Director of Fisheries, a representative from the Officer in charge Blue Economy in Pemba, the new PECCA manager, the MCS Officer DFD. Mwambao data officer and representatives from each of the shehias also attended and expressed their will to continue the collaboration on developing the co-management framework.</p>

Project summary	Measurable Indicators	Progress and Achievements
<p>Activity 5.1 Design surveys of fisher behaviour (including catch of vulnerable species), and perceptions of household wellbeing, and marine resource governance effectiveness, and conduct them with representatives of each of the six communities when first engaging with them (to ensure that we have a good understanding of the context and baseline data), and then in year 4 to assess project impacts. The surveys will utilise a variety of methods, including participatory techniques and a Participatory Impact Assessment (PIA).</p>		<p>-Surveys of fisher behaviour have been conducted in Y2 and Y4 as part of a household survey, which enabled the project team to understand nuances across communities about the relative importance of fishing activities (e.g. foot fishing of shell-fish and octopus, line fishing, spearfishing, net fishing) and other activities they engage in for their household sources of income, such a subsistence and commercial farming.. The household surveys have been carried out using ODK (Open Data Kit) and a smartphone data collection platform (KoboToolBox) widely used in conservation, development and humanitarian sectors. Mwambao team became familiar with these tools enabling them to use these in other surveys outside of this grant.</p> <p>-PIAs (synthesis of the analysis in Annex 23) have been undertaken in with Kuuu and KP in Y3 in the form of semi directive interviews (focus groups and individual random interviews) with 70 participants in total (30 women, 40 men) to assess the changes perceived and repeated in Y4 and expanded to the four other communities supported in the project (105 women and 147 men). These allowed to refine our understanding of sometimes very nuanced community dynamics and delve into the complexity of the factors explaining success or challenges for local governance and the buy-in of the different community groups.</p>
<p>Activity 5.2 Use organisational capacity assessments (adapted from the tool provided on Capacity for Conservation), to establish effectiveness of governance training and support, and identify further training and mentoring needs (at the collaborative and MCU level). This will be analysed in conjunction with participatory governance data collected under 5.1.</p>		<p>We have reviewed Kuuu SFC governance against several indicators (as well as including perception questions in the PIA surveys for Kuuu). The exercise showed that Kuuu SFC's leadership remained strong under these indicators (e.g. transparency and accountability, regular communication with the community, committed to sharing some benefits from the closures, able to enforce gradual sanctions in the community for encroachments), which is consistent with the resilience found in Kuuu SFC, the most stable and progressive community the project has supported.</p> <p>The project team has developed in Y4 an SFC self-assessment tool (Annex 32): the SFC members are first asked to score several components of governance area. They tested it in Makoongwe and another community outside of the project scope, and have planned to use it regularly to adapt mentoring through time with each community/SFC.</p>
<p>Activity 5.3 Conduct participatory data analysis with community monitors and the SFCs of data collected through local monitoring plans (e.g. octopus and</p>		<p>3 participatory data analyses have been conducted with the communities engaged in fish catch monitoring across 2018 and 2019 year (Annex 18). These have proven a very good method for communities to understand the</p>

