

Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the “Writing a Darwin Report” guidance: (<http://www.darwininitiative.org.uk/resources-for-projects/reporting-forms>). It is expected that this report will be a **maximum** of 20 pages in length, excluding annexes)

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Darwin Project Information

Project reference	24-027
Project title	Applying business models to sustain socio-ecological resilience in coastal Philippines
Country/ies	Philippines
Lead organisation	Zoological Society of London
Partner institution(s)	Local Government Units of the Municipality of Ajuy & Concepcion in Iloilo Province; Local Government Units of the Municipality of Talibon and Getafe, Province of Bohol. Interface Inc.
Darwin grant value	£399,584
Start/end dates of project	1st April 2017 – 31st March 2021
Reporting period	1st April 2019- 30th March 2020 – AR3
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Report author(s) and date	Amado Blanco (Project Leader), Wilfredo Baguio, Jr. (Financial report – Finance Officer) 05 May 2020

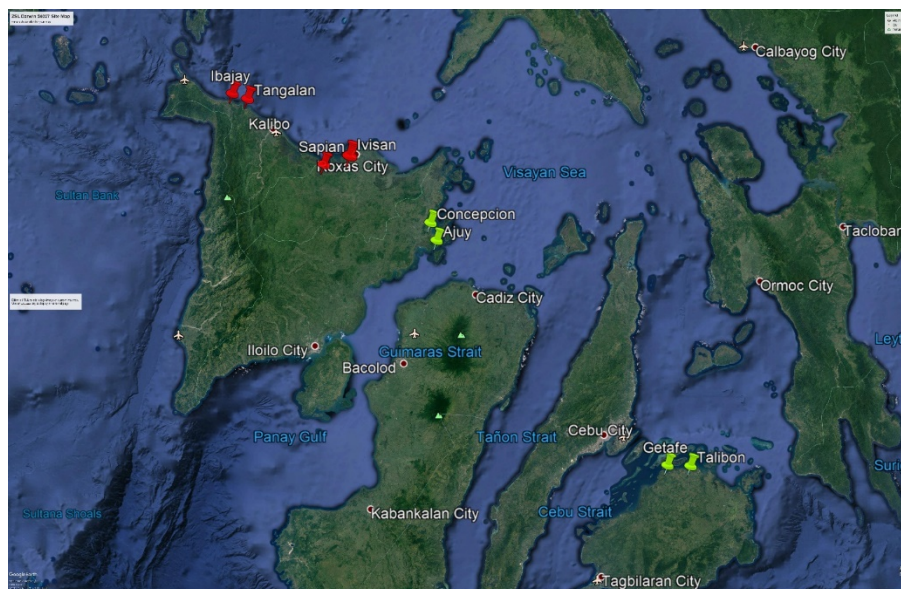
1. Project summary

The Darwin Initiative supported innovative approaches to enhance socio-ecological resilience to disasters in the Philippines, including MMPAs and Net-Works™ (21-010). This project builds on these experiences and successes to build business models that break pervasive donor dependence in community-based marine conservation, creating fully scalable solutions.

The project addresses key issues that are predicting effectiveness of MPAs as biodiversity conservation and fisheries management tools: size, habitat composition, sustainability and enforcement. Under existing Philippines laws, coastal municipalities and cities are mandated to set aside at least 15% of municipal waters (i.e. 15 kilometres from general coastlines seaward). However, the total area declared protected at present remains very low at 0.5% because of their small size (average 12ha of no-take zone). And, most of these MPAs are dominantly coral reefs. Mangroves, seagrass, mudflats, and other habitat types crucial to life cycles of fisheries resources are unprotected, leaving them highly vulnerable to conversion.

Financing to support effective management of MPAs in the long-term is also cross-cutting issue. A study suggests that only 12% of declared MPAs in the Philippines are effectively enforced. All the rest exist as paper parks mainly because of the lack sustainable financing and lack of community buy in. This project is aiming to catalyse a new generation of MPAs that are bigger (i.e. with at least 200-ha. NTZ), diversified in terms of habitat types, and financially sustainable. ZSL has

demonstrated through the Net-Works business model there are alternative options to help secure access for sources of financing for MPA management in the long-term. Through the diversification of the Net-Works business model, we are aiming to support these idealised MPAs through the income generated by the business model itself, veering away from conventional donor-dependent set up. During the first year we introduced the term iMPA which describes the 'ideal MPA' (but also interpreted as innovative, inclusive, improved) to describe these MPAs that are bigger in size, better managed and enforced, and sustainably financed using the Net-Works business model. We have therefore phased out the term MMPA (which referred to Mangroves in MPAs) which did not properly reflect this improved approach. In Year 3, project implementation was focused on two bay-scapes in Iloilo Province on Panay Island in western Visayas and Bohol in central Visayas, Philippines and targets local communities and local governments within these sites (*see green pins in updated map below*) and businesses



through global supply chain development. The target communities live below the Philippines' poverty line and are extremely vulnerable to declining marine resources and increasing typhoons. Our interventions aim for these community members, especially women, to have diversified livelihoods, access to fairer and inclusive markets, and a mechanism and opportunity to engage meaningfully in conservation activities.

2. Project partnerships

Key project partners are the local government units (LGUs) of Ajuy and Concepcion in Iloilo and Talibon and Getafe in Bohol. We have existing formal memoranda of agreement (MOA) with the two LGUs in Iloilo, which were signed and reported in Year1. In Year 3, combined contributions of Concepcion and Ajuy LGUs for MPA guardhouses and marker buoys reached £6,0664 for the three legally established iMPAs, a concrete manifestation of their support.

Our application for accreditation, which are prerequisites for any MOA signing, with the two LGUs in Bohol were approved in Yr3. We will commence negotiations for MOA with Talibon after COVID-19 travel and meeting restrictions are lifted. We are currently working with another ZSL Philippines project team for a MOA with LGU-Getafe, which is also stalled by lock down declarations. ZSL has long work history on MPAs and seahorse conservation in Talibon and Getafe through its links to Project Seahorse, enabling us to partner with fishing communities and local governments in planning and legalising iMPAs even without the formality of a MOA. We are closely collaborating with nine (9) village LGUs in the eight iMPA sites we are focusing starting in Year 3. We are enabling and guiding partner people's organizations (POs) and 61 partner VSLAs as prime movers in planning and implementation of three legally declared iMPAs and in planning and legislative lobbying for the five (5) iMPAs in the pipeline. Our partner POs are as follows:

1. Tambaliza Small Fishers Association (TASFA), Concepcion
2. Salvacion Responsable kag Uswagon nga Mangingisda (SALVARUN), Concepcion
3. Asosasyon Sang Mangingisda sa Malangabang (ASMMA), Concepcion
4. Association of Igbon Savers for Sustainable Fisheries (AsISUF), in Concepcion
5. Punta Buri MPA Small Fisherfolks Association (PBMPASFA), Ajuy
6. Silagon Fisherfolk Association (SFA), Ajuy
7. Asenso sa Baroto Association sa Guindacpan (ABAG), Talibon
8. Guindacpan Grower of Seaweed Seedling Organization (GGOSSO), Talibon
9. Kapunungan sa Nagkaiusan Mananagat ug Lumulupyoy sa Handumon (KANAGMALUHAN), Getafe

10. Handumon Seaweed Culture Association, Getafe
11. Kahugpongan sa Gagmay nga Mananagat sa Jandayan Sur (KAGAMAJAS), Getafe
12. Marianasan Seaweeds Grower and Fisherfolk Association (MASEGAFA), Getafe

Year 3 was productive year of collaborations with national government agency partners. We responded to Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR) request for inputs in the formulation of guidelines for delineating territorial waters of municipalities and cities with off-shore islands and in regional stakeholder consultation on the Fisheries Management Areas (FMA). The two bay-scapes we cover are within FMA-11. The national leadership of DA-BFAR endorsed our grant application to the Blue Action Fund, which would have allowed us to replicate iMPAs in at least 15 municipalities in central Philippines. See **Annex 4**. We actively engaged the Regional Field Offices of DA-BFAR. We tapped its western Visayas regional fish warden training unit as resource speakers of two batches of Advance Fishery Law Enforcement and Enhancement Training for community partners in Concepcion-Ajuy bay-scape. DA-BFAR Regional Field Office 7 granted us permits to export dried seaweeds samples for bio-plastic lab testing at the University of Technology-Sydney. We reached out to a DA-BFAR field staff in central Luzon for possible sharing of good quality *Kappaphycus alvarezii* seaweed planting materials. The Philippine Crop Insurance Corporation, a government-owned and controlled corporation attached to DA-BFAR, has continued to subsidize crop insurance coverage of our assisted seaweed farmers. We are a partner of the USAID-funded Fish Right project, which is a project of DA-BFAR.

Through the ProCoast project, which ZSL co-implements with DENR and GIZ, we are working with DENR in developing Tambaliza iMPA in Concepcion as centre of learning for iMPA, VSLA, and nets recycling. DENR helped us secure use tenure for the construction site of the Tambaliza iMPA guardhouse. DENR recommended a multipartite MOA with the community, municipal government, provincial government, and DENR's Community Environment and Natural Resource Management Office, instead of a foreshore lease agreement, which takes DENR at least six months to issue. The mangrove component of the proposed Handumon iMPA in Getafe is within DENR jurisdiction. Through its local Protected Area Management Board, DENR approved the spatial plan integrating Handumon mangroves in the no-take zone.

As reported in Year 2, we opted to pursue an engagement with the Integrated Services for the Development of Aquaculture and Fisheries (ISDA), Inc. because internal dynamics (i.e. restructuring and staff movement) at the Southeast Asia Fisheries Development Centre (SEAFDEC) stalled the signing of our MOU. Results of the technical and training engagement with ISDA are outlined in **Annex 5**.

ZSL and Oceana Philippines signed a MOA formalising collaboration in areas of mutual interests: promotion of marine protected areas, enforcement training and promotion of a reporting system, Fisheries Management Area, and joint publication and statements on themes of common interests, e.g. mangroves (**Annex 6**).

3. Project progress

3.1 Progress in carrying out project Activities

Output 1 – Effective iMPAs

As reported previously, we have MOA with the LGUs of Concepcion and Ajuy in Iloilo. Focus was redirected to a bay-scape in Bohol (i.e. Talibon-Getafe) in Yr3. ZSL processed its accreditation with Talibon and Getafe LGUs and both were approved.

Community profiling completed and reported in Yr1. All five sites in Concepcion-Ajuy bay-scape were identified and selected through a series of community and municipal level stakeholder consultations. The three new iMPA target sites in Talibon-Getafe bay-scape are former Project Seahorse and active ZSL partner communities, where we have good data on biophysical conditions and work history on seaweed farming. Instead of going through process we did in Panay, we organized community and municipal level orientations on the iMPA approach and asked communities to decide if they are interested to implement iMPAs. All three communities were receptive to iMPAs, supported by business model approach.

As reported in Yr1, management council in Tambaliza was formally created within the year of its declaration. Management councils of Punta Buri and Salvacion-Malangabang iMPAs were legally established within Yr3, with issuance of executive orders by municipal mayors (**Annexes 7 & 8**).

The first 5-year management plan of Tambaliza iMPA was finalized after a series of community consultations and is ready for LGU official adoption, which the team is planning to push after the lifting of COVID-19 quarantine measures (**Annex 9**). With learning from Tambaliza, Punta Buri iMPA management planning progressed quickly and drafting advanced within a shorter period, only to be delayed by Typhoons *Tisoy* and *Ursula*, and then coronavirus (**Annex 10**). Our field staff also commenced drafting of Salvacion-Malangabang iMPA 5-year management plan shortly after declaration in Feb. 2020 (**Annex 11**).

We facilitated formation of technical working groups (TWGs) in Silagon, Ajuy and Igbon, Concepcion, Guindacpan in Talibon and Handumon in Getafe to lead community agreement building around spatial plans and to draft municipal ordinances. Municipal mayors issued executive orders creating these TWGs (**Annex 12**). We rendered technical guidance to the TWGs in drafting iMPA ordinances, with the approved Tambaliza iMPA ordinance as model (**Annexes 13, 14, & 15**). Draft ordinances have been transmitted to relevant municipal council committees for review and public consultations, which are expected to resume after lifting of quarantine measures.

With inputs from local fishers and municipal engineers, we prepared a model design and costing for iMPA boundary markers (**Annex 16**). We organized procurement of materials and fabrication of iMPA marker buoys in Punta Buri (**Annex 17**). LGU Concepcion allocated ₱3,670 for marker buoys in Salvacion-Malangabang iMPA, another proof of LGU full support to iMPAs. We finalized the iMPA guardhouse with seaweed drying platform standard building plan and cost estimate (**Annex 18**). Materials procurement and construction in Tambaliza and Punta Buri iMPAs began in February 2020, also to be disrupted by COVID-19 (**Annex 19**). We provided Punta Buri and Salvacion-Malangabang iMPA management councils with leverage funds to procure iMPA enforcement patrol boats. See **Annex 20**.

While we did not conduct MPA MEAT assessments in Yr3, MPA MEAT threshold indicators have been used as guide in formulation of the management plans of Tambaliza and Punta Buri iMPAs. More than a diagnostic tool, MPA MEAT is also an intervention planning tool and it is more relevant as such at this stage. Additionally, MEAT level 1 is only achieved once the management plan has been adopted, and so conduct of a MEAT survey needs to be after the management plans have been officially adopted in order to accurately inform the process and strengthening (see above re delays due to typhoons and covid-19).

Our team formed a total of six new VSLAs in Yr3, increasing the total new VSLAs organized under the project to 20. We implemented a total of 120 social marketing and outreach activities in Yr3. We did initial analysis results of various plastics characterisation surveys and submitted a paper to a journal in the last quarter of Yr3.

Output 2 – TURFs

All legally declared iMPAs have buffer zones as minimum TURFs zones. Punta Buri and the proposed Silagon iMPA added TURF zones in the form of sustainable use zones in addition to the buffer zones for exclusive access only by their local fishers. to the buffer zones. We guided the TWGs and communities in identifying and integrating TURFs zones in the spatial plan, which already have complete technical descriptions in the proposed municipal ordinance (**Annex 21**).

Management of TURFs zones are defined broadly in approved and proposed ordinances. We piloted an approach to creating detailed implementing rules and regulations (IRRs) for the TURFs zones in Tambaliza iMPA. If proven effective, we can replicate these IRRs, with appropriate adjustments for specific iMPAs, to all iMPAs we are supporting.

We adopted a standard building plan for iMPA guardhouse with seaweed drying platform (**Annex 18**). Actual construction in Tambaliza and Punta Buri started in February 2020, just before the coronavirus paranoia.

Our supervising biologist and M&E Officer trained with the USAID-funded Fish Right project on CPUE survey method. However, the cost of roll out was very high and the reliability of the data very low, compelling the team to modify and make it affordable. We have incorporated participatory approaches into fish catch monitoring method and included a perception survey component in order to evaluate the reliability of the modified participatory CPUE approach (**Annex 22**).

Output 3 – Diversified Net-Works business model

All new VSLAs (20) formed through the project since Yr1 and the 41 that pre-existed before project start-up all contribute to their environmental funds. By end of Yr3, total recorded available balance

of environmental fund was £1,306. VSLAs are already using environmental funds to implement collective environmental activities, e.g. beach clean-up, and to provide cost-share for essential iMPA enforcement assets. VLSAs in Tambaliza, Concepcion pooled in their environmental funds to acquire a chase boat for the iMPA patrol team.

We continued the training and mentoring of VSLA village agents. Of the 30 agents we trained, 60% are active, working together with our community organizers in forming new VSLAs.

Eight partner VSLAs in northern Iloilo and Bohol collected a total of 12.3 tons of end-of-life fishing nets in Yr3. We exported to Slovenia a total of 10.4 tons of nets from northern Iloilo and Bohol. We trained a total of 50 seaweed farmers in Talibon-Getafe (22) and Concepcion-Ajuy (28) bay-scapes in Yr3. Dr. Anicia Hurtado, former SEAFDEC seaweed scientist, was the resource person (**Annex 23**). Our three seaweed field technical staff conducted post-training coaching and technical assistance. Dr. Hurtado did follow-through field monitoring and technical assistance visits in the two bay-scapes, which were concluded with learning interactions with farmers and field staff. A total of 22 newly-trained seaweed farmers received seaweed production assistance. However, an extended period of warmer than average sea surface temperature and strong typhoons at the end of the year (Typhoons Tisoy and Ursula) damaged the crops. We assisted farmers in reporting crop damage to the Philippine Crop Insurance Corporation for crop damage claims.

Output 4 – Incorporation of mangroves into iMPAs and development of science base of blue carbon from mangroves.

Inclusion of mangroves in iMPAs is a key habitat diversification and resiliency strategy of the project. Thus far, 22 ha. of mangroves are included in no-take zones of three legally established iMPAs. We are now working closely with TWGs on the inclusion of mangroves in the five iMPAs in the pipeline. Total estimated mangroves included in spatial plans of five proposed iMPAs is 182 ha.

Dr. Clare Duncan's complementary project, which aims to: Establish baseline carbon stocks and identify additionality quantification methodology; Review Philippines governance and tenurial systems facilitating blue carbon project creation; Consolidate ZSL Philippines monitoring data and identify potential paper outputs; Establish ZSL Philippines mangrove site monitoring systems and data management system needs; Establish collaborative linkages across Philippines-based blue carbon projects and science. This work is helping us develop readiness for accessing the voluntary blue carbon markets, and the inclusion of soil carbon which is where the majority of carbon is stored and makes mangrove systems unique in their high carbon sequestration rates.

Output 5 – Breaking donor dependence

ZSL is spinning Net-Works out into a separate legal entity that will allow us to break donor dependence and achieve financial sustainability. The new legal entity will be established in Q1 of Yr4 under the name of COAST 4Cs. With inputs from legal and business experts and senior project team members, we are finalizing the organisational set up for Phase 1 of the spin out plan. Revenues from the sale of commodities will sustain a core team (i.e. hub manager, 2-3 community organizers, supply chain manager) for each hub. We are finalizing the iMPA toolkit, a compendium of instructional materials and relevant knowledge products to be used in training and provision of technical support to the team, communities, and key partners. An Impact and Standards unit will be created to plan and deliver training and technical support and regularly upgrade our training resources by integrating learning and insights drawn out from practice.

3.2 Progress towards project Outputs

Output 1 – Effective iMPAs

Since Yr1, we shifted to more formal partnership instruments with LGUs (i.e. MoA), instead of free and prior informed (PFIC) consents. Before shift in site focus, we already had MOA with four of the five LGUs in three originally targeted bay-scapes, including Concepcion and Ajuy LGUs. The two LGUs in Bohol have approved ZSL's application for accreditation - a prerequisite to MOA negotiations. We will advance to MOA drafting and negotiations once COVID-19 quarantine measures are lifted.

In Yr1, we reported the completion of village profiling in the original target sites. In Yr2, we conducted participatory resource mapping in three selected iMPA sites in Talibon-Getafe bay-scape in Bohol using resources of other current grants. Results of community resource mapping exercises are used to inform iMPA spatial planning (**Annex 24**).

We organized iMPA learning visit in Yr2. Tambaliza iMPA is currently being developed as iMPA centre of learning. The ProCoast project, which ZSL is co-implementing with GIZ and DENR, is funding the centre development. Training events we organized in Yr3 were designed as venues for peer-to-peer learning interactions amongst members of MPA management councils and various working committees. With this approach, we are setting up a platform for building the social network of communities managing iMPAs.

