



Darwin Initiative Main and Post Project Annual Report

To be completed with reference to the "Writing a Darwin Report" guidance.

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	24-016
Project title	Sustainable community-based stewardship of freshwater resources in the Northern Philippines
Country/ies	Philippines
Lead organisation	Zoological Society of London (ZSL)
Partner institution(s)	Bureau of Fisheries and Aquatic Resources (BFAR); Department of Environment and Natural Resources (DENR)
Darwin grant value	£378,174
Start/end dates	1/7/2017 to 31/12/2020
Reporting period	Apr 2019 – Mar 2020: Annual Report 3
Project Leader	Dr Matthew Gollock
Project website / blog / social media	https://twitter.com/ZSLMarine https://www.facebook.com/freshwaterconservationproject/?modal=admin_todo_tour
Report author(s) and date	Matthew Gollock, Emma Levy, Franklin Piad, Mae-Ann Rabina, Bryan Villanueva, Evelyn Ame and Alejandro Belen. 12/05/20

1. Project summary

An estimated 126,000 described species rely on freshwater (<https://www.iucn.org/theme/species/our-work/freshwater-biodiversity>), and this biome exhibited species' population declines of 83% between 1970 and 2012 ([Living Planet Report, 2018](#)). The Convention on Biological Diversity (CBD) states that globally, freshwater habitats and associated biodiversity are impacted by unsustainable use, construction, land conversion, pollution and invasive alien species. This is echoed in both the [4th](#) and [5th](#) Philippines National Report to the CBD (NRCBD), which highlighted that freshwater systems require urgent conservation attention. Indeed, in the [6th NRCBD](#) it was indicated that the Bureau of Fisheries and Aquatic Resources (BFAR) had created a specific sub-committee to address the conservation status of freshwater bony fishes. The study area is the Cagayan River Basin (CRB) in Region 2 of Luzon, Philippines, the largest freshwater body in the country. Habitat surveys in our previous project (21-020) identified threats including deforestation, 'slash and burn' agriculture, erosion and siltation, abstraction, unmanaged exploitation, stocking with exotic tilapia and expansion of settlements due to rising populations, which will generally increase the pressure on freshwater resources. Research from the present study has indicated that other invasive species, such as the janitor fish, are now found in the CRB. Some of these threats have provided the basis of both our biological and socio-economic interventions, and these have been tailored such that we can capitalise on the expertise of our partners (see section 2).

If the freshwater systems continue to be impacted by these activities without intervention, the communities that rely upon them will lose essential ecological, economic and cultural resources. The core of this project is community engagement, and over the three years of the previous project and 33 months that we have been implementing the present project we have built relationships with key stakeholders to ensure buy-in at the local level. The protection and management of freshwater biodiversity, and by association, the success of the project, is reliant on the Freshwater Sanctuaries (FS) being managed effectively by local stakeholders and we have been heartened by the enthusiasm shown by the communities and associated governance units that are linked to them.



Figure 1. Maps of study area (see Annex 4 for Freshwater Sanctuary locations).

2. Project partnerships

We have now been working with both the BFAR and Department of Environment and Natural Resources (DENR) for over six years. These relationships have been borne out of, and developed by, identifying the key threats and management measures required to improve conservation of key species and habitats in the CRB. In addition to these regional level relationships, we have been maintaining our municipal level partnerships with Local Government Units (LGUs) – see Annex 5 for governance structure in the Philippines - as it is within these that monies and resources can be allocated for the support of FS for disbursement through Fish Sanctuary Management Bodies (FSMBs) to FS Action Teams (FSATs) for implementation at the barangay level. Quarterly Technical Working Group (TWG) meetings bring together ZSL, BFAR, DENR and LGU staff to discuss the current status of project implementation and review the workplan and log frame (see Annex 6). ZSL also holds *ad-hoc* meetings with barangay, LGU, FSMB, BFAR and/or DENR staff on specific matters as required.

In the past year, ZSL became a member of the Regional Wildlife Management Committee (RWMC) chaired by the Assistant Regional Executive Director of DENR Region 2 (Annex 7). Being a member offers an opportunity to provide quarterly project updates to this network – responsible for the rescue and release wildlife captured by people in the community. Good relationships with six key LGUs in the region have been maintained through Memorandum of Agreements (MoA) signed between the ZSL Country Director and Municipal Mayors.

A new partnership was developed with Nueva Vizcaya State University in 2019. The university will assist ZSL in providing relevant low-impact agriculture and sustainable farm practices training to farmers/stakeholders in key sites. An agreement between ZSL and Cagayan State University also allows their environmental science students to gain experience and knowledge in freshwater conservation by joining the ZSL team during their activities.

This year, there have been several challenges for the project team. The on-going dispersal of introduced species such as tilapia and carp in open bodies of water, including project sites, by BFAR has impacted monitoring and evaluation of the effectiveness of the mitigation. However, a recent change in legislation (see below) may reduce the occurrence of these practices. A significant amount of time was spent engaging with Gattaran LGU with regard to the adoption of the FSMP and signing of the MoA. Members of the LGU legislative body had a distrust of NGOs due to a previous experience where another organisation left a project after securing match-funding from the municipality. After intensive explanation to the councillors and mayor, and presentation of the FSMP, they agreed to support the plan and the MOA. By communicating clearly, working to get the LGU to take ownership of the project, and highlighting that they are the ultimate beneficiaries, we reached a mutually satisfactory end point.