Project summary	Measurable Indicators	Progress and Achievements
fish catch, change in gear use) and use findings to inform management planning.		logic of the management measures they agreed to implement, to understand impact of these (or sometimes the lack of expected impact) and importantly, generated stronger confidence in the community's capacity to locally manage their fishing grounds and generate pride in their actions and ownership on these resources. DFD-Pemba also expressed their appreciation about being presented updated data from the project, which led to interesting conversation as well as for DFD staff to realise some examples of roles that communities can play to work in collaboration with them to implement several co-management actions (monitoring, enforcement of local closures, etc.). Ultimately the project team sees these participatory analyses as a great way to create trust and collaborative working habits between communities and authorities.
Activity 5.4 Analyse and assess changes in governance, wellbeing, and reef ecosystem health in response to management interventions.		<p>The first Participatory Impact Assessments (PIAs) conducted in Kukuu and KP (conducted with 70 participants, 30 women and 40 men) in 2019 have enabled community members voices to be heard regarding changes as they felt between governance, wellbeing and the state of coastal resources (reef ecosystem and related fisheries, but also mangrove), in relation to the intervention.</p> <p>These PIAs were repeated the end of 2020 and expanded to the other four communities (105 women and 147 men were interviewed in focus groups). They paint a very nuanced picture of the situation of each community, where the mechanisms at play seem to be mostly common (e.g. threats of illegal fishing and encroachment of outsiders, some impacts of climate change on ecosystems and resource, strong dependence on national/international market prices and limited options to build resilience, limited livelihood alternatives opportunities...), but with a different importance/severity depending on many factors (sensitivity of the community to a particular decreasing resource, appeal of the fishing grounds considered and size / easiness to enforce their by-laws, social cohesion and trust in their SFC leaders) (Annex 23)</p>
Activity 5.5 Produce posters, presentations and reports to communicate data findings to communities, government departments (especially DFD) and the conservation community, and generate support for marine resources co-management.		Participatory data analysis and presentations to DFD. 2018 Dec. 2019, March 2021 with WCS at the final wrap-up Darwin workshop held in Chake Chake.

Annex 3 Standard Measures

Code	Description	Total	Nationality	Gender	Title or Focus	Language	Comments
Training Measures							
1a	Number of people to submit PhD thesis						
1b	Number of PhD qualifications obtained						
2	Number of Masters qualifications obtained						
3	Number of other qualifications obtained						
4a	Number of undergraduate students receiving training						
4b	Number of training weeks provided to undergraduate students						
4c	Number of postgraduate students receiving training (not 1-3 above)						
4d	Number of training weeks for postgraduate students						
5	Number of people receiving other forms of long-term (>1yr) training not leading to formal qualification (e.g., not categories 1-4 above)						
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	107	Tanzanian	85 M 22 F	SFC Standard Operating Procedures trainings	Swahili	
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	25	Tanzanian	20 M 5 F	Management planning trainings/workshops	Swahili	
6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	25 incl. 5 key DFD staff	Tanzanian	21 M 4 F	PECCA (DFD) governance and co-management vision workshop	Swahili	

6a	Number of people receiving other forms of short-term education/training (e.g., not categories 1-5 above)	38 incl.5 key DFD staff	Tanzanian	34 4 F M	PECCA (FEC) governance and co- management vision workshop	Swahili	
6b	Number of training weeks not leading to formal qualification	6			SFC Standard Operating Procedures training	Swahili	
6b	Number of training weeks not leading to formal qualification	2			SFC Management planning training/workshop	Swahili	
6b	Number of training weeks not leading to formal qualification	1			PECCA (DFD) governance and co- management vision workshop	Swahili	
6b	Number of training weeks not leading to formal qualification	1			PECCA (FEC) governance and co- management vision workshop	Swahili	
7	Number of types of training materials produced for use by host country(s) (describe training materials)	1			SFC Standard Operating Procedures	English and Swahili	
7	Number of types of training materials produced for use by host country(s) (describe training materials)	1			SFC by-laws standard approval process	English and Swahili	
Research Measures		Total	Nationality	Gender	Title	Language	Comments/ Weblink if available
9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country(ies)	7 (6 BL and 1 MP)			SFCs by-laws (BL) and management plans (MP)	Swahili	Participatory process (Annex 10)

9	Number of species/habitat management plans (or action plans) produced for Governments, public authorities or other implementing agencies in the host country(ies)	1			Collaborative Management Group (CMG) gathering neighbouring SFCs management plan	English	Participatory process
10	Number of formal documents produced to assist work related to species identification, classification and recording.						
11a	Number of papers published or accepted for publication in peer reviewed journals	1	Indian	M	Participatory Octopus Market System Development strengthens community management of marine resources on Pemba Island, Zanzibar, Tanzania	English	Oryx – Conservation News
11b	Number of papers published or accepted for publication elsewhere	1	French	M	Eco-credit scheme pilot in coastal communities in Pemba Island as an incentive for local management and an opportunity for livelihoods improvement	English	Panorama / Blue Solutions website (to be published, Annex 19)
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	3			SFCs Octopus catch data database		Hosted by Mwambao