Management councils of three legally established iMPAs were formally organized. The mayors of Ajuy and Concepcion issued executive orders (**Annexes 7 & 8**) creating the management councils of Punta Buri iMPA and Salvacion-Malangabang iMPA, respectively. Average women membership in the councils was 21%, lower than the 40% prescribed in the Philippine Magna Carta of Women and the 50% target we committed under this project (**Annex 25**). We noted that when percentage of representation is specified in the municipal ordinance, there is assurance of higher women representation in resource management bodies. However, only Punta Buri iMPA municipal ordinance prescribes a percentage (i.e. 30%) of women membership. The approved ordinance for Salvacion-Malangabang iMPA only broadly stipulates "Women representation and participation in the management of the MPA will be ensured and enjoined" and does not indicate a percentage, which we consider an oversight. This is an important indicator and our plan to increase women representation is elaborated in **Sec.10**.

Selection of final eight iMPA sites employed participatory approaches. By end of Yr3, three iMPA municipal ordinances were already passed, the final approval of another three was delayed by Typhoons and COVID-19 outbreak, and another two were in advanced stages. The combined area (2,521 ha.) of the three legally established iMPAs in Concepcion-Ajuy bay-scape represents 82% of the estimated bay-scape waters (3,086 ha.). If the proposed Silagon, Ajuy and Igbon, Concepcion iMPA spatial plans would be approved as proposed, the total area coverage of iMPAs will be 3,800 ha. or 122% of the estimated 15% of bay-scape waters. We were aiming for March-April approval of two proposed iMPA ordinances in Talibon-Getafe bay-scape, but has been affected by the coronavirus lock down. With very strong community and municipal government buy-in, we are confident of their approval once quarantine is relaxed. If the three proposed iMPAs in Bohol would be approved as proposed, the total area declared as iMPAs will be 2,016 ha., equivalent to 114% of its estimated bay-scape waters (1,764 ha.) (**Annex 26**).

The three iMPAs we have helped legally establish are too young to be subjected to MPA MEAT assessment which can only be done once the management plan has been approved. The MPA MEAT is also a planning tool and we have been using its threshold indicators as reference in planning essential capability building interventions. Having used MEAT as a planning tool we are confident that the new iMPAs will score highly once it comes time to assess them.

We organized a total of 20 new VSLAs under this project, which represents 133% of total target. Including pre-existing VSLAs (41), we have engaged a total of 61 VSLAs in the two bay-scapes and all of them contribute to their environmental funds. Total available environmental funds by end of Yr3 was £1,306. Some VLSAs utilized their environmental funds to support various group environmental activities. For instance, VSLAs in Tambaliza used environmental funds to support beach clean-ups and to procure a chase boat their local iMPA patrol team can use for quick enforcement patrol sorties.

A total of 2,831 community members (55% women) participated in 120 different social marketing campaigns and community outreach activities and we produced 370 social marketing campaign materials in Yr3.

Output 2 – TURFs

The three legally established iMPAs have total buffer zones and managed fishing areas of 1,127 ha., which is 131% of their aggregate no-take zones. The five proposed iMPAs have total buffer and managed fishing areas of 1,746 ha., equivalent to 138% of their combined proposed no-take zones (**Annex 21**). Approved and proposed municipal ordinances already have general provisions defining rules of access to these preferential use zones. We piloted in Tambaliza iMPA a process that defines detailed implementing rules and regulations for TURFs. Once finalized and implemented, we will assess its effectiveness for possible replication in other iMPAs.

Construction of guardhouses with seaweed drying platforms in Tambaliza, Concepcion and Punta Buri, Ajuy commenced in Feb. 2020, but construction works halted due to COVID-19 lock down. We have allocations (£) from the Blue Nature Capital Financing Facility (BNCFF) and Julius Baer

Foundation (JBF) to support construction of a similar guardhouse in the newly-declared Salvacion-Malangabang. We also have BNCFF and JBF funds we can use to leverage local funding for constructing guardhouses with seaweed drying platforms in Silagon, Ajuy (£), Guindacpan, Talibon (£), Handumon, Getafe (£), and Jandayan Sur, Getafe (£). We will use the funds to leverage local counterparts for labour from LGUs and communities. LGUs have covered labour and supervision costs in Tambaliza and Punta Buri iMPA guardhouse construction. We accessed funds from the American Bar Association Role of Law Initiative and German Embassy small grant for markers buoys of four iMPAs. We still need to source out funds to support construction of Igbon, Concepcion guardhouse.

The total number of local villagers who are members of the management councils and trained fish wardens reached 187 in the three legally declared iMPA sites. About a third (31%) of trained fish wardens are women. Most of them have been deputised by their respective mayors (**Annex 41**)

We have not yet done catch per unit of effort (CPUE) baseline surveys. Our plan was to learn CPUE survey method from the USAID funded Fish Right project, which we later realised was costly to implement and produced unreliable results. We have modified the design by integrating participatory field enumeration techniques to bring down cost significantly. We have also incorporated perception survey method in the modified design. (**Annex 22**). We aim to start field data gathering in Tambaliza iMPA after the lifting of coronavirus travel restrictions. If results are credible, we will roll out the surveys in other iMPAs later. We aim to generate comparative catch data over time from the perception surveys, which will draw out local ecological knowledge through focused group discussions. Results of CPUE survey, which will focus on the buffer zones and managed fishing areas, using the modified Fish Right method will serve as baseline. We supported Fish Right project in conducting general CPUE surveys in our northern Iloilo sites and we can use their results as general CPUE baseline.

Output 3 – Diversified Net-Works business model

Since Yr1, our team has organized a total 20 new VSLAs and all of them adopted the environmental funds innovation. Of the 30 VSLA agents we trained and mentored, 18 (60%) are active. On the average, we have 2 active agents in each iMPA site. The agents are predominantly (93%) women.

We are actively buying used fishing nets in eight villages in the two bay-scapes. Total number of VSLAs in the two bay-scapes that are linked to the nets supply chain is 55. From the two bay-scapes alone, we collected a total of 12.3 tons exported 10.4 tons to Slovenia in Yr3.

We already trained a total of 79 local fishers to engage in ecological seaweed farming, of which 50 were trained in Yr3. We extended production assistance (with total value of £16,070 using matched funding from BNCFF and National Geographic) and follow-through technical support to 22 of those trained in Yr3. Estimated total farming area assisted was 4.3 ha. However, production was affected by extended period of warm sea surface temperatures and the bleaching that it induced and typhoons.

We conducted trash mapping surveys in six communities in 2019. First, we looked at percentage of quadrats containing plastics and nets (**Annex 27**). In sites where the surveys had been done at least once before, we found increase in % of quadrats with plastics in Salvacion (4% in 2018 to 35% in 2019) and Malangabang (6% in 2018 to 46.5% in 2019). We observed slight increase in Tambaliza (54% in 2018 to 55.6% in 2019) and Punta Buri (40.7% in 2018 to 41.3% in 2019). In Guindacpan, we observed decrease from 81.5% in 2016 to 57.3% in 2019 (**Graph 1**). We observed a decrease in % of quadrats with nets in Tambaliza, while an increase was observed Guindacpan (**Graph 2**).

Annex 28 shows percentage of plastics and nets found inside quadrats, which we think is a better way of understanding the issue because it involved quantifying the number of plastics and nets found inside the quadrats. **Graph 1** shows high percentage of plastics in Guindacpan (16.8%) and Tambaliza (8.9%). Tambaliza recorded the highest percentage of nets (9.9%) found inside the quadrats. We did comparative calculations for Guindacpan and Tambaliza and found % decrease of plastics in Guindacpan, from 26% in 2015 to 16.8% in 2019, while a slight increase was observed in Tambaliza, from 8.5% in 2016 to 8.9% in 2019. Decrease in % nets found insider quadrats were both observed in Guindacpan and Tambaliza.

The leading categories of plastics found in the quadrats are wrappers, containers, sheets (WCS), bags plastics (BPL), and straws, stirrers (SS). **See Annex 29**.

Output 4 – Incorporation of mangroves into iMPAs and development of science base of blue carbon from mangroves.

With Dr. Clare Duncan as lead, we generated baseline data on blue carbon stocks (both vegetation and sediment) for 140.74 ha. of intact (7 sites) and degraded (2 sites) mangroves; 4.50 ha. converted mangroves (1 site); and 74.55 ha. of rehabilitated mangroves (3 sites). Also, baseline data on blue carbon sequestration rates (vegetation, sediments, and gas flux) were generated for 45.71 ha. of intact mangroves (2 sites) and degraded mangroves (2 sites); 4.50 ha. of converted mangroves (1 site); and 9.04 ha. of rehabilitated mangroves (1 site).

Community identification methodology for survey implementation on extractive use and clearing is almost completed. Satellite remote sensing (SRS) methodology for quantification of extractive use and clearing complete was already completed. Sequestration profiles through time (under management options) in mid-stages of development. Literature review on possible discount factors completed, with some data gaps identified in available relevant data for Philippines. Literature review on appropriate tenurial instruments for Plan Vivo project already completed, with plan to do another round of review in May-August 2020.

Output 5 – Breaking donor dependence

We updated the consolidated financials with forecast P&L, cash flows and balance sheet. Additionally, the plan to spin Net-Works out of ZSL as a separate legal entity in order to grow the commercial capacity and sales of seaweed and nets that support conservation activities in order to achieve financial sustainability and break donor dependence has been approved by ZSL Council (Trustees). The legal entity, under the name of COAST 4Cs, will consist of a not-for profit entity that will run the iMPAs, while incubating a trading company in the initial phase. The not-for-profit will own a golden share in the trading company to lock in the mission and prevent changes to the constitution. The trading company will be part community-owned and will seek B-Corp accreditation. This structure will allow us to grow the commercial capacity and also take on impact investment in order to scale the number of MPAs and impact post-Darwin project. Such a structure is essential in order to effectively deliver our ambition to create a sustainable business model underpinning conservation activities.

Under the evolving spin out plan, a small local team will initially be assigned to the new entity on secondment arrangement with ZSL. The staff will eventually be assimilated by the new entity once it starts to stabilize operations, which we are anticipating to take place by the end of the Darwin project and therefore enable impact of the Darwin project to be sustained. The new entity will be hiring a senior commercial person to steer and manage supply chains (both nets and seaweeds) operations. An Impact and Standards unit will be set up to handle preparation of Net-Works knowledge products into practical training materials and to plan and implement a training program for both conservation and business and partners.

Net-Works has four clusters of collection sites in central Philippines we call hubs. For the period 2017-2020, we shipped 14 containers of nets to Slovenia, with a total of 144.4 tons of nets collected from four hubs. Total earning from 14 shipments amounted to £146,155. Four of the 14 shipments (with total load of 41.8 tons) came from the two bays covered by the Darwin project. Total gross revenue from these four shipments amounted to £42,402. In Yr3, we shipped one (1) container van to Slovenia loaded with 10.4 tons of nets from these two hubs, generating a gross revenue of £10,537.

3.3 Progress towards the project Outcome

Indicator 1 - Implement eight (8) iMPAs. The following iMPAs are already legally declared: 1) Tambaliza, Concepcion iMPA (Yr1-Mar. 2018), Punta Buri, Ajuy iMPA (Yr2-Jan. 2019), and Salvacion-Malangabang (Yr3-Feb. 2020) (**Annex 30**). These three iMPAs have total no-take zones of 860 ha., or average of 286 ha. per iMPA (143% of 200 ha. targeted minimum). Total area coverage of three established iMPAs is 2,521 ha., equivalent to 82% of Concepcion-Ajuy estimated 3,086-ha. 15% bay-scape waters. It represents 52% of the total estimated combined bay-scape waters (4,850 ha.) of Concepcion-Ajuy and Talibon-Getafe (**Annex 21**).

Five iMPAs are at various stages of legitimisation. Three of the five (Silagon, Ajuy, Guindacpan, Talibon, and Handumon, Getafe iMPAs) have spatial plans already endorsed (**Annexes 31, 32, & 33**) and approved by communities and other stakeholder groups (e.g. Municipal Fisheries and Aquatic Resource Management Councils, Protected Area Management Board) and very advance

draft municipal ordinances transmitted to relevant committees of the municipal councils for review and public hearing (**Annexes 13, 14, & 15**).

With the proposed spatial plans and ordinances of five (5) new iMPAs, the total area coverage of the eight iMPAs will reach 5,795 ha. or 119% of the total estimated bay-scape waters (**Annex 21**). Before COVID-19 lock down, we were aiming for April 2020 approval of the municipal ordinances of Silagon Ajuy, Guindacpan, Talibon and Handumon, Getafe iMPAs and July 2020 approval of municipal ordinances of Igbon, Concepcion and Jandayan Sur, Getafe iMPAs. However, the passage of these ordinances has been constrained by COVID-19 quarantine.

Indicator 2 - Halt or reverse declines in key marine species and habitats. Baseline biophysical survey conducted in Tambaliza iMPA were completed in year 3 following the passage of the ordinance. The baseline survey covered mangrove and seagrass habitats using community structure survey methods. The first post-declaration survey also assessed coral reef status, using photo quadrats, rugosity, and fish visual census methods. While surveys were conducted in 2015 and 2016, comparative analysis is challenging since the previous surveys had different objectives and covered different areas within Tambaliza compared to the spatial plan adopted in the new ordinances (**Annex 34**).

Indicator 3 - Set socioeconomic baselines. As reported in Yr2, baseline socio-economic surveys were conducted in Punta Buri, Ajuy and Salvacion-Malangabang, and Tambaliza in Concepcion. In Yr3, socio-economic surveys were done in Handumon, Getafe (baseline) and in Guindacpan, Talibon (repeat). Pre-existing data were available for baselines in Guindacpan. Interim data analyses are in process. We still need to generate socio-economic baseline data from the following target sites: Silagon, Ajuy; Igbon, Concepcion; and Jandayan Sur, Getafe.

Indicator 4 - Livelihoods diversified. The three legally established iMPAs have a total ecological seaweed farming zone of 60 ha. Subdivided into 1/8-ha. farm lots, these will provide around 480 fishing families in three sites opportunities to engage in seaweed farming as alternative and/or supplemental livelihoods. Moreover, the proposed five new iMPAs have estimated total eco-seaweed farming zone of 111 ha. Subdivided into 1/8-ha farm lots, around 880 fishing families will have opportunities to engage into environmentally sustainable seaweed farming practices to improve income generation.

Indicator 5 - Diversified Net-Works business model. Net-Works collects used fishing nets in four hubs: 1) Danajon Bank (which covers Talibon-Getafe bay), 2) Northern Iloilo (which covers Concepcion-Ajuy bay), 3) Bantayan Island, and 4) Negros Island. Since Yr1 (2017) of the Darwin project, we have already organized a total of 14 shipments to Slovenia, with total load of 144.4 tons of nets collected from our four hubs. Total gross revenues earned from these 14 shipments amounted to £146,155. Four of the 14 shipments came from Danajon Bank and Northern Iloilo hubs (which include the two bay-scapes covered by Darwin), with total load of 41.8 tons. The 2017-2020 gross revenues of the shipments from the two hubs amounted to £42,402. In Yr3, we shipped one (1) container van to Slovenia loaded with 10.4 tons of nets from these two hubs, generating a gross revenue of £10,537.

Seaweed farming provides the strongest business model opportunity. From the end of 2018 through to early 2020 seaweed farming across the Philippines has suffered a significant down-turn in production due to a combination of two overlapping factors: (1) Seaweed farmers using old and varieties of seaweed that have been vegetatively propagated for many decades. New cultivars should be generated from wild stocks every few years to maintain productivity. The problem for seaweed farming as an industry is that despite continued demand for seaweed, there is no linkage between industry and small-scale producers. This is a result of convoluted and opaque supply chains, which prevents R&D for new cultivars to reach seaweed farmers; (2) extended higher than average sea surface temperatures dramatically exacerbated this long-term decline in productivity and led to widespread problems with a disease called *ice-ice* – involving bleaching of the seaweeds. This kills the seaweed and reduces the carrageenan content. These factors threaten the existing livelihoods of millions of people living in small-scale coastal communities, including many of our own beneficiaries.

Net-Works plays a unique role in being able to provide a more direct link from industry and researchers working on new varieties of seaweed directly to seaweed farmers themselves. Additionally, we are able to disseminate innovations within seaweed farming practices that enable adaption to changing climatic conditions. As a result, we have established some strong and very

exciting partnerships with industry and academia (currently under NDA). We have already started the process of piloting promising seaweed farming methods that should increase productivity of existing strains and reduce the impact of climate change, although roll out has been hampered by COVID-19. Additionally, we are involved in a joint research initiative that will see us receiving new cultivars from local wild populations within the next few months (COVID-19 dependent) for distribution to our seaweed farmers. Whilst it will take some time to scale these fresh sources of seaweed and the methods, we anticipate a rapid increase in seaweed production amongst our participating seaweed farmers as a result of this initiative.

3.4 Monitoring of assumptions

Project Summary	Risks and Assumptions	Comments on Status
<p>Outcome</p> <p>Community-based conservation effectively protects 15% of bay-scape waters in three pilot bay areas (thereby meeting national and CBD targets), fully sustained by a diversified Net-Works business model that enhances socio-ecological resilience and reduces dependence on donor funding.</p>	<ul style="list-style-type: none"> ▪ Municipal and barangay local government units supportive. All have shown support to date; ▪ Further natural disasters, particularly tropical storms, typhoons and earthquakes do not hinder significantly project sites or activities. However, we were surprised how much conservation work the communities were willing to do even in the immediate aftermath of Typhoon Haiyan. 	<p>Municipal and barangay LGUs remain very supportive. We have MoA with two LGUs in the Concepcion-Ajuy bay-scape. As mentioned earlier, LGU Concepcion shouldered labour cost (£797) and on-site supervision of Tambaliza guardhouse construction and marker buoys for newly-declared Salvacion-Malangabang iMPA (£3,670). LGU Concepcion committed to disburse the £3,190 annual budget (stipulated in approved ordinance) for Tambaliza once the 5-year management plan is officially adopted. Mayor Raul Baniyas of Concepcion has been very engaged in law enforcement training activities and community consultations in Salvacion-Malangabang. He committed to help enact the ordinance for Salvacion-Malangabang amidst very strong commercial and illegal fishing interest lobby against its passage.</p> <p>LGU Ajuy allocated £1,595 for Punta Buri and municipal engineers supervise actual construction. Communities have provided counterpart in form of labour and in-kind contributions, such as engines for patrols boats.</p> <p>Formalisation of our partnership with the LGUs of Talibon and Getafe in Bohol are underway. Talibon, Bohol is location of the first VSLA and Net-Works collection sites we set up in the Philippines. Getafe is location of the first MPA we helped set up through our involvement with Project Seahorse. Communities and municipal government have really appreciated ZSL's intention to strengthen MPAs in Danajon Bank through the innovative iMPA approach.</p> <p>Proposed iMPAs in Silagon, Ajuy; Guindacpan, Talibon; and Handumon, Getafe have been endorsed by <i>barangay</i> officials and people's organisations.</p> <p>A severe tropical storm (Tisoy/Kammuri and Ursula/Phanfone) hit the Visayas area in December 2019, affecting most project sites in Panay. Our assisted seaweed farms were damaged.</p>

	<ul style="list-style-type: none"> ▪ Revenues in the business model can be made to match the costs of ongoing iMPA support – which depends on both increasing supply and price of goods, and finding efficient ways to reduce costs – something that we have already shown we are very effective at with Net-Works. ▪ Presence of active People's Organizations engaged in Coastal Resource Management/fisheries management with high conservation awareness ▪ Receptivity of stakeholders to a new approach to conservation through business models. 	<p>From 2017-March 2020, Net-Works made a total of 14 shipments to Slovenia, four of which contained nets collected from Danajon Bank and Northern Iloilo hubs (which include the two bay-scapes covered by Darwin). The four shipments had total payload of 41.8 tons, which earned a total revenue £42,402. In Yr3, we shipped one (1) container van to Slovenia loaded with 10.4 tons of nets collected these two hubs, generating a gross revenue of £10,537. However, we still need to grow the seaweed supply chain, which was badly affected by warm sea surface temperature and typhoon. Part of the income used to cover fieldwork and operating costs not covered by existing grants. We have developed a series of measures in collaboration with industry and academia in order to improve seaweed farming production. This will see production increase in the next year.</p> <p>Active fishers' organization are existing in the eight final iMPA sites. They have been fully engaged in crucial iMPA establishment (e.g. sources of local ecological knowledge for spatial planning, endorsement of spatial plans and draft ordinances) and implementation (e.g. management council members, fish wardens, VSLA environment funds contributions)</p> <p>In all sites we introduced the business model supported iMPA approach, it is embraced readily by communities and local officials.</p>
<p>Output 1 Effective community-based management of iMPA eight iMPAs across the two bay-scapes:</p>	<ul style="list-style-type: none"> ▪ Local champions can be found which has always been possible in previous communities although sometimes can be complicated by underlying political agendas. ▪ Community-level support for conservation is motivated by shared experiences with similar communities. We have found previously that cross-visits are highly effective but only when they are well planned with defined objectives, clear structure and follow up. ▪ Engagement and support from local government is secured throughout the project. Following the national elections in April 2016, government should be stable for 3 years but level of bureaucracy and time around MPA ordinances can vary depending on the village and LGU officials. ▪ Boundaries between municipalities are defined or can be resolved, especially where they may affect MPA establishment. 	<p>Assumption still valid. The ranks of people's organizations and VSLA members and provide a venue for spotting local champions. Our community organisers monitor VSLAs for any concerns around them becoming politicised but this has not been an issue to date.</p> <p>Development of Tambaliza iMPA in Concepcion as a learning site. The ProCoast, which ZSL co-implements with DENR and GIZ, has supported the development of Tambaliza iMPA as centre of learning for iMPA, VSLA, and nets recycling. ProCoast has resources to organize LGU learning visits to Tambaliza and can help co-finance replication, if learning visitors express interest in the model.</p> <p>Barangay and municipal governments are fully engaged in the iMPA creation and implementation. For instance, LGUs Concepcion and Ajuy allocated a total of £6,064 co-finance for Tambaliza and Punta Buri iMPA guardhouses and marker buoys. They also provided personnel to supervise construction. The secured the tenure of the construction sites for the guardhouses.</p> <p>Partner LGUs in the two bay-scapes have no prevailing boundary related issues that may undermine collaborations. These two bay-scapes have been known in their respective provinces for inter-municipal alliance in coastal resource management.</p>

<p>Output 2</p> <p>Integrated Territorial Use Rights for Fisheries (TURFs) introduced within iMPAs (creating TURF-reserves or replenishment zones) in two bay-scapes to align fishers' incentives with sustainability and MPA management.</p>	<ul style="list-style-type: none"> ▪ Communities can reach agreement on location of buffer zones and managed fishing areas. Often these are a mechanism for implementing existing (unenforced) laws on fishing gears. ▪ Improved diversity of function of MPA guardhouses will enhance enforcement of no-take zones and illegal fishing activities through additional surveillance and active engagement of fishers. ▪ Women engage as fish/forest wardens which may be facilitated through training specific women's enforcement teams as successfully applied in South Africa and Nepal. ▪ Participatory CPUE surveys and perception surveys are able to detect any changes within the lifespan of the project 	<p>So far, we have not encountered any difficulties in facilitating community agreement on buffer zones and managed fishing areas. The idea managed access these zones as incentives for participation and compliance to the rules appears to be very compelling for most communities. But, opposition from external vested interests cannot be downplayed. The enactment of Salvacion-Malangabang iMPA was hard won victory considering the very strong and organized attempts by commercial/illegal fishers to block approval.</p> <p>Assumption remains generally valid. And, we will have the opportunity to finally prove the validity when the first batch of guardhouses are completed and operational in Tambaliza and Punta Buri. Construction commenced in Feb. 2020, but had to stop due to Coronavirus lock down.</p> <p>Of the 68 fish wardens we trained in 4 iMPA sites (1 still proposed), 31% were women. Trainees from Tambaliza and Punta Buri were already deputized by mayors (Annex 41) and actively involved in anti-illegal fishing campaigns (Annex 42)</p> <p>We are only able to conduct CPUE in Yr4. The method we were aiming to use was costly and it us some time to do modifications to make it affordable. We plan to use results of Fish Right wider CPUE survey as general baseline.</p>
<p>Output 3</p> <p>Diversified Net-Works business model supports environmental management and biodiversity conservation, and clears up marine debris.</p>	<ul style="list-style-type: none"> ▪ Available conservation/ environmental champions suitable as village agents ▪ Viable markets for plastic waste other than nylon ▪ Net-Works systems and M&E are robust enough to convert to a private code. Sharing of the toolkit, current data collection methods and results through a series of meetings with FLOCert (leading experts and behind Fair-Trade certification) have suggested this is the case. ▪ BFAR issue seaweed farming permits according to their current guidelines. ▪ Sustainable seaweed farming methods are adopted by families and not undermined by existing accepted practices 	<p>We trained and mentored 30 VSLA agents in Yr3. Eighteen (60%) of them are active.</p> <p>Existing local scrap buyers are buying other recyclable plastics. Our seaweed farming method has already created a market for used PET bottles, which replace Styrofoam buoys. We will sell these into sustainable recycling supply chains at the end of life.</p> <p>Assumption is no longer valid. Net-Works decide earlier not to pursue the idea of private and FLOCert certification.</p> <p>Local government units have the authority to issue farming permits. We continue to enrol assisted seaweed farmers to a BFAR-linked crop insurance program for seaweed farmers. We are assisting farmers and VSLAs so their members can meet the eligibility guidelines.</p> <p>The method we jointly developed with Dr. Anicia Hurtado, which require deeper farming sites was readily adopted by local seaweed farmers, after training and provision of production assistance. Most farmers have low productivity with their</p>

	<p>e.g. use of polluting plastic ties.</p> <ul style="list-style-type: none"> ▪ Loss of seaweed production due to weather/disease is within contingency parameters set within the business model (based on scientific research and extensive discussions with key stakeholders). 	<p>existing farming practices and the alternative we presented with forecasted better yield was readily adopted. Farming in Yr3 was impacted by long period of warm sea temperature and typhoon, leading some to doubt the suitability of the method we introduced. We will be testing new cultivation systems once Coronavirus lock down measures are lifted.</p> <p>We have kept the size of farms we supported to 1,250m² size so it can be covered by the government-subsidized crop insurance, while Net-Works continued to explore more affordable insurance options.</p>
<p>Output4</p> <p>Incorporation of mangroves into iMPA ordinances and development of the science base towards potential certification of blue carbon from mangroves in the Philippines on the voluntary market.</p>	<ul style="list-style-type: none"> ▪ Stable land tenure is existing or can be established for project sites ▪ Community agreement and buy-in to implement Plan Vivo ▪ Project is validated and verified under the Plan Vivo Standard. ▪ Plan Vivo and ZSL are able to secure buyers for each tonne of CO₂e generated from the project ▪ Market price for tradeable carbon remains fairly stable and high therefore project costs are offset and communities benefit from income. 	<p><i>We have already revised this output statement in the logframe. However, we did not update the assumptions in the last technical Change Request. We will be seeking Darwin approval of proposed new assumptions (in italics) below:</i></p> <ul style="list-style-type: none"> ▪ Stable and appropriate land tenure is existing or can be established for project sites (4.1 – carried over) ▪ <i>Representative sites can be accessed with support of community members for blue carbon stock and sequestration monitoring (4.2, 4.3)</i> ▪ <i>Community agreement and willingness to engage with survey approaches to understand levels and drivers of potential extractive mangrove use (4.3, 4.4)</i> ▪ <i>Access to appropriate laboratory equipment for analysis of mangrove soil carbon sources and for complementary carbon stock data (e.g. through formation of collaborations) (4.4, 4.6)</i>
<p>Output 5</p> <p>Break donor dependence and create financially sustainable community-based management</p>	<ul style="list-style-type: none"> ▪ Efficient approaches to MMPA management can be developed to ensure costs are within the scope of resources available within business models and local government resources. ▪ Funds can be accessed to the right level to support MMPAs sustainably by Yr4. We already have a strong track record with existing business models and counterpart funding from local government. 	<p>The iMPA approach diversifies financing base to ensure long term and sustained effective management of iMPAs. So far, we have implemented the following financing diversification scheme: 1) include annual budgetary provision in iMPA ordinances; 2) link VSLA environmental funds to iMPA management; 3) adopt a sharing system for fines and penalties collected from violators; 4) access other grants to complement Darwin funding; 5) use grant funds to leverage LGU fund. We are still growing the revenue streams from nets and seaweeds. The new entity that is spinning out of Net-Works is positioned to advance our commercial growth, making us more poised to sustain support to iMPAs beyond the Darwin grant.</p>

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

The three iMPAs we legally established by end of Yr3 cover a total area of 2,521 ha (753 ha. in Tambaliza, 869 ha. in Punta Buri, and 900 ha. in Salvacion-Malangabang) and combined no-take zones of 860 ha. contributes to the Philippine Biodiversity Strategy and Action Plan 2014-2025 in achieving the Aichi Biodiversity Targets and the CBD targets for marine biodiversity protection. These three iMPAs cover mangroves (22 ha.), seagrass (59 ha.) and coral reef (85 ha.), habitats maximising the biodiversity protection which we are monitoring through biological surveys. This new generation of bigger and habitat-diverse MPAs is in the top 3% in the country in terms of size and around 50 times larger than the average MPA size (>23 times larger than the average no-take zone size), so this project offers the potential for transformational difference in community-managed MPAs in the Philippines. The ProCoast project that ZSL is now co-implementing with GIZ with matched funding to Darwin is in the advance stage of developing Tambaliza as iMPA centre of learning. A key strategy of ProCoast to promote the iMPA model and built-in best practices (e.g. VSLAs, spatial planning, social marketing, and nets recycling) is facilitation of LGU learning visits to the centre and provision of seed funding for its replication in at least 30 municipalities in central Philippines. Widescale replication of our approach to the thousands of MPAs that exist in the Philippines currently will significantly shift the dial in terms of proportion of municipal waters protected, which at <1% is well below the nationally mandated target of 15%.

Our capacity building approach have taken three forms: environmental training including enforcement and mangrove and beach forest training; supporting VSLAs that address poverty with Environment Funds to enhance community capacity to manage their own resources, and; developing a toolkit for replicating the iMPA approach. For VSLAs, the average annualised returns on assets are 33% and 87% of ZSL-Philippines supported VSLA members are women helping address poverty and gender equity. Many VSLA members avail of loans and investing VSLA savings to support livelihood activities, suggesting the multiplier effects of VSLAs.

In Yr3, we organized more eco-seaweed farming skills training (50 new farmers trained) and extended production assistance to 22 farmers. While we are still trying to climate-smart seaweed cultivation system, we are confident that seaweed farming will eventually be an effective conservation and poverty alleviation tool, stabilizing at least pressures on already depleted resources. ZSL has just approved the plan to spin out Net-Works into a new entity that will be well-placed to access financing from a mix of sources (including impact investment) and more importantly grow the seaweeds and nets supply chains to create revenue streams that will eventually offset dwindling resources for conservation from traditional sources. This Darwin grant is enabling us demonstrate further (nb: we only earn stable income from nets right now) a case study of the “business model approach to conservation”, which will be our contribution biodiversity conservation at the broader level.

4. Contribution to the Global Goals for Sustainable Development (SDGs)

G1.5 [By 2030, build the resilience of the poor and those in vulnerable situations and reduce their exposure and vulnerability to climate-related extreme events and other economic, social and environmental shocks and disasters]

- We now work with 61 VSLAs, which provide fishing families access to basic financial services. Anecdotal information we gathered suggest that access to VSLA financial services is helping members in coping with economic dislocations caused by COVID-19.
- We helped create 3 iMPAs and five more are in the pipeline, which we are aiming to legitimise within 2-3 months after lifting of COVID-19 quarantine. The iMPAs have diverse habitat composition, improving their resilience. The three established iMPAs have total mangrove forests of 22 ha. and the five proposed have 137 ha. of mangroves, all proposed for inclusion in no-take zones. We will build local capacities to rehabilitate these mangroves using community-based approaches developed and employed in previous Darwin grant. Mangroves enhance resilience of fishing communities through coastal greenbelts that protect them from strong winds, waves, and surges (documented in scientific research with grant 21-010 Duncan et al., 2016 doi: 10.1016/j.marpolbul.2016.05.049).

G8.10 [Strengthen the capacity of domestic financial institutions to encourage and expand access to banking, insurance and financial services for all.]

- VSLAs help democratise access to basic financial services. This project has catalysed the formation of 20 new VSLAs, including six organized in Yr3. We are engaging a total of 61 VSLAs (41 pre-existing) in the two bay-scapes.

G12.2 [By 2030, achieve the sustainable management and efficient use of natural resources]

- The iMPA approach requires compliance to a set of standards, e.g. 400 ha. minimum total size, 200 ha. no-take zone, buffer zone as TURFs, managed fishing area, ecological seaweed farming zone (**Annex 21**), and coverage of at least two habitat types (**Annex 36**). Social inclusion and incentivisation of participation are key principles. Information and technical guidance in management planning assure formulation and adoption of science-based management plans. On top of these is the business model approach, which we are expecting to resource effective iMPA management in the long-term, freeing them from boom-and-bust cycles of conventionally designed and funded MPAs. Taken as a suit of strategies, these will promote sustainable and efficient use of coastal resources.
- Incentivising access to fishing grounds (e.g. buffer-TURFs zone and managed fishing areas) that benefit from the spill over from no-take zones promotes community appreciation on good enforcement and economic benefit from active participation (e.g. rights to fish in preferential use areas). The three established iMPA have total buffer and TURFs zones of 960 ha. and manage fishing areas of 684 ha.

G12.5 [By 2030, substantially reduce waste generation through prevention, reduction, recycling and reuse]

- Since our first year of operation, Net-Works has already collected 260 tons of used fishing from all collection sites in the Philippines.
- We exported a total of 234 tons of used fishing nets to Slovenia for recycling
- We did a pilot implementation of Bulk buying Action to reduce WASTe Plastics in the Ocean (BAWAS Plastic), which aims to reduce by 50% the products in single-use packs/wraps being bought by community members by increasing the amount/volume of products in bulk and more readily recyclable packaging. (**Annex 39**). Pilot implementation involved three VSLAs and we are now planning to replicate the scheme in more sites.
- The Trash for Health (T4H) scheme we piloted in Concepcion, Iloilo continues. T4H incentivises collection and proper management of residual wastes at the village level by prioritising *barangays* and households that participate in the scheme.

G13.1 [Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries]

- 61 VSLAs provide vulnerable coastal families with access to basic financial services and social funds.
- We have designed iMPAs to be habitat inclusive. The three established and five proposed iMPAs are much bigger and all have mangrove and seagrass habitats (**Annex 36**). This represents a significant improvement from the majority of MPAs across the country, which are small (12 ha. average NTZ) and dominantly coral reefs.
- The iMPAs we have helped established are recognized by local government unit partners as disaster preparedness interventions. Well protected mangroves provide greenbelts to coastal settlements, shielding them from strong winds, waves, and storm surges.

G14.1 [By 2025, prevent and significantly reduce marine pollution of all kinds, in particular from land-based activities, including marine debris and nutrient pollution]

- See G12.5
- Science has suggested the role of seaweeds in mitigating ocean acidification

G14 [Share of marine areas that are protected]

- We have established by end of Yr3 a total area of 2,521 ha. as iMPAs. The iMPAs include mangroves (22 ha.), seagrass (59 ha.) and coral reefs (85 ha.) as part of no-take zones.

G14 [Fraction of fish stocks overexploited and collapsed (by exclusive economic zone)]

- Spill over effect of iMPAs, effective enforcement in and around iMPAs, and managed fishing inside iMPAs are intended to at least stabilize fishing efforts, preventing further depletion and collapse.

G14.2 [By 2020, sustainably manage and protect marine and coastal ecosystems to avoid significant adverse impacts, including by strengthening their resilience, and take action for their restoration]

- See G12.2 and G13.1

G14.4 [By 2020, effectively regulate harvesting and end overfishing, illegal, unreported and unregulated fishing and destructive fishing practices and implement science-based management

plans, in order to restore fish stocks in the shortest time feasible, at least to levels that can produce maximum sustainable yield as determined by their biological characteristics]

- The iMPAs we catalysed have buffer zone-TURFS, managed fishing areas, and eco-seaweed farming zones. Total buffer zones and managed fishing areas have increased to 1,664 ha. by end of Yr3, with the legal declaration of a third iMPA.
- The USAID-funded Fish Right project, which ZSL is an implementing partner, promotes right-sizing in fisheries. It employs fisheries research, science-based and ecosystem level fisheries management planning, partnership, tapping of local champions, and capability building. ZSL has been involved in ground activities to support these key strategies. ZSL views effectively-managed iMPAs as a fundamental right-sizing tool, stabilizing supply side through regeneration and eventually MPA spill over.
- We conducted two batches of fish warden training in Yr3 (**Annexes 37 & 38**) and provided them with essential enforcement assets, such as guardhouses, patrol boats, megaphones, binoculars, GPS gadget, flashlights, etc.
- ZSL is active in the Visayan Sea fisheries ecosystem level initiative of the Bureau of Fisheries and Aquatic Resources to put the Visayan Sea under a management regime that considers it as one fishery management unit.
- We signed a MOA with Oceana in Yr3 (**Annex 6**) formalising our collaborations in the following areas: MPAs, mangroves conservation, enforcement, and illegal fishing reporting.

G14.5 [By 2020, conserve at least 10 per cent of coastal and marine areas, consistent with national and international law and based on the best available scientific information]

- ZSL targets a total of eight iMPAs are established within the Darwin project duration. The average size of three iMPAs already established is 840 ha., which is 70 times bigger than the current average total size (16 ha.) of MPAs in the Philippines). iMPA no-take zones are 33 times bigger than the average size of MPAs across the country. Demonstrating that bigger and more habitat diverse MPAs are possible can provide new momentum for LGUs to meet legally mandated declaration of 15% of municipal waters as MPAs.

G14.a [Increase scientific knowledge, develop research capacity and transfer marine technology, taking into account the Intergovernmental Oceanographic Commission Criteria and Guidelines on the Transfer of Marine Technology, in order to improve ocean health and to enhance the contribution of marine biodiversity to the development of developing countries, in particular small island developing States and least developed countries]

- Standard biological surveys were conducted in sites in Concepcion-Ajuy and Talibon-Getafe bay-scapes, informing spatial planning/zonation and management planning.
- We are in negotiations with other groups for data sharing on long-term MPA datasets.
- We are aiming to finalize the iMPA toolkit, which includes sections on biophysical survey methods for coral reefs, seagrass, mangroves, and seahorse survey we are using.