12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	2			SFCs Reef fish catch database		Hosted by Mwambao
12a	Number of computer-based databases established (containing species/generic information) and handed over to host country	1			Pemba Sharks and Rays landings database (5 landing sites)		Hosted by WCS Tanzania
12b	Number of computer-based databases enhanced (containing species/genetic information) and handed over to host country						
13a	Number of species reference collections established and handed over to host country(s)						
13b	Number of species reference collections enhanced and handed over to host country(s)						

Dissemination Measures		Total	Nationality	Gender	Theme	Language	Comments
14a	Number of conferences/seminars/workshops organised to present/disseminate findings from Darwin project work						
14b	Number of conferences/seminars/ workshops attended at which findings from Darwin project work will be presented/ disseminated.	1	French	Male	Participatory Market Systems Development for local marine management		WIOMSA symposium in July 2019 presented the poster in Annex 33

Physical Measures		Total	Comments
20	Estimated value (£s) of physical assets handed over to host country(s)		
21	Number of permanent educational, training, research facilities or organisation established		
22	Number of permanent field plots established		Please describe

Financial Measures		Total	Nationality	Gender	Theme	Language	Comments
23	Value of additional resources raised from other sources (e.g., in addition to Darwin funding) for project work <i>(please note that the figure provided here should align with financial information provided in section 9.2)</i>						

Annex 4 Aichi Targets

	Aichi Target	Tick if applicable to your project
1	People are aware of the values of biodiversity and the steps they can take to conserve and use it sustainably.	
2	Biodiversity values have been integrated into national and local development and poverty reduction strategies and planning processes and are being incorporated into national accounting, as appropriate, and reporting systems.	
3	Incentives, including subsidies, harmful to biodiversity are eliminated, phased out or reformed in order to minimize or avoid negative impacts, and positive incentives for the conservation and sustainable use of biodiversity are developed and applied, consistent and in harmony with the Convention and other relevant international obligations, taking into account national socio economic conditions.	
4	Governments, business and stakeholders at all levels have taken steps to achieve or have implemented plans for sustainable production and consumption and have kept the impacts of use of natural resources well within safe ecological limits.	
5	The rate of loss of all natural habitats, including forests, is at least halved and where feasible brought close to zero, and degradation and fragmentation is significantly reduced.	
6	All fish and invertebrate stocks and aquatic plants are managed and harvested sustainably, legally and applying ecosystem based approaches, so that overfishing is avoided, recovery plans and measures are in place for all depleted species, fisheries have no significant adverse impacts on threatened species and vulnerable ecosystems and the impacts of fisheries on stocks, species and ecosystems are within safe ecological limits.	✓
7	Areas under agriculture, aquaculture and forestry are managed sustainably, ensuring conservation of biodiversity.	
8	Pollution, including from excess nutrients, has been brought to levels that are not detrimental to ecosystem function and biodiversity.	
9	Invasive alien species and pathways are identified and prioritized, priority species are controlled or eradicated, and measures are in place to manage pathways to prevent their introduction and establishment.	
10	The multiple anthropogenic pressures on coral reefs, and other vulnerable ecosystems impacted by climate change or ocean acidification are minimized, so as to maintain their integrity and functioning.	✓
11	At least 17 per cent of terrestrial and inland water, and 10 per cent of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem services, are conserved through effectively and equitably managed, ecologically representative and well connected systems of protected areas and other effective area-based conservation measures, and integrated into the wider landscapes and seascapes.	✓
12	The extinction of known threatened species has been prevented and their conservation status, particularly of those most in decline, has been improved and sustained.	
13	The genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socio-economically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.	
14	Ecosystems that provide essential services, including services related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, indigenous and local communities, and the poor and vulnerable.	