G14.b [Provide access for small-scale artisanal fishers to marine resources and markets]

- We integrated TURFs zones, managed fishing areas, and eco-seaweed farming zones in the approved Tambaliza, Punta Buri, Salvacion-Malangabang, and 5 proposed iMPAs.
- Net-Works nets supply chain is accessible to all small fishers and we are now growing the seaweed supply chain commercially. A big international end-user of carrageenan extracted from seaweeds is partnering with us.
- We sent samples of seaweeds to the University of Technology – Sydney for lab test on potential bio-plastics application of their carrageenan extracts. Initial results have been very encouraging. If advanced, this may open a new market for seaweeds our partner communities will be producing.

5. Project support to the Conventions, Treaties or Agreements

This project is focused on contributing to national action plans and programs to support the country's achievement of the Convention on Biological Diversity, Aichi Biodiversity Targets and Sustainable Development Goals. The project includes strategies and approaches anchored on the broader framework of Integrated Coastal Management (ICM) implemented in Key Biodiversity Areas, including (i) supporting local populations to develop and implement remedial action in degraded areas where biological diversity has been reduced and rehabilitating degraded ecosystems; (ii) adopting measures to avoid or minimise adverse impacts on biological diversity (Articles 8 & 10). The Net-Works™ model also encourages the involvement of coastal communities in the management and benefit-sharing from the sustainable use of biological diversity (Article 8), and is

an economically and socially sound measure for incentivising conservation and sustainable use of components of biological diversity (Article 11). Net-Works™ is designed to support community-based protected areas, which can contribute to the protection targets under CBD only when they achieve scale. This is already demonstrated by the first three iMPA being two of the largest in the Philippines.

These strategies will contribute to the achievement of the Philippine Biodiversity Strategy and Action Plan 2014-2025 in contribution to achieving the Aichi Biodiversity Targets:

- Terrestrial Ecosystems, Priority Strategy 1- Protect and conserve existing natural habitats and pursue restoration of the functionality of degraded habitats (supporting Aichi Targets (AT) 1, 2,5,11,14,15,19)
- Terrestrial Ecosystems, Priority Strategy 3 – Conserve and protect natural ecosystems to improve the resilience of vulnerable communities (supporting AT 1,2,15,19)
- Aquatic Ecosystems (Freshwater/Marine), Priority Strategy 5- Implement habitat rehabilitation programs and strengthen collaboration among relevant agencies and stakeholders on land and water use, resource extraction, ecosystem restoration, law enforcement and sustainable livelihoods (supporting AT 1, 2, 5,6,10,11,15).

6. Project support to poverty alleviation

Seaweed farming employs labour in planting preparations. Each unit of farm employs at least for one day in each crop cycle 1-2 people to mount seedlings on crop lines. For every hectare that is subdivided into 8 units of 1/8-ha. farm lot, this means 8-16 people are hired to mount seedlings every planting season. For a site with fully developed 10-ha. eco-seaweed farming zone, this means 80-160 people are employed for at least a day during the planting season.

From Yr1-Yr3, we collected a total of 41.8 tons of nets from the two bay-scapes, providing £9,360 direct community income from a product with 0 value before Net-Works. The VSLAs earned at least P1.00 for every kilo of nets (and dried seaweeds) they buy from members and resell to Net-Works. The VSLAs as trading partners generated a total income share of around £670.00 from the 41.8 tons and part of it goes to the environmental funds.

Previous research (Hill et al., 2011) identified that risk was a key barrier that prevented fishers from diversifying their livelihood options e.g. starting seaweed farming. In Yr3, we facilitated insurance coverage of 22 seaweed by the Philippine Crop Insurance Corporation, which is implementing a subsidised insurance program that was opened to seaweed farmer about 3 years ago.

Millions of people in coastal communities in the Philippines are dependent on income from seaweed farming. However, despite increasing demand, seaweed production in the Philippines is falling as a result of inequitable and inefficient supply chains that prohibits R&D within the industry to reach seaweed producers. This means that old and tired varieties of seaweed are showing reduced growth rates, and this has recently been massively exacerbated by extended periods of higher than average sea surface temperatures. Even in parts of the world where seaweed farming has been introduced in recent years (e.g. the Western Indian Ocean) they are using old and imported cultivars. This means that the economic viability of seaweed farms is declining, driving people deeper into poverty and resulting in a return to fishing already overexploited fish stocks. Net-Works fills a critical gap in bridging between seaweed farmers and industry-level R&D. As a result, we have started rolling out technological innovations in seaweed farming methods, and have created an exciting partnership between industry and academia that really addresses some of these key concerns and delivers new seaweed cultivars, generated from local wild populations. Initial projections based on modelling from pilots demonstrate that these innovations will bring people above national poverty thresholds within 1 year of implementation.

7. Consideration of gender equality issues

We maintained a gender-balanced (i.e. 13 females & 13 males) project staffing in Yr3, with women represented in roles across leadership, technical, management and support roles. Meanwhile, VSLA membership increased to 1,380 and women membership increased from 81% in Yr2 to 87%. As indicated last year, VSLA is a key tool we have focused since Yr1 to engage women in the project. VSLAs are the main social infrastructure for generating buy for iMPAs, particularly the idea of creating habitat diverse and bigger MPAs. Whilst we still have an issue in increasing female participation within MPA Management Committees – that normally have membership defined by

office/position within local government units such as barangays (villages) and People's Organisations. Addressing democratic processes to deliver increased gender equality within barangay local government units is something that will take a long time to achieve. In order to increase the engagement of women in iMPA governance, we have linked VSLAs, that exhibit high female participation, to MMCs. The environment fund empowers the VSLAs to have a say and a role in governance, because VSLAs decide on whether and where their environment fund will be donated, and MMCs are accountable in how they spend this money.

We organized a total of 120 social marketing and community outreach activities in Yr3 in the two bay-scapes. Of the 2,831 local residents who participated, 1,564 (55%) were women. Of the 30 VSLA agents we trained and mentored, 93% are women. However, we need to improve women representation in iMPA management. Currently, average women membership in the management bodies only averaged 21%. We are elaborating the strategies and action plan how we will improve women participation in management in **Section 10** below.

8. Monitoring and evaluation

In Yr3, we reviewed the Project Logframe and identify needed adjustment in two statement of outputs and their respective indicators, which we communicated to Darwin for review and approval. The basis for this Yr3 reporting is the modified Logfram that Darwin approved. Detailed one-year operational plans are prepared based on the revised Project Logframe and implementation timetable at the onset of each financial year.

The yearly operational plans are the basis for preparing monthly sub-team and individual work plans. Sub-teams and individuals submit accomplishment reports based on approved monthly workplans. Team managers and project manager track progress of targets by reviewing the monthly reports. Progress of project implementation is reported quarterly to the senior management team of ZSL Philippines.

In 2017, the in-country Darwin project team with guidance from UK-based colleagues reviewed the indicators and monitoring system to ensure methodologies are standardised. This helped build consistency and capacity among the team and streamlined the number of indicators. Surshti Patel and Hazel Panes are tracking agreed indicators to agreed timelines e.g. VSLA indicators are submitted monthly, MPA biological monitoring annually. We have established templates for qualitative data and informal storytelling that have allowed us to generate a series of blogs that give more descriptive outcomes of the project e.g. <http://net-works.com/2017/04/26/net-works-community-banks-sag-young-savers-story/>

In Yr3, we conducted baseline (i.e. first survey after official declaration) biophysical survey in Tambaliza iMPA (**Annex 34**). We still need to do this also in Punta Buri and Salvacion-Malangabang iMPAs. Baseline biophysical surveys in the five iMPAs in the pipeline will most likely be undertaken after the grant period. Fish catch monitoring survey using a methodology we have adapted from a project partner will be done in Tambaliza iMPA in Yr4. We review and enhance the methodology and plan its roll out in the other iMPAs.

Baseline socio-economic survey was done in Handumon, Getafe and a repeat survey was done in Guindacpan, Talibon in Yr3 (**Annex 27**). Trash characterization, using photomapping method were undertaken in five iMPA sites in Yr3. We still need to plan and implement baseline socio-economic and trash mapping survey in Silagon, Ajuy; Igbon, Concepcion; and Jandayan Sur, Getafe.

9. Lessons learnt

What worked well:

- The legal declaration of Salvacion-Malangabang iMPA in Concepcion offers three key learning insight from last year. Firstly, the strongest stakeholder groups that can mobilised to champion protected area creation are the communities. Municipal fisheries in this part of central Philippines is replete with formidable commercial fishing interest (mostly involved in illegal fishing since current laws generally do not allow them to operate within municipal waters), well connected with local political families. However, politicians turn sensitive and calculating upon realising a critical mass is behind an altruistic agenda, such as MPA create, and often quick to invoke existing legal mandates (e.g. declaration of 15% of municipal waters as MPAs) and public interest as pretext to their siding with the masses. Secondly, if you have a municipal mayor who had made public pronouncement, he voluntarily divested family interest in fish trading to help

conserve fisheries resources for future generations, then you be assured of a strong support from the top local political leadership. Thirdly, simplification of complex science information into resource maps, such as colour coded habitat maps, and explaining complex marine science concepts, such as life-cycles, fecundity, spill over, etc, through animated videos or simple schematics really facilitates fast and easy understanding of the fundamental scientific basis of what we are promoting, i.e. big and habitat diverse MPAs.

- Sitting down with local government official to explore cost-sharing arrangement is often more productive than asking them to fund unilaterally essential support infrastructures, such as the guardhouses in Tambaliza and Punta Buri iMPAs. Cost-shares from local communities, especially from pooled VSLA environmental funds, are equally compelling in motivating local governments to commit funds and personnel. The local governments of Concepcion and Ajuy in Iloilo allocated £respectively, for iMPA guardhouse construction, on top of their annual budget commitments stipulated in the ordinances.
- We made good progress in tracking women participation in project activities. We have gender disaggregated data on participation in almost all activities we organised and implemented. Women participation is dominant (55%) in the 120 social marketing and community outreach activities carried out last year.
- Our partnership with the University of Technology-Sydney on bioplastic application of carrageenan extracted from two strains of seaweeds our assisted farmers are producing has been initially positive. They are also developing a technology that may enable community producers to extract carrageenan, thus creating significant value addition to their produce.
- One of biggest global end-users of carrageenan is committing market access and technical support to spur much-needed growth in our seaweed supply chain.
- We are in the homestretch of coming up with a model iMPA management plan. The final draft of the Tambaliza iMPA 5-year management plan (**Annex 9**) is closed to being officially adopted by LGU Concepcion. COVID-19 lock down has put on hold the approval process.

What didn't work well:

- The May 2019 national and local elections slowed down team momentum at the onset of Yr3. Local electoral campaigns started on March 29 until May 11, 2019. ZSL Philippines normally freezes on-site activities within the campaign period to avoid political branding of our conservation and development interventions. Some sites were also declared hotspots by our elections commissions and travel was only allowed after securing travel authorization.
- The May 2019 local elections resulted to local political leadership transitions, which meant we had to reboot practically everything, e.g. establish ties with new elected officials, refile draft ordinance, deal with new Coastal Resource Management Office personnel. For instance, the Salvacion-Malangabang ordinance was filed in the previous municipal council and with the assumption of a new legislature and mayor, we had to brief them on everything about the proposed iMPA and look for a new councillor to sponsor the ordinance. Personnel (e.g. CRM Officer) movement and sometimes retrenchment (e.g. asking courtesy resignation of all deputised fish wardens) can happen. While outcome of elections can make or break coastal resource management advocacy, it had one immediate and definite effect – it affected our team's productivity during the first quarter.
- With everyone hooked to the elections, one iMPA was left vulnerable to illegal fishing (commercial fishing inside municipal waters) activities. With candidates (especially the re-electionists) recognizing the political/electoral influence of commercial/illegal fishing interest, aspiring local officials shied away from coastal law enforcement issues.
- Politics intervening in community-based enforcement initiatives. Political patrons of apprehended illegal fishers who encroached into one iMPA were released after settlement (mostly not above board). This caused morale of local enforcement team to dwindle. Our new grant from the American Bar Association Role of Law Initiative has resources so we can build para-legal capacity within the management councils and set up support systems that are necessary to ensure successful case litigation.

- Women participation in iMPA management councils already formally created is low, relative to what is prescribed in the Magna Carta of Women (at least 40%) and our commitment (50) % to Darwin under this grant. MPA Management Committees normally have membership defined by office/position within local government units such as barangays (villages) and People's Organisations. Addressing democratic processes to deliver increased gender equality within barangay LGUs is something that will take a long time to achieve. In order to increase the engagement of women in iMPA governance, we have linked VSLAs, that exhibit high female participation, to MMCs. The environment fund empowers the VSLAs to have a say and a role in governance, because VSLAs decide on whether and where their environment fund will be donated, and MMCs are accountable in how they spend this money
- Seaweed production performance in Yr3 was very low, i.e. only 14 tons of fresh seaweeds. Farming was affected by extended period of warm sea surface temperatures, which induced a bleaching known as *ice-ice*, and a strong typhoon on the week of Christmas in 2019. Shortage in seedlings was a consequence, limiting our ability to scale despite increasing demand, seaweed production in the Philippines is falling as a result of inequitable and inefficient supply chains that prohibits R&D within the industry to reach seaweed producers. This means that old and tired varieties of seaweed are showing reduced growth rates, and this has recently been massively exacerbated by extended periods of higher than average sea surface temperatures. Even in parts of the world where seaweed farming has been introduced in recent years (e.g. the Western Indian Ocean) they are using old and imported cultivars. This means that the economic viability of seaweed farms is declining, driving people deeper into poverty and resulting in a return to fishing already overexploited fish stocks. Net-Works fills a critical gap in bridging between seaweed farmers and industry-level R&D. As a result, we have started rolling out technological innovations in seaweed farming methods, and have created an exciting partnership between industry and academia that really addresses some of these key concerns and delivers new seaweed cultivars, generated from local wild populations. Initial projections based on modelling from pilots demonstrate that these innovations will bring people above national poverty thresholds within 1 year of implementation.
- Delays in crop insurance claims processing/release. As mentioned earlier, the government-subsidised seaweed crop insurance was opened for the first time 2-3 years ago. That program was originally designed for rice and corn farmers. The crop insurance company does not have adequate staff with background in seaweed farming to conduct site damage assessment, which is the second step in the insurance claims process. None of the most recent insurance claims we assisted has been approved yet. This creates a problem for seaweed farmers. We have supported our participating seaweed farmers through this time by bridging this finance gap.
- Delays on certain seminal outputs, particularly enactment of iMPA ordinances, had domino effect on other grants in cost-sharing arrangement with this Darwin project. For instance, we can only move the Blue Nature Capital Financing Facility and Julius Baer Foundation approved budgets for guardhouses, patrol boats and MPA marker buoys after approval of municipal ordinances. The delay also had similar impact on the training plan.

If you had to do it again, what would you do differently?

- Consider site diversification (e.g. inclusion of other sites in target) right at the start.
- Reduced ambition and allowed greater degree of resources for R&D – especially within livelihood components. We have built very strong partnerships in industry and academia to help address the issues. We could not have predicted the scale of the productivity problems in 2019 that affected both the Philippines and Indonesia and led to significant supply chain problems for the industry. However, it may be prudent to reserve a greater budget for R&D to attempt to mitigate any problems as and when they arise. Having said that, we feel we have done a very good job at addressing those issues and pulling together resources and capacity to do so.

What recommendations would you make to others doing similar projects?

- Review timing of funding transitions, i.e. reduction of grant funds with anticipated income flow from income centres, incorporating results of continuing business plan review and adjustment, especially when income projections need to be modified.

- Aim for a more realistic site targeting, allowing for adequate time for full development of focal sites to jumpstart economic growth engines and serve as bright spots to hasten scaling later. We did not establish hundreds of VSLAs right away. We invested attention to a couple of VSLAs and brought them to full maturity to produce a proof of concept. Projects with weather-dependent economic activities (e.g. seaweed farming) will need to allocate enough time for incubation, especially when many of the target sites do not have history of doing the livelihood project is promoting.

How are you going to build this learning into the project and future plans?

- Distil learning for application in the new entity that is evolving out of Net-Works
- Incorporate site-level learning in the iMPAs in pipeline
- Incorporate the learning into the toolkit and in Tambaliza centre of learning knowledge products.

10. Actions taken in response to previous reviews (if applicable)

Reviewer of previous annual report requested us to address the following in the Yr3 report: The reduction from 50% female participation in the management of iMPAs to 30% should be justified, particularly given the argument that achieving gender equity is relatively easy in the Philippines. In addition, please clarify how the revised focus on three demonstration sites will affect the scope of impact under this project.

Our response: Achieving equal representation in MMCs (MPA Management Committees) and VSLAs has proven challenging and is something that we continue to struggle with. We have opted for a multi-prong strategy on this. It is worth recognising that there is a difference between gender equality and membership of particular bodies. It is well recognised by the United Nations (UN) that there may be differences in the roles that men and women play which is not the same as gender inequality. Governance is not gender equitable if it does not equally balance the voices and needs of men and women in the decision-making process or treat their needs equally or fairly. Representation at the MMC level does not mean that women's voices are failing to be heard, so we have attempted to strengthen the voice of women through other means. For this we have primarily focused on the building a strong linkage between the heavily female VSLAs and MMCs, with the MMCs effectively ending up in a position where they have to report to the VSLAs in order to secure funding support for their budget. In one of the most gender equitable countries in the world this has been fairly straightforward to achieve, as whilst men may play the "frontman" roles of households for example, it is well recognised that women control the purse strings in a household. It may not be so effective in countries with other cultural practices. We must be careful not to force people into playing roles that they have no wish to play, and that we respect the roles that people wish to play. Having said that, we do perceive a problem with the lower female representation on MMCs, and the lower male representation in VSLAs. Ultimately, MMC membership is defined through office/position within other groups (e.g. barangay-LGU positions, PO-positions), with the people filling those positions being decided through broader democratic processes. This gives us limited flexibility to influence these positions within the lifespan of a Darwin project. We have taken a strategic approach to boost women's voices through the VSLAs and linking them to governance of the iMPAs, which tend to be more popular amongst women than men, and over time we aim to redress this balance both at the VSLA level and at the iMPA Management Council level. Of course, it is not possible to guarantee exactly equal membership of everybody at all times, especially when those management bodies are limited in size. Indeed, it is impossible to achieve exactly 50% membership of either gender in a group size of 15, as we cannot have half a person. We aim for an average 50% membership across all iMPA Management Committees. Ideally, we would be able to ensure a minimum of 40% representation of either men or women within any of our groups, which is in line with the Magna Carta of Women (Republic Act 9710). We are actively working with LGUs to insert this provision within each of the draft ordinances for: Silagon, Ajuy, Igbon, Concepcion; Guindacpan, Talibon, Handumon and Jandayan in Getafe. For iMPAs with enacted ordinances (Tambaliza, Punta Buri and Salvacion-Malangabang), we are working with mayor's offices and recommend compliance to the Magna Carta of Women by ensuring 40% women in the reorganization of the councils.

We will also organize discussions with the management councils how to ensure quality of women participation in management, despite currently low representation.

11. Other comments on progress not covered elsewhere

None.

12. Sustainability and legacy

Sustainability

ZSL is spinning Net-Works out into a separate legal entity that will allow us to break donor dependence and achieve financial sustainability. The new legal entity will be established in Q1 of Yr4 under the name of COAST 4Cs. With inputs from legal and business experts and senior project team members, we are finalizing the organisational set up for Phase 1 of the spin out plan. Revenues from the sale of commodities will sustain a core team (i.e. hub manager, 2-3 community organizers, supply chain manager) for each hub. We are finalizing the iMPA toolkit, a compendium of instructional materials and relevant knowledge products to be used in training and provision of technical support to the team, communities, and key partners. An Impact and Standards unit will be created to plan and deliver training and technical support and regularly upgrade our training resources by integrating learning and insights drawn out from practice.

Seaweed farming provides the strongest business model opportunity. From the end of 2018 through to early 2020 seaweed farming across the Philippines has suffered a significant down-turn in production due to a combination of two overlapping factors: (1) Seaweed farmers using old and varieties of seaweed that have been vegetatively propagated for many decades. New cultivars should be generated from wild stocks every few years to maintain productivity. The problem for seaweed farming as an industry is that despite continued demand for seaweed, there is no linkage between industry and small-scale producers. This is a result of convoluted and opaque supply chains, which prevents R&D for new cultivars to reach seaweed farmers; (2) extended higher than average sea surface temperatures dramatically exacerbated this long-term decline in productivity and led to widespread problems with a disease called *ice-ice* – involving bleaching of the seaweeds. This kills the seaweed and reduces the carrageenan content. These factors threaten the existing livelihoods of millions of people living in small-scale coastal communities, including many of our own beneficiaries.

Net-Works plays a unique role in being able to provide a more direct link from industry and researchers working on new varieties of seaweed directly to seaweed farmers themselves. Additionally, we are able to disseminate innovations within seaweed farming practices that enable adaption to changing climatic conditions. As a result, we have established some strong and very exciting partnerships with industry and academia (currently under NDA). We have already started the process of piloting promising seaweed farming methods that should increase productivity of existing strains and reduce the impact of climate change, although roll out has been hampered by COVID-19. Additionally, we are involved in a joint research initiative that will see us receiving new cultivars from local wild populations within the next few months (COVID-19 dependent) for distribution to our seaweed farmers. Whilst it will take some time to scale these fresh sources of seaweed and the methods, we anticipate a rapid increase in seaweed production amongst our participating seaweed farmers as a result of this initiative

Legacy

Our work on ecological seaweed farming and its financial linkage to sustainable financing of MPA was presented at 3rd International Seaweed Symposium in Jeju Island, South Korea. We also made high level presentations of the iMPA approach in Yr3, including the presentations at Philippines Climate Change Commission and director of the DA-BFAR. Our work in Bohol was also filmed by a big Chinese television network, which is running a popular program in mainland China. Under the ProCoast Project, we are working with GIZ and DENR to promote the iMPA approach in more by setting Tambaliza iMPA as centre of learning.

There is clear evidence of the demand for the role that we play in aggregating seaweed farmers and linking them to R&D within industry and academia. This is evidenced by the development of some key partnerships and our inclusion in joint funding applications that will see us as a recipient and distributor of key seaweed farming technology. At this stage these partnerships are under NDA, and more should be announced over the coming year.

13. Darwin identity

The Darwin logo and UK Aid logo has been clearly displayed on all presentations that we have given (See section 12 and Annex 27). Additionally, Darwin Initiative support is referenced in a recently submitted paper that draws on information generated from a range of projects, including this one.

The Darwin Initiative identity and logo features in ZSL's website project pages and Net-Works website (see list below). The project also has a social media presence and has been publicised through both personal twitter accounts; @ZSLMarine (9,764 followers); @FishNotPlastic (2,397 followers) and re-posted via @OfficialZSL (32.9k followers) which tags the Darwin Initiative in relevant posts, as well as the Facebook pages of ZSL Marine and Freshwater and Net-Works and ZSL Mangrove and Beach Forest Rehabilitation and Conservation. The Darwin logo/identity is displayed on the following websites:

- Net-Works website <http://net-works.com/about-net-works/partners/>
- ZSL website Net-Works project page <https://www.zsl.org/conservation/regions/asia/net-works>
- ZSL website Philippines Mangroves page <https://www.zsl.org/conservation/regions/asia/rehabilitating-mangroves-in-the-philippines>

14. Safeguarding

Please see *Annex 40*.

15. Project expenditure

Table 1: Project expenditure during the reporting period (1 April 2019 – 31 March 2020)

Highlight any agreed changes to the budget and **fully** explain any variation in expenditure where

Project spend (indicative) since last annual report	2019/20 Grant (£)	2019/20 Total Darwin Costs (£)	Variance %	Comments (please explain significant variances)
Staff costs (see below)				
Consultancy costs				
Overhead Costs				
Travel and subsistence				
Operating Costs				
Capital items (see below)				
Monitoring & Evaluation (M&E)				
Others (see below)				
TOTAL				

this is +/- 10% of the budget. Have these changes been discussed with and approved by Darwin?

Annex 1: Report of progress and achievements against Logical Framework for Financial Year 2019-2020

Project summary	Measurable Indicators	Progress and Achievements in 19/20	Actions required/planned for next period
<p>Impact: Community-based marine protection in the Philippines enhances resilience to natural disasters while helping meet national targets (15%), fully sustained through business models, reducing donor dependency and building sustainability.</p>	<p>(Max 30 words)</p>	<ul style="list-style-type: none"> • 8 iMPAs in two bay-scapes selected after biophysical assessments, stakeholder consultations and agreement, and considering the role of site diversity in the economic resilience of seaweed farming. By end of Yr3, three iMPAs are already legally established with enactment of municipal ordinances. Three proposed iMPAs already endorsed by communities and key stakeholders and ready for municipal council deliberations and the other two are in advance stage of participatory spatial planning. • All sites will have at least 200-ha. no-take zones, a significant leap from current average size (12 ha.) of MPAs in the Philippines. The three legally established iMPA have average no-take zones of 286 ha. • All sites will cover at least three habitat types • All sites will have ecological seaweed farming zone of at least 10 ha. The three legally 	

		<p>established iMPA have average of 20 ha. of seaweed farming zones.</p> <ul style="list-style-type: none"> • While seaweed farming still needs to scale, all sites have potentials for ecological seaweed farming • The plan to spin out Net-Works into a new entity has been approved by ZSL. This progression will enable us to grow our commercial capacity and take on impact investment in order to scale the number of iMPAs and impact post-Darwin project. 	
<p>Outcome: (Max 30 words)</p> <p>Community-based conservation effectively protects 15% of bay-scape waters in two pilot bay areas (thereby meeting national and CBD targets), fully sustained by a diversified Net-Works business model that enhances socio-ecological resilience and reduces dependence on donor funding.</p>	<p>0.1 Implement eight (8) iMPAs, each of minimum 400 ha, totalling 15% of bay-scape waters (out to 3km) by Yr 4 (minimum of 5,800ha protected, including at least 1,800 ha of no-take zone).</p>	<ul style="list-style-type: none"> • Three of (3) of eight (8) iMPAs we are focusing were legally established by end of Yr3, with municipal ordinance of the 3rd site (Salvacion-Malangabang) approved on 10 Feb. 2020. (Annex 30). These 3 iMPAs have average size of 840 ha. and average of NTZ size of 286 ha. Total area covered by the 3 iMPAs is equivalent to 82% of estimated 15% of Concepcion-Ajuy bay-scape waters. • Spatial plans of 3 proposed new iMPAs in Silagon, Ajuy in Iloilo Guindacpan, Talibon, and Handumon, Getafe in Bohol have been endorsed by communities and draft ordinances submitted to municipal councils. (Annexes 13, 14, & 15). Before COVID-19, we were aiming for April 2020 enactment of the three ordinances. Average total size of 	

	<p>0.2 Halt or reverse declines in key marine species and habitats (mangroves, seagrasses, coral reefs and indicator invertebrate/fish species) within three bay-scapes by Yr 4, having established baselines at new sites by Year 2.</p> <p>0.3 Set baselines in Yr1 through survey of stratified selection of households and achieve an average 20% improvement in locally-defined household wellbeing indicators (including subjective, material style of life, income and food security) by Yr4 (n=25,000 households total, min of 500 sampled in stratified selection)</p>	<p>these 3 iMPAs is 778 ha, with average NTZ size of 229 ha.</p> <ul style="list-style-type: none"> • The two others proposed iMPAs (Igbon, Concepcion, Iloilo and Jandayan Sur, Getafe, Bohol) are in spatial planning phase. (Annex 21). Before COVID-19, we were aiming for a Jun-July 2020 enactment of their ordinances. • Our field biologists conducted the first (baseline) standard biophysical surveys in Tambaliza iMPA a year after its legal creation. The May 2019 elections and assumption of new local officials contributed to the delay. Our team of biologists prioritized conduct of habitat surveys to inform spatial planning, putting on the sideline this baseline surveys. The surveys covered mangrove, seagrass and coral reef assessments. Coral reef assessments employed photo quadrat surveys, habitat rugosity, and underwater fish visual census. (Annex 34) • Baseline socio-economic surveys were conducted in Punta Buri, Ajuy and Salvacion-Malangabang, and Tambaliza in Concepcion, as reported last year. In Yr3, we conducted socio-economic surveys in Handumon, Getafe (baseline) and in Guindacpan, Talibon (repeat). Baseline survey was done in Guindacpan in 2016 under another project. Interim data 	
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	<p>0.4 Livelihoods diversified from an average of 2.0 occupations per household in Yr 1 to 2.5 in Yr 4 (n=25,000)</p>	<p>analyses were done. We still need to undertake socio-economic baseline surveys in 3 target iMPA sites (Silagon, Ajuy; Igbon, Concepcion; and Jandayan Sur, Getafe).</p> <ul style="list-style-type: none"> • 61 ha. have been legally designed as ecological seaweed farming zones in three legally declared iMPAs. Around 480 fishing families can do seaweed farming in this area. The three proposed iMPAs already submitted to the municipal councils for deliberation and approval have a total eco-seaweed farming zones of 111 ha. Around 880 fishing families can engage in seaweed farming in this area. We trained a total of 79 local fishers in seaweed farming by end of Yr3. We provided a total of £16,070 in production assistance to 22 seaweed farmers in Iloilo and Bohol. Unfortunately, farming was affected by prolonged period of warm sea temperature (which induced bleaching or <i>ice-ice</i>) and a strong typhoon in December 2019. We are currently working with a panel of experts from industry (Cargill) and academia (University of Philippines – Marine Science Institute) to pilot seaweed methods that are more resilient to these higher sea surface temperatures and to source new varieties of seaweed 	
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	<p>0.5 Business model from the diversified Net-Works business model supporting a small local team of Community Organisers and Biologists by Yr 4 to sustain community-based conservation activities and the supply chains, as reflected in Darwin budget.</p>	<p>that exhibit stronger growth under these climatic conditions.</p> <p>We are working hard towards this goal. The problems that have been experienced across the Philippines with higher sea surface temperatures affecting the growth of old and tired strains of seaweed that have been vegetatively propagated for many decades means that the priority at this stage must be to help shift seaweed farmers to more resilient seaweed farming practices (such as deep water farming using tube nets), and to source fresh varieties of seaweed that exhibit higher productivity under the higher sea surface temperatures. We have developed a panel of experts to help us achieve this that we are linking directly to our participating seaweed farmers. We anticipated trials of new methods starting in year 3, however these plans have been impacted by coronavirus. We are able to make some limited progress in some sites with a subset of the new methods, but it is unclear at present when we can start the full-scale pilot and transitions. We are still aiming to do so ahead of the key growing season (from July onwards), in which case it should put us in a strong position for this goal. Additionally, ZSL is in the process</p>	<p>Before the COVID 19 lock down declarations, we were all set up to do deep seaweed farming commercial trials. A group has been piloting deep seaweed farming and results have been very promising. Once the quarantine declarations and fieldwork travels have been lifted, we will immediately implement new deep-sea cultivation systems for seaweeds.</p>
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		<p>of spinning Net-Works out as a separate legal entity called COAST that can act as a self-sustaining business, and we have secured additional support from the private sector to help achieve this goal.</p>	
<p>Outputs:</p> <p>1. Effective community-based management of eight iMPAs across the two bay-scapes:</p> <ul style="list-style-type: none"> ▪ Pedada and Ajuy Bay, Iloilo Province linked to Concepcion Bay and Concepcion Islands, Iloilo (2 LGUs - Pedada and Ajuy) ▪ Getafe and Talibon Bay, Bohol Province. ▪ 	<p>1.1 Free Prior Informed Consent (FPIC) obtained from all relevant municipal local governments by Yr 1, as a measure of community support and engagement.</p> <p>1.2 Village (barangay) profiles completed using Rapid Rural Appraisal approaches by Yr 1 that establish resource management needs and capacity at each site.</p> <p>1.3 Exchange visits completed to existing iMPAs within each bay-scape by Yr 1 to enthuse and educate community champions and provide practical demonstration of conservation interventions.</p> <p>1.4 Appropriate governance structures for eight iMPAs (defined by municipal ordinances) with equitable membership (at least 50% women, and</p>	<p>As reported in Yr2, ZSL has memoranda of agreement with the municipalities of Concepcion and Ajuy, Iloilo. We are currently processing ZSL accreditation with the LGUs of Talibon and Getafe in Bohol LGUs in preparation for partnership formalization through MOA. The Local Government Code of 1991 requires NGOs to seek accreditation to be qualified to participate in local development bodies and when an NGO is aiming to formalize the partnership through a MOA.</p> <p>Village profiles were completed and reported in Yr 1 annual report.</p> <p>iMPA learning visit and a roundtable discussion on IMPA were reported in our Yr 2 annual report.</p> <p>We reported in Yr 2 that the management council of Tambaliza iMPA was formally created through an executive order issued by the</p>	<p>Invoke Magna Carta of Women provision (at least 40% women representation) when Tambaliza, Salvacion-Malangabang, and Punta</p>

	<p>representing major social groups within each community) established or strengthened and meeting at least monthly by Yr3.</p>	<p>mayor of Concepcion. The MPA Management Council of Puta Buri iMPA was formally created in April 2019 through Executive Order No. 15, Series of 2019 (Annex 7). The MPA Management Council of the newly-declared Salvacion-Malangabang iMPA was also formally created in March 2020 through Executive Order No. 18, Series of 2020 (Annex 8). Management bodies of the three legally declared iMPAs are multisectoral in composition as defined in their approved ordinances. Fishers' organizations are represented in the councils. However, women representation in management councils needs improvement in relation to the 50% membership specified under this indicator and what is stipulated in Philippine Magna Carta of Women or Republic Act 9710. Of the three approved ordinances, only Punta Buri iMPA ordinance specifies "at least 30% women" representation. The Salvacion-Malangabang ordinance indicates "Women representation and participation in the management of the MPA will be ensured and enjoined" but does not indicate a percentage. The Tambaliza ordinance does not mention women representation in the ordinance. Interestingly, actual average women membership in the management councils is 24%, with Punta Buri registering the highest at 33%. Tambaliza and Salvacion-Malangabang have 27% and 12%</p>	<p>Buri management councils will be reorganized. Integrate a provision indicating at least 40% women representation the in the management councils of the five iMPAs that are in the legislative pipeline.</p>
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	<p>1.5 Participatory site selection for eight iMPAs and municipal ordinances obtained for these by Yr 2, with total area equating to 15% of bay-scape waters.</p>	<p>women representation, respectively. Women have overwhelming membership dominance in VSLAs, most of which are committed to donating their environmental funds to the management councils. If guided well, women in these communities use their “donor” character as leverage for ensuring integration of women interests in the management of the iMPAs.</p> <p>Selection of final eight iMPA sites (including three sites in Bohol) adhered to participatory and consultative processes. For instance, site scoping, resource use mapping and spatial planning employed participatory techniques. Ordinance formulation was led by multisectoral technical working groups, which presented draft zonation plans and draft ordinances to communities for review and approval.</p> <p>By end of Yr3, 82% (2,521 ha.) of the estimated 15% of Concepcion-Ajuy bay-scape waters have already been declared iMPA. None (0%) of the estimated 15% of bay-scape waters (1,764 ha.) in Talibon-Getafe has been legally declared iMPAs – but 2 draft ordinances have been submitted to municipal councils for deliberation and approval. (Annexes 14 & 15). Ordinance deliberation and approval have been delayed by COVID 19 lock down declarations. But we are expecting approval of three of the five iMPA ordinances in the pipeline once right after quarantine measures have</p>	
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	<p>1.6 One iMPA social network composed of local People’s Organization POs/MPA Management Councils (MMCs), and VSLAs established and meeting bi-annually in each bay-scape for experience sharing and cooperation by Yr 2. At least 50% women participating in decision making in the social network.</p> <p>1.7 All iMPAs pass the criteria for Philippines MPA Effectiveness Assessment Tool (MEAT) level 1 (“MPA is established – with participatory process, adoption of management plan, and appropriate legislations and governance) by Yr 2 and MEAT level 2 (“MPA management is effectively strengthened”) achieved in all iMPAs by Yr 4, from level 0 or 1 and on track for level 3 (which can only be achieved after 5 years of operation).</p>	<p>been lifted. By end of Yr4, we are anticipating a modest excess accomplishment (119%) in the size of bay-scapes waters covered by iMPAs.</p> <p>As reported in Yr2, we organized a learning visit to Tambaliza iMPA and convened a roundtable discussion on iMPA to create a venue for peer-to-peer learning interactions. We also organized joint training among management council members from different iMPA sites. The two Advanced Fishery Law Enforcement and Enhancement Training we organized in Year 3 were joint training events, also providing fora for exchanging insights and good practices in enforcement.</p> <p>None of the established iMPAs have been subjected to MPA MEAT ratings since all of them are still very young. Instead, we are using the MPA MEAT assessment tool as interventions planning guide. MPA MEAT threshold indicators have been considered also in management plan formulation. The 5-year management plan of Tambaliza iMPA is ready for approval by the municipal council and mayor of Concepcion (Annex 9). The ₱3,190 annual budget from the local government of Concepcion for Tambaliza can only be accessed when the management plan is officially adopted. Formulation of the 5-year management plan of Punta Buri iMPA would have already been finalized, if not for the COVID 19 lock</p>	
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	<p>1.8 15 VSLAs (see output 3) contributing their environment funds to appropriate management committees and management committees leverage funds from municipal LGUs to sustain management activities by Yr 2.</p> <p>1.9 Social marketing campaign delivered across each bay-scape by Yr 2 with baseline set in Yr 1 and willingness to pay for community-based marine conservation increased 50% by Yr 4 (or to minimum of PhP100 p.a. where baseline is PhP0) – indicating increased support for conservation due to pro-poor design and successful social marketing.</p>	<p>down declarations, which prohibits community meetings and fieldwork by our field staff. (Annex 10)</p> <p>Total new VSLAs organized under project since Yr1 is now 20 (7 in Yr1, 7 in Yr2 and 6 in Yr3). By end of Yr3, we engaged a total of 61 (41 were pre-existing) VSLAs in the two bay-scapes. All partner VSLAs contribute to their environment funds. Total environment fund balance currently available from the 61 VSLAs is £1,306. Most VSLAs spend their environmental funds for group agreed environmental campaigns, particularly as beach cleanups. Tambaliza VSLAs pooled in their environmental funds to procure a small patrol boat the iMPA enforcers.</p> <p>A total of 120 social marketing and community outreach activities were undertaken in two bay-scapes in Yr 3. Based on our records of attendance, 2,831 community members were involved in these activities. Women participation was dominant (55%) in these activities. We also designed and produced a total of 370 iMPA social marketing collaterals, which included iMPA brochures, eco-bags, t-shirts for MPA management councils, raincoats for deputized fish wardens. See Annex 35. About 1,380 members in 61 VSLAs contribute (PhP2) weekly to their environmental funds.</p> <p>So far we have submitted a discussion paper that builds on some</p>	
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	<p>1.10 Peer reviewed paper submitted for publication on ecological impacts of project's iMPAs by Yr 4.</p>	<p>of our experiences and data around plastic pollution and MPAs and draws on the literature, entitled : <i>“Marine plastic pollution and marginalized small-scale fishing communities in Southeast Asia - a practical perspective on the need for more fish and less plastic.”</i></p>	
<p>2. Integrated Territorial Use Rights for Fisheries (TURFs) introduced within iMPAs (creating TURF-reserves or replenishment zones) in two bay-scapes to align fishers' incentives with sustainability and MPA management.</p>	<p>2.1 Buffer zones and managed fishing areas around iMPAs identified and established as part of iMPA ordinances and planning by Yr 2, of at least the same size (200ha) as the no-take zone at eight iMPAs sites.</p> <p>2.2 Rules on who can use these buffer zones and how, under what conditions, any benefit sharing arrangements, and how this is enforced included in appropriate management plans by Yr 2 and being implemented by Yr 3.</p> <p>2.3 Appropriate iMPA guardhouses designed to include opportunities to improve fisheries operations (e.g. seaweed drying platforms) by Yr 2 and implemented by Yr 3.</p>	<p>Within Yr3, Salvacion-Malangabang in Concepcion, Iloilo was the third iMPA to be legally declared. This iMPA has the biggest no-take zone (428 ha.), 325 ha. buffer zone and 137 ha. regulated use zone. (Annex 30). The five iMPAs in the pipeline have average buffer zones of 74 ha. and average managed fishing areas of 344 ha – giving a total of 418 ha – more than twice the targeted area for these zones within the iMPAs. (Annex 21)</p> <p>Buffer zones are also the Territorial Use Rights for Fisheries or TURFs zones of the iMPAs. Regulating access to these zones are defined in the municipal ordinances. Finalisation of implementing rules and regulations (which come after ordinance approval) and testing of implementation underway, with lessons for other iMPA sites.</p> <p>We have adopted a standard building plan and cost estimate for MPA guardhouses, with seaweed drying platform. (Annex 18). Actual construction of dual-purpose guardhouses commenced in February 2020 – a bit later than</p>	<p>Complete the process of formulating implementing rules and regulations we are piloting in Tambaliza and learn from it for possible replication in other iMPA sites.</p>