15	Ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, including restoration of at least 15 per cent of degraded ecosystems, thereby contributing to climate change mitigation and adaptation and to combating desertification.	
16	The Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization is in force and operational, consistent with national legislation.	
17	Each Party has developed, adopted as a policy instrument, and has commenced implementing an effective, participatory and updated national biodiversity strategy and action plan.	
18	The traditional knowledge, innovations and practices of indigenous and local communities relevant for the conservation and sustainable use of biodiversity, and their customary use of biological resources, are respected, subject to national legislation and relevant international obligations, and fully integrated and reflected in the implementation of the Convention with the full and effective participation of indigenous and local communities, at all relevant levels.	
19	Knowledge, the science base and technologies relating to biodiversity, its values, functioning, status and trends, and the consequences of its loss, are improved, widely shared and transferred, and applied.	
20	The mobilization of financial resources for effectively implementing the Strategic Plan for Biodiversity 2011-2020 from all sources, and in accordance with the consolidated and agreed process in the Strategy for Resource Mobilization should increase substantially from the current levels. This target will be subject to changes contingent to resource needs assessments to be developed and reported by Parties.	

Annex 5 Publications

Provide full details of all publications and material that can be publicly accessed, e.g. title, name of publisher, contact details. Mark (*) all publications and other material that you have included with this report

Type *	Detail (title, author, year)	Nationality of lead author	Nationality of institution of lead author	Gender of lead author	Publishers (name, city)	Available from (e.g. web link, contact address etc)
Journal news update	Participatory Octopus Market System Development strengthens community management of marine resources on Pemba Island, Zanzibar, Tanzania, Kiran Mohanan and Tanguy Nicolas (FFI), Lorna Slade (Mwambao)	Indian	British	Male	Oryx, The International Journal of Conservation Cambridge	https://www.cambridge.org/core/journals/oryx/article/participatory-octopus-market-system-development-strengthens-community-management-of-marine-resources-on-pemba-island-zanzibar-tanzania/5A28F6E00700F7801BCD71680A472F3E/core-reader
Case study to share the lessons learned to	Eco-credit scheme pilot in coastal communities in Pemba	French	British	Male	Panorama / Blue Solutions (web/online platform) implemented in	Annex 19

other practitioners	Island as an incentive for local management and an opportunity for livelihoods improvement				partnership by GIZ, GRID-Arendal, the IUCN, and UN Environment	
Poster presented at a regional marine science and conservation symposium	Generating revenue for local marine management: Fishing village committees engage with octopus buyers, in Pemba Island, Zanzibar	French	British	Male	WIOMSA symposium	Annex 33

Annex 6 Darwin Contacts

Ref No	24-008
Project Title	Effective marine resource co-management in the Pemba Channel Conservation Area
Project Leader Details	
Name	Alison Mollon
Role within Darwin Project	Leading the project and in charge of delivery
Address	
Phone	
Skype	
Email	
Partner 1	
Name	Lorna Slade
Organisation	Mwambao Community Coastal Network
Role within Darwin Project	Leading the implementation in Pemba Island
Address	
Phone / Skype	
Email	
Partner 2	
Name	Jean Mensa
Organisation	WCS Tanzania
Role within Darwin Project	Director, Marine Program in WCS Tz, in charge of the partnership evaluating the conservation situation of Sharks and Rays
Address	
Phone / Skype	
Email	
Partner 3	
Name	Sharif M Faki
Organisation	DFD-Pemba
Role within Darwin Project	Focal point for coordination of activities and steering of the project with DFD in Pemba Island
Address	
Phone / Skype	
Email	
Partner 4	

Name	Rob Wild
Organisation	GreenFi Ltd.
Role within Darwin Project	Technical support and development of tools for the MKUBA eco-credit scheme piloted in Kukuu
Address	
Phone / Skype	
Email	

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
If you are submitting photos for publicity purposes, do these meet the outlined requirements (see section 10)?	
Have you included means of verification? You should not submit every project document, but the main outputs and a selection of the others would strengthen the report.	
Do you have hard copies of material you need to submit with the report? If so, please make this clear in the covering email and ensure all material is marked with the project number. However, we would expect that most material will now be electronic.	
Have you involved your partners in preparation of the report and named the main contributors	
Have you completed the Project Expenditure table fully?	
Do not include claim forms or other communications with this report.	