	<p>2.4 Participation in iMPA management (number of people participating in patrols, attendance at monthly management committee meetings, proportion of apprehensions resulting in prosecutions) established at a minimum of 50% by Yr 2 and maintained >90% of capacity by</p>	<p>planned due to the impact of typhoons in 2019 (Annex 19). Work has stopped because of COVID 19 lock down declarations. In Yr2, we reported that we accessed resources from the Waterloo Foundation and National Geographic Society to support guardhouse construction. We were able to leverage these funds to secure cost-shares from local government units. The municipal governments of Concepcion and Ajuy, Iloilo made contributions for the Tambaliza (£798) and Punta Buri (£1,596) guardhouses, respectively. In Yr 2, we reported that we accessed seed funds from Waterloo Foundation and National Geographic Society for the guardhouses. We were able to access additional funds from the IUNCN Blue Nature Capital Financing Facility, the Julius Baer Foundation, and small grants from the German Embassy, American Bar Association – Role of Law Initiative for guardhouses, marker buoys, patrol boats and essential communication equipment</p> <p>Total (including village non-residents) MPA management council membership and trained fish wardens in three legally established iMPAs is 187, where average women membership of MMCs is 21%. (Annex 25). Total number of local residents in the councils and trained as fish wardens is 164, representing 87% of the membership. We trained a total of 68 fishers in 4 iMPA sites (1</p>	
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	<p>Yr 4, including increasing # women fish/forest wardens in communities.</p> <p>2.5 Perceptions surveys and participatory CPUE surveys in Yr 4 indicate that fishers perceive increased CPUE in the buffer zones and sustainable use areas between the baseline set in the year that the ordinance is approved and year 4.</p>	<p>still proposed) as fish wardens. Thirty-seven of them who are from Tambaliza and Punta Buri are already deputized (Annex 41) Close to a third (31%) of the local fish wardens we trained are women. A total of 2,831 local residents (55% women) participated in various planning and outreach activities we implemented in Yr3. Seventy-eight people are involved in TWGs of proposed iMPAs. There are 1,380 people involved in iMPA management through VSLAs – contributing to the environment fund that supports iMPA implementation. Our running count of the number of local residents involved as council members and fish wardens (164), TWG members (78), community outreach and training participants (2,831) and environmental fund contributors (1,380) is 4,476. This is equivalent to more than a quarter (26%) of the total population (2015 census data) in the 8 sites.</p> <p>As detailed in the most recent change request, the CPUE method proved too costly and unreliable for us to implement, compelling us to modify the method by adopting participatory approaches (i.e. training and mobilizing locals as volunteer field enumerators). We will also be conducting perception surveys alongside participatory CPUE surveys. (Annex 22). These were planned for implementation starting this May, but will definitely be</p>	<p>Finalize the survey design and implement field surveys once COVID 19 travel restrictions will have been lifted.</p>
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		delayed since the earliest tentative COVID quarantine declaration lifting is on May 15 th	
<p>3. Diversified Net-Works business model supports environmental management and biodiversity conservation, and clears up marine debris.</p>	<p>3.1 15 VSLAs with environment pouch contributing funds to support iMPA management by Yr1.</p> <p>3.2 15 Village agents (one per barangay) trained and replicating VSLAs from the parent VSLA by Yr2. At least 50% women trained as village agents.</p> <p>3.3 All VSLAs collecting discarded fishing nets and selling them into the supply chain by Yr 2.</p> <p>3.4 24 families trained and actively farming 6ha of seaweed per community for 7 communities by</p>	<p>The 20 new VSLAs we catalysed through this project all contribute to environmental funds. All 41 pre-existing VSLAs we are engaging also contribute their environmental funds.</p> <p>We trained and mentored a total of 30 VSLA agents in these two bay-scapes (16 in Concepcion-Ajuy and 14 in Talibon-Getafe). Ninety-three percent (93%) of village agents are women. Currently, 18 (60%) agents are active. Across all sites, we have at least 2 active agents per iMPA site.</p> <p>Buying of discarded fishing nets is implemented in a total of 8 villages in the two bay-scapes. A total of 8 VSLAs (or 1 in each village) are set up to be the trading arms. All members of existing VSLAs in these 8 villages can sell discarded fishing nets to their respective VSLA trading partner. From April 2019 – March 2020, we collected a total of 12.3 metric tonnes of used fishing nets from our northern Iloilo and Bohol sites and exported 10.4 metric tonnes to Slovenia</p> <p>Total number of local fishers (representing 1 household each) we trained in ecological seaweed farming in six (6) communities was</p>	

	<p>Yr2 following social and environmental criteria and meeting standards.</p> <p>3.5 A minimum of 30 families farming a minimum of 6ha of seaweed per iMPA (total of 8) by Yr4, generating 600 tonnes of dry seaweed p.a. that meets standards for Net-Works Social and Environmental criteria and supports iMPAs.</p>	<p>79 by end of Yr3 in the two bay-scapes. Twenty-two (22) of those trained received production assistance after their training. Total value of seaweed production support we provided amounted to £16,070. Estimated total farming area is 4.3 ha. Unfortunately, all farmers were affected by extended warm sea surface temperature (which induced <i>ice-ice</i> or bleaching) and a typhoon in December 2019, which limited the extent of assistance we provided as we attempted to help people through these difficult times. Additionally, we are now focused on developing more resilient methods and developing a pipeline of improved seaweed strains in order to strengthen seaweed farming and ensure sustainability for participants. This is critical to ensure that seaweed farmers do not find themselves in a position of debt.</p> <p>Prolonged high sea surface temperature, which induced bleaching or ice-ice, and typhoons have had a major impact on seaweed farming across the Philippines in 2018/2019/2020. Whilst academics and industry are involved in some research to find new methods and new seaweed strains that show higher productivity and greter climate resilience, to date none of these initiatives have been linked to seaweed farmers.</p>	
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	<p>3.6 At least 50% of VSLAs producing and selling seaweed and nylon nets into the supply chain by Yr3,</p>	<p>We have now changed this and created a panel of experts that brings together the relevant expertise, with Net-Works acting as the link between the experts and seaweed farmers. As a result, we are now set to pilot tubenet and deeper water seaweed farming techniques that have been demonstrated to increase productivity. Additionally, we are involved in a joint application with Universit of the Philippines Marine Science Institute and Cargill that will see us supplied with new seaweed strains exhibiting higher growth rates and greater temperature rsilience as early as soon as October. If all goes well, the combination of these activities will see a surge in the saweed production of our participating seaweed farmers. However, the pilots of the new methods have been delayed by coronavirus, and the level of production that we see by the end of year 4 will be very much determined by the length of the coronavirus lockdowns. If pilots go well ahea of July and we are able to secure additional funding to roll this out faster to our participants by the peak growing season of October then we may anticipate getting close to the targeted figure. See also updates in #3.4.</p> <p>See updates in #3.3 for our tracking on the number of VLSAs</p>	
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	<p>with 100% selling both products by Yr4.</p> <p>3.7 Total of 100 tonnes of ocean-bound plastics (including nets and other materials) diverted into the supply chain from the two bay-scapes by Yr 4.</p> <p>3.8 Proportion of beach quadrats with plastics present reduced from 60% to 40% by Yr 4 at all sites.</p>	<p>linked to the used fishing nets supply chains.</p> <p>Eight (8) VSLAs are site-based business partners in the used fishing nets buying in the two bay-scapes. Not all VSLAs can engage in buying since you need to trade in volume to make it economically viable as a group enterprise. But, all members of existing partner VSLAs (61) can sell used nets to their respective nets buying VSLA. So far, five communities are engaged in eco-seaweed farming. Seven VSLAs are buying dried seaweeds from</p> <p>We collected a total of 12,340 kg. of discarded fishing nets from Net-Works northern Iloilo (748 kg.) and Bohol (11,593 kg.) sites in FY3. In September 2019, we exported a total of 10.4 tons of nets to recycling facility of Aquafil in Slovenia. See <i>also</i> 3.4.</p> <p>From 2017-2020, total nets exported from all Net-Works collection sites in the Philippines already totaled 144.3 tons, of which 41.8 tons were collected from the two bay-scapes covered by the Darwin project.</p> <p>Trash mapping surveys were done in 6 communities in the two bay-scapes. (See Annex 27.) Our initial data analysis suggests increases in % quadrats with plastics in Salvacion (4% in 2018 to 35% in 2019) and in Malangabang (16% in</p>	
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		<p>2018 to 46.5% in 2019). Stability was observed in Tambaliza (54% in 2018 to 55.6% in 2019) and Punta Buri (40.7% in 2018 to 41.3% in 2019). In Guindacpan, where we observed a decrease from 81.5% in 2016 to 57.3% in 2019. We are verifying if these changes were driven by seasonal shifts in wind direction. A decrease in nets % composition in Tambaliza, but an increase in net composition in Guindacpan were also observed. See Annex 28. Wrappers, containers and sheets (WCs) and plastic bags (BPL) are the two leading categories of plastics on the beach. See Annex 29.</p>	
<p>4.iMPA. Incorporation of mangroves into iMPA ordinances and development of the science base towards potential certification of blue carbon from mangroves in the Philippines on the voluntary market.</p>	<p>4.1 At least 106.5ha of mangrove forest areas included in iMPA ordinances (output 1) by the end of year 4.</p> <p>4.2 Baseline data on blue carbon stocks and sequestration in varying and representative mangrove forests (e.g. geomorphic settings/community structure/rehabilitation and degradation levels) generated by year 3 – biomass and soil components</p>	<p>Total mangrove areas of the three iMPAs already legally declared is 22 ha. The five (5) iMPA we are moving to legalize have total estimated mangrove area of 137 ha – which will give us a total of 159ha of mangroves – in excess of the targeted amount.</p> <p>Baseline data on blue carbon stocks (vegetation and sediment) generated for 140.74 ha (7 sites) of intact, 2 sites of degraded, 4.50 ha (1 site) of converted, and 74.55 ha (3 sites) of rehabilitated mangroves (all across representative geomorphic settings). Baseline data on blue carbon sequestration rates (vegetation, sediment and gas flux) generated for 45.71 ha (2 sites) of intact, 2 sites of degraded, 4.50 ha (1 site) of</p>	

	<p>4.3 Baseline scenarios of mangrove extractive use and clearing, including predictive spatio-temporal approaches, and forecasting of potential emissions reduction generated by year 4.</p> <p>4.4 Quantification of sequestration achievable (and creditable) under different management options, and quantification of necessary methods (e.g. discount factors) to enable inclusion of soil carbon in Carbon accounting and NDCs by year 4.</p> <p>4.5 Literature review on appropriate tenurial instruments for Plan Vivo project creation completed by year 4.</p> <p>4.6 Quantitative spatial tools for identifying optimal MPA sites for potential Plan Vivo implementation developed by year 4.</p>	<p>converted, and 9.04 ha (1 site) of rehabilitated mangroves).</p> <p>Community identification methodology for survey implementation (on extractive use and clearing) near completion; Community questionnaires in mid-stages of development for roll-out in 2020; Satellite remote sensing (SRS) methodology for quantification of extractive use (c.f. degradation) and clearing complete; SRS analyses to be conducted in 2020, post-community survey questionnaire roll-out.</p> <p>Baseline data collection completed; Sequestration profiles through time (under management options) in mid-stages of development; Literature review on possible discount factors complete, but some data gaps identified in available complementary data for the Philippines region to guide future research priorities.</p> <p>Literature review methodological approach complete; Review to be conducted over May-August 2020</p> <p>Quantitative spatial tools development pending inputs dependent on 4.2-4.5; Further required spatial data sources and methodologies identified (e.g. methodological development in mid-stages toward completion).</p>	
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<p>5. Break donor dependence and create financially sustainable community-based management</p>	<p>5.1 Establish a business model for managing the revenues and costs associated with the supply chain for goods and services from communities (output 3) by Yr 1.</p>	<p>We have updated the consolidated financials with forecast P&L, cash flows and balance sheet. Additionally, the decision has been made to spin Net-Works out of ZSL as a separate legal entity in order to grow the commercial capacity and sales of seaweed and nets that support conservation activities. Legal and business advice has been sought and the plan has now been approved by ZSL Council (Trustees). The legal entity will consist of a not-for profit entity that will run the iMPAs and will also incubate a trading company, which will seek B-Corp accreditation. The not-for-profit will own a golden share in the trading company to lock in the mission and prevent changes to the constitution. This structure will allow us to grow the commercial capacity and also take on impact investment in order to scale the number of MPAs and impact post-Darwin project. ZSL will retain a key role as co-founder and also with positions on the Board of the not-for-profit. This effectively delivers our ambition to create a business model underpinning conservation activities.</p> <p>Under the evolving spin out plan, a small local team will initially be assigned to the new entity on secondment arrangement with ZSL. The staff will eventually be assimilated by the new entity once it starts to stabilize operations, which we are anticipating to take place by the end of the Darwin project and</p>	
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	<p>5.2 Recruit a small and local team at each bay-scape to maintain the supply chain and provide technical support to communities in iMPAs by Yr 2.</p> <p>5.3 Build the capacity of the local support team to manage the supply chain and support iMPAs through Training of Trainers in Net-Works, mangroves and iMPAs by Yr 3.</p> <p>5.4 Revenues from the supply chain generate around PhP80,000 (£1,333) monthly per bay-scape through new products to support the salaries and field activities of a small and local technical support team to maintain the supply chain and provide</p>	<p>therefore enable impact of the Darwin project to be sustained.</p> <p>The new entity will be hiring a senior commercial person to steer and manage supply chains (both nets and seaweeds) operations. We have already secured the funding to initially support that position. An “Impact and Standards” unit will also be created to handle preparation of Net-Works knowledge products into practical training materials and plan and implement a training program for both conservation and business and partners.</p> <p>From 2017-2020, we shipped to Slovenia a total 41.8 tons of used nets collected from two Net-Works hubs in Danajon Bank (which covers Talibon-Getafe bay-scape) and northern Iloilo (which covers Concepcion-Ajuy bay-scape). Total gross revenues earned from four shipments was £42,403, or an average of £588 monthly per bay-scape over 3 years.</p> <p>In Yr3, we shipped one (1) container van to Slovenia loaded with 10.4 tons of nets from the two hubs, generating a gross revenue of £10,537. We still need to grow the seaweed supply chain. We only generated 2 tons of dried seaweed inventory in Yr3, with current market value of £1,770.</p> <p>Part of the net earning is reinvested to support field conservation</p>	
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	<p>technical support to iMPAs by Yr 4.</p>	<p>activities, including rent, utilities, and maintenance of our field offices and warehouses.</p>	
<p>Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)</p> <p>1. Effective community-based management of 8 iMPAs across the two bay-scapes (Ajoy-Concepcion bay-scape in Iloilo and Talibon - Getafe bay-scape in Bohol,)</p> <p>1.1 Project presentation and consultation meetings towards generation of Free Prior Informed Consent from municipal and barangay (village) governments and people’s organizations</p> <p>1.2 Community (barangay) and People’s Organization (PO) profiling using existing RRA tools</p> <p>1.3 Participatory site selection for eight new iMPAs through:</p> <p>1.3.1 Coastal resource and habitat assessments</p> <p>1.3.2 GIS mapping</p> <p>1.4 Community and local government orientations on ZSL iMPA approach iMPAs within each bay-scape</p>		<p>As reported in previous annual reports, we signed memoranda of agreement with the local government units of Concepcion and Ajoy, Iloilo. Additionally, the three legally established iMPAs (Tambaliza, Punta Buri, and Salvacion-Malangabang) were all endorsed by key community stakeholder groups (i.e. village councils, people’s organizations) and Municipal Fisheries and Aquatic Resources Management Councils. The MOA and community official endorsements are more formal than FPIC. Darwin has recently approved our request to change target bay-scapes in Capiz and Aklan Province in Panay with a bay-scape (i.e. Talibon-Getafe) in Bohol. Our applications for accreditation with LGUs Talibon and Getafe are already approved. The accreditation is pre-requisite to MOA negotiations. We are working with another project unit within ZSL for a more comprehensive MOA with LGU-Getafe</p> <p>Completed and reported in Yr 1.</p> <p>Our approach to iMPA site identification and selection employs participatory processes. We organized participatory community resource mapping to understand general status and current uses of marine resources. Our biologists conduct rapid habitat assessments using bucket view method. Results of our assessments are used to inform community spatial planning meetings, which are exercises that reconcile socio-economic and biodiversity conservation uses of coastal resources. Community agreements are translated into GIS maps, which go through multiple iterations after each stakeholder consultation. See Annex 36.</p> <p>Communities and local governments in the original set of target bay-scapes were given orientation on the iMPA approach. Last year, the Blue Action Fund gave first stage approval of a ZSL application for funding. BAF provided us a</p>	

<p>1.5 Establishment or strengthening of governance structures of iMPAs with equitable membership</p> <p>1.5.1 iMPA Management Council (MMC) formation and profiling</p> <p>1.5.2 iMPA management planning</p> <p>1.5.3 iMPA demarcation and zoning</p> <p>1.5.4 iMPA ordinance drafting, lobbying and approval by municipal governments</p> <p>1.6 iMPA infrastructure establishment</p> <p>1.6.1 iMPA marker buoys</p> <p>1.6.2 iMPA guard house construction</p>	<p>small project development grant to present the iMPA approach to community stakeholders and local governments in northern Iloilo and in Bohol.</p> <p>MPA management councils of Tambaliza, Salvacion-Malangabang, and Punta Buri have been formally organized with the issuance of executive orders by their respective municipal mayors. (Annexes 7 & 8). Average women representation in these councils was 21%, which is below 40% prescription of the Philippine Magna Carta of Women.</p> <p>Tambaliza 5-year management plan is ready for official adoption by LGU-Concepcion. Approval has been stalled by COVID-19 lock down. Formulation of Punta Buri management plan is already in the advance stage. Further review and revision have been delayed due to the lock down. Preparation of Salvacion-Malangabang management plan has also commenced. (Annexes 9, 10, & 11)</p> <p>iMPA zonation or spatial planning is agreed along with the ordinance public consultations and approval.</p> <p>Salvacion-Malangabang iMPA was legally declared in February 2020, after dealing with very strong commercial/illegal fishing interest stance against it. See approved MPA ordinance in Annex 30. Advance draft municipal ordinances of Silagon, Ajuy, Guindacpan, Talibon and Handumon, Getafe iMPAs have been transmitted to concerned committees of the municipal councils for deliberation when they resume sessions after COVID-19 lock down. (Annexes 13, 14, & 15)</p> <p>Marker buoys are already installed in Tambaliza (reported in Yr2) and Punta Buri iMPAs. (Annex 17) LGU-Concepcion donated funds (£3,670) for key marker buoys of the newly-declared Salvacion-Malangabang iMPA</p> <p>Construction of guardhouses in Tambaliza and Punta Buri commenced in February 2020 following standard building plan and costing we adopted (Annexes 16 & 19). Securing the use tenure over the construction site in Tambaliza had delayed the actual construction. A Foreshore Lease Agreement was required by the Department of Environment and Natural Resources since the beach front site is classified as public land where the owner of the adjacent lot has preferential use rights under current laws. The</p>
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1.7 iMPA social network established composed of local POs/MMCs and VSLAs

1.7.1 Annual meetings for experience sharing and cooperation

1.8 Annual conduct of MPA Management Effectiveness Assessment Tool (MPA MEAT)

1.9 Formation/strengthening of VSLAs

1.10 Roll-out Social Marketing campaign across each bay-scape

1.10.1 Undertake willingness to pay survey for community-based marine conservation

1.11 Preparation and submission of publication on ecological impact of iMPAs

lot owner waived the right in favour of the MMC. As recommended by DENR, a multipartite MOA amongst the municipal government, barangay government, DENR and Iloilo Provincial Government was signed in lieu of foreshore lease, which takes at least 6 months to be issued. On the other hand, Punta Buri construction site is owned by the Ajuy, Iloilo municipal government, which readily agreed to allocate a portion for the iMPA guardhouse.

Some of the training activities we carried out in Yr3 (e.g. Advanced Fishery Law Enforcement Enhancement Training or AFLEET (see **Annexes 37 & 38**) Seaweed Farming Skills Training, Leadership Training) were joint events that provide opportunities for peer-to-peer learning interactions. In Yr2, we reported that a learning visit to Tambaliza and a roundtable discussion on the iMPA approach were conducted.

No related progress on this. The iMPAs are too new to be subjected to this assessment. But, MPA MEAT threshold indicators have been considered in iMPA management planning, making the management plans road map for achieving desired MPA MEAT ratings.

Six new VSLAs were organized in the two bay-scapes in Yr 3, increasing the total new VSLAs organized since Yr1 to 20. We are now engaging a total of 61 (41 were pre-existing) VSLAs in two focal bay-scapes.

A total of 120 social marketing and community outreach activities were undertaken in the target bay-scapes. The socio-economic surveys we conducted in Handumon (baseline) and Guindacpan (repeat) include willingness to pay questions. The same socio-economic surveys were done in Tambaliza, Punta Buri, Salvacion and Malangabang in the previous years.

A paper titled "Marine plastic pollution and marginalised small-scale fishing communities in Southeast Asia - a practical perspective on the need for more fish and less plastic" was submitted to the Science of the Total Environment for possible publication. Dr. Nick Hill is the principal author of the paper.

<p>2. Integrated Territorial Use Rights to Fisheries (TURFs) introduced within iMPAs (creating TURF-reserves or replenishment zones) in two bay-scapes to align fishers' incentives with sustainability and MPA management</p> <p>2.1 Identification and demarcation of buffer zones for TURF areas</p> <p>2.2 TURF governance and management planning</p> <p>2.3 Registration of fishers participating in TURF</p> <p>2.4 Construction of seaweed drying platforms in iMPA guard houses</p> <p>2.5 Perception surveys for changes in fish catches in TURF and control areas</p> <p>3. Diversified NetWorks™ business model supports environmental management biodiversity conservation, and clears up marine debris</p> <p>3.1. Setting up environmental funds of formed/strengthened VSLAs, including profiling and databasing</p> <p>3.2. VSLA village agents training and replication</p>	<p>All legally declared iMPAs have TURFs zones. All buffer zones are designated as TURFs zones, where local fishers actually involved in iMPA management and enforcement will have preferential fishing rights as incentive. The Punta Buri and proposed Silagon iMPAs have designated TURFs zones exclusively for local fishers, on top of the buffer zones. (Annex 21)</p> <p>We broadly define TURFs rules in the municipal ordinances. Additionally, we piloted in Tambaliza iMPA a management council exercise to define detailed implementing rules and regulations for the TURFs. We still need to complete this process, implement, and assess its effective and potential replication in other sites. Management planning in Tambaliza and Punta Buri are already in the very advance stage. Salvacion-Malangabang iMPA planning only at the homestretch of Yr3.</p> <p>No related progress.</p> <p>We began construction of the guardhouses with drying platforms in Tambaliza and Punta (Annex 19). However, on-site work had to stop because of COVID-19 community quarantine measures.</p> <p>Two staff trained on the CPUE method the USAID funded Fish Right project. We modified the Fish Right survey method to become participatory and affordable. Our revised design will also be incorporating a perception survey method, of which a few members of the project team have familiarity since the tool was used during active years of Project Seahorse in Bohol. We will conduct training and actual field enumeration after lifting of COVID 19 quarantine declarations.</p> <p>All new VSLAs (6) we organized in Yr3 have adopted the environmental funds innovation. Total available environmental funds on record by end of Yr3 was £1,306. VSLAs have been using these funds to support group environmental projects, such was beach clean ups.</p>
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3.3. Discarded fishing nets collection/recycling through NetWorks™ supply chain undertaken by VSLAs

3.4. Training on seaweeds farming and implementation among 30 target families in eight communities

3.5. Production and selling of seaweed, nets by VSLAs into the supply chain

3.6. Biophysical survey data collection of marine plastics using photo quadrat method

We trained and mentored a total of 30 (14 in Concepcion-Ajuy bay-scape and 16 in Talibon-Getafe) VSLA agents in Yr3. Sixty percent (18) of them have remained very active and are involved in formation of new VSLAs.

A total of eight (8) VSLAs are business partners of Net-Works as site-based buying stations. Not all VSLAs in a can engage in buying since it can undermine the economic viability of the trading as a VSLA group enterprise. But, all VSLA members can sell used nets to the business partner VLSA at premium price. In Yr 3, 12.3 tons of used fishing nets were collected from the two bay-scapes and 10.4 tons were exported to Slovenia recycling. We also set up an existing VSLA (organized by a former partner NGO) in Punta Buri to start buying nets from local fishers

In Yr3, we trained a total of 50 fishers in six communities (average of eight fishers per village) in two bay-scapes in ecological seaweed farming. Twenty newly-trained farmers availed of production assistance from Net-Works to start seaweed farming using the cultivation system they trained with Dr. Anicia Hurtado – a leading seaweed farming expert in the country.

Seaweed production had a very poor performance in Yr3 due to extended period of warm sea surface temperatures, which induced the bleaching known as *ice-ice*, and typhoons. Shortages in seedlings also limited our ability to scale production and take advantage of the “good” planting season. Nevertheless, our partner VSLAs were able to buy from their members a total 2 tons of dried seaweeds. See #3.3 for nets updates.

In the last quarter of 2019, our team conducted marine plastics surveys using photo quadrat methods in six villages. See output indicators #3.8 updates for highlights of the results of initial data analysis.

Inclusion mangrove habitats in MPAs is a major advocacy of ZSL Philippines. The three iMPAs legally declared through this project include a total mangrove of 22 ha. as part of no-take zones. The five iMPAs in the pipeline if approved by the municipal councils as proposed will have a combined mangrove area of 182 ha. inside no-take zones also.

4. iMPA. Incorporation of mangroves into iMPA ordinances and development of the science base towards potential certification of blue carbon from mangroves in the Philippines on the voluntary market

<p>4.1 Incorporate mangroves into activities 1.5.3 and 1.5.4.</p> <p>4.2 Generate baseline data on blue carbon stocks and sequestration in varying and representative mangrove forests (e.g. geomorphic settings/community structure) – biomass and soil components</p> <p>4.3 Generate baseline scenarios of mangrove extractive use and clearing, including predictive spatio-temporal approaches, and forecasting of potential emissions reduction.</p> <p>4.4 Explore appropriate sequestration requirements for the Philippines (representative areas, as above) for inclusion and accounting of soil carbon emissions reduction, in order to explore and improve the financial viability of voluntary blue carbon projects in iMPA sites.</p> <p>4.5 Literature review of appropriate tenurial instruments for Plan Vivo project creation.</p> <p>4.6 Develop quantitative spatial tools for identifying optimal MPA sites for potential Plan Vivo implementation.</p> <p>5. Break donor dependence and create financially sustainable community-based management</p> <p>5.1 Recruitment of small local teams at each bay-scape to maintain the supply chain and provide technical support to communities in iMPAs</p> <p>5.2 Capacity building of local support teams to manage the supply chain and support iMPAs</p>	<p>Dr. Clare Duncan did a 3-month fieldwork in central Philippines to undertake the following:</p> <ul style="list-style-type: none"> • Establish baseline carbon stocks & identify additionality quantification methodology • Review Philippines governance & tenurial systems facilitating blue carbon project creation • Consolidate ZSL Philippines monitoring data & identify potential paper outputs • Establish ZSL Philippines mangrove site monitoring systems and data management system needs • Establish collaborative linkages across Philippines-based blue carbon projects & science <p>She visited at least 11 mangrove sites of different conditions, i.e. intact, degraded, converted, and rehabilitated, in Panay to collect baseline data on blue carbon stocks (both vegetation and sediments) and baseline data on blue carbon sequestration rates (vegetation, sediment and gas flux). Project team provided staff and community social preparations assistance.</p> <p>The plan to spin out Net-Works from ZSL into a new entity. Experts were consulted to facilitate brainstorming on the best approach to catalyse the spin out. Financials were reviewed as basis also formulating the new entity's outlook. Based on the evolving transition plan, a core team will be set to advance iMPA implementation. A senior commercial person will also be recruited to steer development and grow and stabilize commercial operations seaweeds supply chain, which will eventually be main income centre of the new entity.</p> <p>A small team is focused in finalizing the Net-Works tool kit – a compendium of the knowledge products made handy for those who are interested to replicate or implement iMPAs through a business model approach. A project ZSL is co-implementing with GIZ in the Philippines is developing Tambaliza as centre of learning for iMPA, VSLA, and nets recycling. Our team providing content for the training manuals and associated knowledge products that will be made accessible to local government unit with interest to replicate iMPA, VSLAs, and nets recycling in their respective localities.</p>
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<p>5.2.1 Training of Trainers on NetWorks™ business model</p>	<p>Our biologists were resource persons in three Mangrove and Beach Forest Rehabilitation training of trainer courses conducted in Sep. and Nov. 2019 and in Feb. 2020.</p>
<p>5.2.2 Training of Trainers on mangroves in MPAs</p>	

Annex 2: Project’s full current logframe as presented in the application form (unless changes have been agreed)

Project summary	Measurable Indicators	Means of verification	Important Assumptions
<p>Impact: Community-based marine protection in the Philippines enhances resilience to natural disasters while helping meet national targets (15%), fully sustained through business models, reducing donor dependency and building sustainability.</p> <p>(Max 30 words)</p>			
<p>Outcome:</p> <p>(Max 30 words)</p> <p>Community-based conservation effectively protects 15% of bay-scape waters in two pilot bay areas (thereby meeting national and CBD targets), fully sustained by a diversified Net-Works business model that enhances socio-ecological resilience and reduces dependence on donor funding.</p>	<p>0.6 Implement eight (8) iMPAs, each of minimum 400 ha, totalling 15% of bay-scape waters (out to 3km) by Yr 4 (minimum of 5,800ha protected, including at least 1,800 ha of no-take zone).</p> <p>0.7 Halt or reverse declines in key marine species and habitats (mangroves, seagrasses, coral reefs and indicator invertebrate/fish species) within three bay-scapes by Yr 4, having established baselines at new sites by Year 2.</p> <p>0.8 Set baselines in Yr1 through survey of stratified selection of households and achieve an average 20% improvement in locally-defined household wellbeing indicators (including subjective, material style of life, income and food security) by Yr4 (n=25,000 households total, min of 500 sampled in stratified selection)</p> <p>0.9 Livelihoods diversified from an average of 2.0 occupations per household in Yr 1 to 2.5 in Yr 4 (n=25,000)</p> <p>0.10 Business model from the diversified Net-Works business model supporting a small local team of Community Organisers and Biologists by Yr 4 to sustain community-based</p>	<p>0.1 Municipal ordinances. GIS of bay-scapes with iMPAs plotted.</p> <p>0.2 Perceptions surveys, Underwater Visual Census (UVC) surveys, photo quadrat surveys, freely-available satellite remote sensing (using established ZSL methodologies: Duncan et al., 2016) on habitat changes, especially for mangroves.</p> <p>0.3 Household surveys using our tried and tested socioeconomic M&E protocol with mobile data entry of a stratified sample of 500 households at beginning, middle and end of project.</p> <p>0.4 Analysed MPA Management</p>	<ul style="list-style-type: none"> ▪ Municipal and barangay local government units supportive. All have shown support to date; ▪ Further natural disasters, particularly tropical storms, typhoons and earthquakes do not hinder significantly project sites or activities. However, we were surprised how much conservation work the communities were willing to do even in the immediate aftermath of Typhoon Haiyan. ▪ Revenues in the business model can be made to match the costs of ongoing iMPA support – which depends on both increasing supply and price of goods, and finding efficient ways to reduce costs – something that we have already shown we are very effective at with Net-Works. ▪ Presence of active People’s Organizations engaged in Coastal Resource Management/fisheries management with high conservation awareness ▪ Receptivity of stakeholders to a new approach to conservation through business models.

	<p>conservation activities and the supply chains, as reflected in Darwin budget.</p>	<p>Effectiveness Assessment Tool (MEAT) Reports completed at beginning, middle and end of project.</p> <p>0.5 Business plans, iMPA management plans and budgets, income from products in Net-Works supply chain, environment funds within VSLAs, counterpart funding committed from local government.</p>	
<p>Outputs:</p> <p>1. Effective community-based management of iMPA eight iMPAs across the two bay-scapes:</p> <ul style="list-style-type: none"> ▪ Pedada and Ajuy Bay, Iloilo Province linked to Concepcion Bay and Concepcion Islands, Iloilo (2 LGUs - Pedada and Ajuy) ▪ Getafe and Talibon Bay, Bohol Province. ▪ 	<p>1.11 Free Prior Informed Consent (FPIC) obtained from all relevant municipal local governments by Yr 1, as a measure of community support and engagement.</p> <p>1.12 Village (barangay) profiles completed using Rapid Rural Appraisal approaches by Yr 1 that establish resource management needs and capacity at each site.</p> <p>1.13 Exchange visits completed to existing iMPAs within each bay-scape by Yr 1 to enthuse and educate community champions and provide practical demonstration of conservation interventions.</p> <p>1.14 Appropriate governance structures for eight iMPAs (defined by municipal ordinances) with equitable membership (at least 50% women, and representing major social groups within</p>	<p>1.1 MOUs.</p> <p>1.2 Village profile reports and data.</p> <p>1.3 Exchange visit activity reports and participant lists.</p> <p>1.4 New iMPA ordinances, iMPA management plans, MPA Management Council Profile, criteria from Coral Triangle MPA Network implementation manual achieved</p> <p>1.5 Coastal resource and habitat assessment reports and GIS maps</p> <p>1.6 Infrastructure e.g. marker buoys, guardhouses</p>	<p>2 Local champions can be found which has always been possible in previous communities although sometimes can be complicated by underlying political agendas.</p> <p>3 Community-level support for conservation is motivated by shared experiences with similar communities. We have found previously that cross-visits are highly effective but only when they are well planned with defined objectives, clear structure and follow up.</p> <p>4 Engagement and support from local government is secured throughout the project. Following the national elections in April 2016, government should be stable for 3 years but level of bureaucracy and time around MPA ordinances can</p>

	<p>each community) established or strengthened and meeting at least monthly by Yr 3.</p> <p>1.15 Participatory site selection for eight iMPAs and municipal ordinances obtained for these by Yr 2, with total area equating to 15% of bay-scape waters.</p> <p>1.16 One iMPA social network composed of local People’s Organization POs/MPA Management Councils (MMCs), and VSLAs established and meeting bi-annually in each bay-scape for experience sharing and cooperation by Yr 2. At least 50% women participating in decision making in the social network.</p> <p>1.17 All iMP0As pass the criteria for Philippines MPA Effectiveness Assessment Tool (MEAT) level 1 (“MPA is established – with participatory process, adoption of management plan, and appropriate legislations and governance) by Yr 2 and MEAT level 2 (“MPA management is effectively strengthened”) achieved in all iMPAs by Yr 4, from level 0 or 1 and on track for level 3 (which can only be achieved after 5 years of operation).</p> <p>1.18 15 VSLAs (see output 3) contributing their environment funds to appropriate management committees and management committees leverage funds from municipal LGUs to sustain management activities by Yr 2.</p> <p>1.19 Social marketing campaign delivered across each bay-scape by Yr 2 with baseline set in Yr 1 and willingness to pay for community-</p>	<p>1.7 iMPA social network registered with list of members, meeting minutes and action plan</p> <p>1.8 MEAT assessments submitted to national MPA Science Network</p> <p>1.9 VSLA savings books, savings loans taken, environment fund savings and annual share outs</p> <p>1.10 Social marketing plan, interview responses, evaluation data</p> <p>1.11 Peer reviewed paper</p>	<p>vary depending on the village and LGU officials.</p> <p>5 Boundaries between municipalities are defined or can be resolved, especially where they may affect MPA establishment.</p>
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	<p>based marine conservation increased 50% by Yr 4 (or to minimum of PhP100 p.a. where baseline is PhP0) – indicating increased support for conservation due to pro-poor design and successful social marketing.</p> <p>1.20 Peer reviewed paper submitted for publication on ecological impacts of project's iMPAs by Yr 4.</p>		
<p>2. Integrated Territorial Use Rights for Fisheries (TURFs) introduced within iMPAs (creating TURF-reserves or replenishment zones) in two bay-scapes to align fishers' incentives with sustainability and MPA management.</p>	<p>2.6 Buffer zones and managed fishing areas around iMPAs identified and established as part of iMPA ordinances and planning by Yr 2, of at least the same size (200ha) as the no-take zone at eight iMPAs sites.</p> <p>2.7 Rules on who can use these buffer zones and how, under what conditions, any benefit sharing arrangements, and how this is enforced included in appropriate management plans by Yr 2 and being implemented by Yr 3.</p> <p>2.8 Appropriate iMPA guardhouses designed to include opportunities to improve fisheries operations (e.g. seaweed drying platforms) by Yr 2 and implemented by Yr 3.</p> <p>2.9 Participation in iMPA management (number of people participating in patrols, attendance at monthly management committee meetings, proportion of apprehensions resulting in prosecutions) established at a minimum of 50% by Yr 2 and maintained >90% of capacity by Yr 4, including increasing # women fish/forest wardens in communities.</p> <p>2.10 Perceptions surveys and participatory CPUE surveys in Yr 4</p>	<p>2.1 TURF areas defined on GIS maps with approved municipal ordinances</p> <p>2.2 TURF rules documentation and iMPA management plans with list/directory of registered TURF users</p> <p>2.3 Kg of seaweed dried per month on guardhouses</p> <p>2.4 Patrol records, apprehensions and fines records</p> <p>2.5 Perceptions surveys following Yasue et al 2010 and participatory CPUE surveys.</p>	<ul style="list-style-type: none"> ▪ Communities can reach agreement on location of buffer zones and managed fishing areas. Often these are a mechanism for implementing existing (unenforced) laws on fishing gears. ▪ Improved diversity of function of MPA guardhouses will enhance enforcement of no-take zones and illegal fishing activities through additional surveillance and active engagement of fishers. ▪ Women engage as fish/forest wardens which may be facilitated through training specific women's enforcement teams as successfully applied in South Africa and Nepal. ▪ Participatory CPUE surveys and perception surveys are able to detect any changes within the lifespan of the project

	<p>indicate that fishers perceive increased CPUE in the buffer zones and sustainable use areas between the baseline set in the year that the ordinance is approved and year 4.</p>		
<p>3. Diversified Net-Works business model supports environmental management and biodiversity conservation, and clears up marine debris.</p>	<p>3.1 15 VSLAs with environment pouch contributing funds to support iMPA management by Yr 1.</p> <p>3.2 15 Village agents (one per barangay) trained and replicating VSLAs from the parent VSLA by Yr 2. At least 50% women trained as village agents.</p> <p>3.3 All VSLAs collecting discarded fishing nets and selling them into the supply chain by Yr 2.</p> <p>3.4 .</p> <p>3.5 24 families trained and actively farming 6ha of seaweed per community for 7 communities by Yr2 following social and environmental criteria and meeting standards.</p>	<p>3.1 VSLA Profiles in ZSL VSLA M&E database</p> <ul style="list-style-type: none"> • No. of VSLAs • No. of village agents • No. of environment pouches • total amount loaned • No. of loans/loan use • Total amount of environment funds • Agreement on environment pouch expenditure <p>3.2 Directory of village agents with contact details.</p>	<ul style="list-style-type: none"> ▪ Available conservation/ environmental champions suitable as village agents ▪ Viable markets for plastic waste other than nylon ▪ Net-Works systems and M&E are robust enough to convert to a private code. Sharing of the toolkit, current data collection methods and results through a series of meetings with FLOCert (leading experts and behind Fair Trade certification) have suggested this is the case. ▪ BFAR issue seaweed farming permits according to their current guidelines.

	<p>3.6 A minimum of 30 families farming a minimum of 6ha of seaweed per iMPA (total of 8) by Yr4, generating 600 tonnes of dry seaweed p.a. that meets standards for Net-Works Social and Environmental criteria and supports iMPAs.</p> <p>3.7 At least 50% of VSLAs producing and selling seaweed and nylon nets into the supply chain by Yr 3, with 100% selling both products by Yr 4.</p> <p>3.8 Total of 100 tonnes of ocean-bound plastics (including nets and other materials) diverted into the supply chain from the two bay-scapes by Yr 4.</p> <p>3.9 Proportion of beach quadrats with plastics present reduced from 60% to 40% by Yr 4 at all sites.</p>	<p>3.3 Net quantities and sales records</p> <p>3.4 Technical specification document included in Net-Works Toolkit</p> <p>3.5 Business plans, VSLA records in M&E database, kg and price records through sales and return on investment reports, transport/export permits in supply chain.</p> <p>3.6 kg of plastic waste collected from project sites; kg of plastic recycled into viable product.</p> <p>3.7 kg of seaweed produced per family per month.</p> <p>3.8 Biophysical survey data from of beaches using our tried and tested photo quadrat method for detecting the abundance of marine plastics</p>	<ul style="list-style-type: none"> ▪ Sustainable seaweed farming methods are adopted by families and not undermined by existing accepted practices e.g. use of polluting plastic ties. ▪ Loss of seaweed production due to weather/disease is within contingency parameters set within the business model (based on scientific research and extensive discussions with key stakeholders). ▪
<p>4. Incorporation of mangroves into iMPA ordinances and development of the science base towards potential certification of blue carbon from mangroves in the Philippines on the voluntary market.</p>	<p>4.1 At least 106.5ha of mangrove forest areas included in iMPA ordinances (output 1) by the end of year 4.</p> <p>4.2 Baseline data on blue carbon stocks and sequestration in varying and representative mangrove forests (e.g. geomorphic settings/community structure/rehabilitation and degradation levels) generated by year 3 – biomass and soil components</p> <p>4.3 Baseline scenarios of mangrove extractive use and clearing, including predictive spatio-temporal approaches,</p>	<p>4.1 Project registration certificate, Payment for Ecosystem Services agreement in place and copy of issuances.</p> <p>4.2 Project design document</p> <p>4.3 Agreements/ signed documents</p> <p>4.4. Technical specification document</p> <p>4.5. Technical specification document</p> <p>4.6. Meeting minutes/Constitutions and By</p>	<p>Items in italics below are proposed updated assumptions.</p> <ul style="list-style-type: none"> ▪ Stable land tenure is existing or can be established for project sites ▪ <i>Representative sites can be accessed with support of community members for blue carbon stock and sequestration monitoring (4.2, 4.3)</i> ▪ <i>Community agreement and willingness to engage with survey approaches to understand levels and drivers of potential extractive mangrove use (4.3, 4.4)</i>

	<p>and forecasting of potential emissions reduction generated by year 4.</p> <p>4.4 Quantification of sequestration achievable (and creditable) under different management options, and quantification of necessary methods (e.g. discount factors) to enable inclusion of soil carbon in Carbon accounting and NDCs by year 4.</p> <p>4.5 Literature review on appropriate tenurial instruments for Plan Vivo project creation completed by year 4.</p> <p>4.6 Quantitative spatial tools for identifying optimal MPA sites for potential Plan Vivo implementation developed by year 4. iMPA</p>	<p>Laws /Local Community Organiser contracted</p> <p>4.7 Survey results and amended Project Design Document</p>	<ul style="list-style-type: none"> ▪ <i>Access to appropriate laboratory equipment for analysis of mangrove soil carbon sources and for complementary carbon stock data (e.g. through formation of collaborations) (4.4, 4.6)</i>
<p>5. Break donor dependence and create financially sustainable community-based management</p>	<p>5.1 Establish a business model for managing the revenues and costs associated with the supply chain for goods and services from communities (output 3) by Yr 1.</p> <p>5.2 Recruit a small and local team at each bay-scape to maintain the supply chain and provide technical support to communities in iMPAs by Yr 2.</p> <p>5.3 Build the capacity of the local support team to manage the supply chain and support iMPAs through Training of Trainers in Net-Works, mangroves and iMPAs by Yr 3.</p> <p>5.4 Revenues from the supply chain generate around PhP80,000 (£1,333) monthly per bay-scape through new products to support the salaries and field activities of a small and local technical support team to maintain the</p>	<p>5.1 Business models</p> <p>5.2 Contracts</p> <p>5.3 Training workshop reports, attendance sheets, evaluations and follow up assessments</p> <p>5.4 Local government annual budget allocation, Barangay/PO resolutions for budgetary request, Municipal Annual Investment Plans</p>	<ul style="list-style-type: none"> ▪ Efficient approaches to iMPA management can be developed to ensure costs are within the scope of resources available within business models and local government resources. ▪ Funds can be accessed to the right level to support iMPAs sustainably by Yr 4. We already have a strong track record with existing business models and counterpart funding from local government.

	supply chain and provide technical support to iMPAs by Yr 4.		
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Activities (each activity is numbered according to the output that it will contribute towards, for example 1.1, 1.2 and 1.3 are contributing to Output 1)

1. Effective community-based management of 8 iMPAs across the two bay-scapes (Ajuy-Concepcion bay-scape in Iloilo and Talibon - Getafe bay-scape in Bohol,)
 - 1.1 Project presentation and consultation meetings towards generation of Free Prior Informed Consent from municipal and barangay (village) governments and people's organizations
 - 1.2 Community (barangay) and People's Organization (PO) profiling using existing RRA tools
 - 1.3 Participatory site selection for eight new iMPAs through:
 - 1.3.1 Coastal resource and habitat assessments
 - 1.3.2 GIS mapping
 - 1.4 Community and local government orientations on ZSL iMPA approach iMPAs within each bay-scape
 - 1.5 Establishment or strengthening of governance structures of iMPAs with equitable membership
 - 1.5.1 iMPA Management Council (MMC) formation and profiling
 - 1.5.2 iMPA management planning
 - 1.5.3 iMPA demarcation and zoning
 - 1.5.4 iMPA ordinance drafting, lobbying and approval by municipal governments
 - 1.6 iMPA infrastructure establishment
 - 1.6.1 iMPA marker buoys
 - 1.6.2 iMPA guard house construction
 - 1.7 iMPA social network established composed of local POs/MMCs and VSLAs
 - 1.7.1 Annual meetings for experience sharing and cooperation
 - 1.8 Annual conduct of MPA Management Effectiveness Assessment Tool (MPA MEAT)
 - 1.9 Formation/strengthening of VSLAs
 - 1.10 Roll-out Social Marketing campaign across each bay-scape
 - 1.10.1 Undertake willingness to pay survey for community-based marine conservation
 - 1.11 Preparation and submission of publication on ecological impact of iMPAs
2. Integrated Territorial Use Rights to Fisheries (TURFs) introduced within iMPAs (creating TURF-reserves or replenishment zones) in two bay-scapes to align fishers' incentives with sustainability and MPA management
 - 2.1 Identification and demarcation of buffer zones for TURF areas
 - 2.2 TURF governance and management planning
 - 2.3 Registration of fishers participating in TURF
 - 2.4 Construction of seaweed drying platforms in iMPA guard houses
 - 2.5 Perception surveys for changes in fish catches in TURF and control areas
4. Diversified NetWorks™ business model supports environmental management biodiversity conservation, and clears up marine debris
 - 4.1. Setting up environmental funds of formed/strengthened VSLAs, including profiling and databasing

4.2. VSLA village agents training and replication

4.3. Discarded fishing nets collection/recycling through NetWorks™ supply chain undertaken by VSLAs

4.4. Training on seaweeds farming and implementation among 30 target families in eight communities

4.5. Production and selling of seaweed, nets by VSLAs into the supply chain

4.6. Biophysical survey data collection of marine plastics using photo quadrat method

4. iMPA. Incorporation of mangroves into iMPA ordinances and development of the science base towards potential certification of blue carbon from mangroves in the Philippines on the voluntary market

9.1 Incorporate mangroves into activities 1.5.3 and 1.5.4.

9.2 Generate baseline data on blue carbon stocks and sequestration in varying and representative mangrove forests (e.g. geomorphic settings/community structure) – biomass and soil components

9.3 Generate baseline scenarios of mangrove extractive use and clearing, including predictive spatio-temporal approaches, and forecasting of potential emissions reduction.

9.4 Explore appropriate sequestration requirements for the Philippines (representative areas, as above) for inclusion and accounting of soil carbon emissions reduction, in order to explore and improve the financial viability of voluntary blue carbon projects in iMPA sites.

9.5 Literature review of appropriate tenurial instruments for Plan Vivo project creation.

9.6 Develop quantitative spatial tools for identifying optimal MPA sites for potential Plan Vivo implementation.

10. Break donor dependence and create financially sustainable community-based management

10.1 Recruitment of small local teams at each bayscape to maintain the supply chain and provide technical support to communities in iMPAs

10.2 Capacity building of local support teams to manage the supply chain and support iMPAs

10.2.1 Training of Trainers on NetWorks™ business model

10.2.2 Training of Trainers on mangroves in MPAs

Annex 3: Standard Measures

Table 1 Project Standard Output Measures

Code No.	Description	Gender of people (if relevant)	Nationality of people (if relevant)	Year 1 Total	Year 2 Total	Year 3 Total	Total to date	Total planned during the project
Established codes								
2	1x MSc project (Uni of Oxford) 2x MSc projects assigned to Uni of Exeter students (artificial reefs and faunal diversity in mangroves) 1x MSc Uni of Exeter (testing drone mapping of iMPAs)	F M F F	1x UK 1x UK 1x India 1x UK	1 complete 2 in progress	2	1	3	
6A	Mangrove and Beach Forest Training of Trainers		Filipino	46	220	73	339	
6A	National Mangrove Conference		Filipino		239		239	
6A	Seaweed farmers training	15 M; 2 F	Filipino	12	17	50	79	
6A	iMPA Roundtable Discussion and Learning Visit	43 M; 9F	Filipino		52		52	
9	MPA management plans					3 - drafts	3	
10	Community manual flipchart for Mangrove and Beach Forest rehabilitation			1			1	
10	Translated Community Based Mangrove Rehabilitation				2		2	

	Manual into 2 local languages							
14B	<p>24th May 2019. Nick Hill. University of Technology Sydney C3 lecture. "Net-Works: making seaweed farming positive for the ocean and people".</p> <p>28 Apr -3 May 2019. Amado Blanco and Nick Hill. International Seaweed Symposium, Jeju, Korea. "Net-Works: making seaweed farming positive for the ocean and people".</p> <p>13th December 2018. Heather Koldewey. Christmas Conservation Lecture and inaugural Professor lecture. 'Ocean optimism in a sea of plastic'. University of Exeter, Penryn campus</p> <p>16th October 2018. Heather Koldewey: Plenary speech 'Ocean optimism in a sea of plastic' at the European Union of Aquarium Curators annual conference, The Deep, Hull.</p> <p>10th September 2019. Heather Koldewey: Opening plenary 'A Changing Planet: A quest</p>	3 M: 1 F	UK Filipino	9	7	2	18	

	<p>for solutions to save the ocean'. NERC DTP conference, Imperial College, London.</p> <p>16th July 2018. Heather Koldewey: Opening presentation 'Ocean optimism in a sea of plastic'. Surfers Against Sewage Ocean Plastic Solutions Day (with HRH Prince of Wales and the Duchess of Cornwall attending in part), St Agnes, Cornwall.</p> <p>11th – 15th June 2018. Heather Koldewey participant in two panel discussions 'Planet or Plastic' and 'Igniting Change' at National Geographic Explorers Festival, Washington DC, USA.</p> <p>June 2018. Godof Villapando. Net-Works for the International Marine Conservation Congress, Malaysia.</p> <p>2nd June 2018. Heather Koldewey: Addressing issues of marine debris and poverty alleviation in coastal</p>							
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	<p>communities. World Environment Day workshop on marine litter, New Delhi, India.</p> <p>27th April 2018. Nick Hill presenting Net-Works which was selected as a finalist for the St Andrews Prize for the Environment.</p> <p>19th February 2018. Heather Koldewey and Godof Villapando. Visiting Professors Public Lecture and Roundtable: International Wildlife Trade. Event organised by British Embassy in the Philippines. Ateneo de Manila University, Manila, Philippines.</p> <p>14th February 2018. Heather Koldewey. Plenary speech at International Year of the Reef launch at Princes International Sustainability event with VIPs, business leaders and HRHs Prince Charles and Prince Harry.</p> <p>22nd January 2018. Conservation for Communities. Workshop 'Sharing best practice in marine conservation and research'</p>							
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	<p>organised by CIIMAR (Interdisciplinary Centre of Marine and Environmental Research - University of <i>Porto</i>) and ZSL, Portugal.</p> <p>13th December 2017. Heather Koldewey. Opening Plenary speaker. Perspectives on reef conservation. European Coral Reef Symposium, University of Oxford, UK.</p> <p>5th December 2017. Heather Koldewey. MSc Conservation and Ecology students lecture and workshop, University of Exeter, Cornwall campus.</p> <p>16th October 2017 – Nick Hill presented Net-Works in a lecture to Exeter University 2nd year students studying Marine Vertebrate Conservation.</p> <p>26th July 2017. Heather Koldewey. Keynote speaker. Marine Ecology and Conservation Network conference, University of Exeter Penryn campus.</p> <p>27th April 2017. Guest speaker – Pew Bertarelli Global Ocean Legacy the Science and Culture of Marine</p>							
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	Conservation on Rapa Nui, Easter Island, Chile.							
22	1 pilot sites 1) Tambaliza, Concepcion 2) Salvacion-Malangabang, Concepcion 3) Punta Buri, Ajuy 4) Silagon, Ajuy 5) Igbon, Concepcion 6) Guindacpan, Talibon 7) Handumon, Getafe 8) Jandayan Sur, Getafe		Filipino	3		5	8	17
23	Match funding grants secured from a) National Geographic and b) Adventist Development and Relief Agency c) BNCF; d) ProCoast; e) JBF; f) ABA ROLI; g) USAID Fish Right; h) German Embassy small grant							

Table 2 Publications

Title	Type (e.g. journals, manual, CDs)	Detail (authors, year)	Gender of Lead Author	Nationality of Lead Author	Publishers (name, city)	Available from (e.g. weblink or publisher if not available online)
Faunal diversity in different mangrove habitats in the Philippines	MSc Thesis	Shruti Suresh, University of Exeter. MSc Conservation & Biodiversity.	F	Indian	University of Exeter	
How effectively artificial reefs mimic	MSc Thesis	Fergus Cunningham	M	UK	University of Exeter	

natural coral reef communities in the Philippines						
Satellite remote sensing to monitor mangrove forest resilience and resistance to sea level rise.		Duncan, C.; Owen, H.J.F.; Thompson, J.R.; Koldewey, H.J.; Primavera, J.H; Pettorelli, N.	F	UK	Methods in Ecology and Evolution , 9 (8) pp. 1837-8152.	10.1111/2041-210X.12923.
Community-based Mangrove Rehabilitation Manual translated and published in two local languages: Hiligaynon and Akeanon	Manual	Primavera, J.H., Savaris, J.D, Bajoyo, B., Coching, J.D., Curnick, D.J., Golbeque, R., Guzman, A.T., Henderin, J.Q., Joven, R.V., Loma, R.A. and Koldewey, H.J.	F	Philippines	ZSL Philippines	www.zsl.org/mangroves
Proceedings of the 3rd National Mangrove Conference	Proceedings	Loma, R.A., Coching, J.D., Calanda, V., Montilijao, C.	F	Philippines	ZSL Philippines	www.zsl.org/mangroves

List of Annexes

Checklist for submission

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Have you included means of verification? You need not submit every project document, but the main outputs and a selection of the others would strengthen the report.	YES
Do you have hard copies of material you want 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.	NO
Have you involved your partners in preparation of the report and named the main contributors	YES
Have you completed the Project Expenditure table fully?	YES

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