3. Project progress

Progress on activities are outlined below – omissions indicate that they have either been completed and reported on in previous reports or are not relevant to Year 3 of the project.

3.1 Progress in carrying out project Activities

1.2 Tagging, monitoring and analytical techniques training, as needed (Q2-Q3Y3).

There was no need to provide further training to partners in these methods.

1.3 Native fish species – including anguillid eels - are tagged with acoustic tags (Q3Y1-Q2Y3).

26 eels (25 *Anguilla marmorata* and 1 *Anguilla bicolor*) were tagged with acoustic and PIT tags during the second phase of tagging activity in May 2019, bringing the total to 67 eels tagged (Output Indicator (OI) 1.2.) (Annex 8).

1.4 Movement of native fish species within the Cagayan River Basin is monitored on a micro- and macro- scale on a monthly basis (Q4Y1-Q3Y4).

Heavy rainfall from late October to early December displaced two receivers in Hotspring FS and one receiver in Duba Cave FS (Annex 9). The river wardens assigned to detach the receivers prior to bad weather were caught off guard as no government warnings were circulated. Nevertheless, complete data was downloaded from all nine receivers in August 2019, while in January 2020 data from the remaining six was collected. Data has been submitted to the tagging specialist (Dr Adam Piper) for analysis (Annex 10) (OI 1.2.).

1.5 Fish movement data and existing FS monthly abundance monitoring data is consolidated and analysed (Q1Y2-Q3Y4).

Community Monitoring Groups (CMG) in the 12 key sites are more active this year as compared to the previous year. This has been validated through the almost complete fisheries independent monitoring data (FID) submitted by the groups. Six of the key sites submitted reports without the assistance of ZSL enumerators. Key LGUs provided incentives to their CMG/River warden which are not disbursed until monthly accomplishment reports are submitted.

Aside from the FID collected by the CMG, eel movement was also monitored specifically at two key sites in Baggao. Acoustic receiver data was uploaded quarterly and forwarded to the tagging consultant for data analysis and tagging report preparation. Based on the initial results, most of the tagged eels are still inside the freshwater sanctuary with median residency exceeding 55% in both sites (OI 1.2.). Residency patterns appear independent of eel size/life-stage.

1.6 FSMPs are updated in light of consolidated data from FS and fish monitoring (Q1-Q3Y4).

Four of the six FSMPs have been updated in light of several data sources (see below) (OI 1.2.) (see Annex 11).

1.7 FSATs are established to include beneficiaries of new livelihoods e.g. native tree nurseries (Q3Y2-Q3Y4).

Eight FSATs have been restructured (see Annex 12) and now include a riparian committee composed of representatives from the nursery sites and CoMSCAs (OI 1.3). The final four FSATs were due to be restructured in March 2020, however, COVID-19 lockdown prevented this.

1.9 MEAT assessment carried out at all 12 sites (Q1Y2-Q3Y4).

The second freshwater MEAT workshop was conducted early 2020 – it had to be modified because of flooding in Cagayan Valley in 2019. Instead of a single event, we facilitated a series

of workshops in each province which was fully supported by BFAR Region 2 staff, who conducted the evaluation sessions for each LGU FSMB.

A total of 69 FSMB members, Barangay Council members, LGU personnel and BFAR representatives (12 female and 57 male) attended the MEAT training workshops and project review. In addition to the guide questions included in MEAT, participating FSMB chairs, Barangay captains, Municipal Agriculturists (MAs) and Municipal Natural and Environment Resources Officers (MENROs) were given time to discuss their annual activities, as part of the verification measures.

This year, as the evaluation has been carried out by LGU/FSMB, there was greater opportunity to train and transfer these M+E methodologies to the selected personnel. As a result, once the present project has been completed, the LGU will be able to evaluate their own sanctuaries together with the BFAR.

The five participating FSMB reached a greater accomplishment during this second evaluation, resulting in four attaining Level 2 status and one attaining Level 1 (OI 1.4.). The sixth FSMB, Penablanca LGU will be assessed in 2020. We also validated the results using community assessment surveys by selecting both fisherfolks and non-fisherfolks to answer six guided questions - these coincided with the MEAT scores (Annex 13 - MEAT report includes attendance and agenda).

2.1 National eel data framework established in collaboration with BFAR (Q2-3Y4).

Monthly fisheries independent and anguillid related data collected in the 12 sites has been submitted to BFAR on an on-going basis to feed into the development of a national eel database. This will link to a broader data system for all commodities including eels which is in development by BFAR Central Office (OI 2.1). Fisheries dependent data collection of eel in Northern Luzon and Mindanao by BFAR and SEAFDEC is continuing and will also be consolidated into the database once online. This is also true of trade export data.

2.2 Key metrics are identified and analysed in line with CITES call (Q1Y2-Q3Y4).

ZSL attended the CITES CoP18 in Geneva, in August 2019. [Decisions](#) relating to anguillid eels were adopted and progress is being made to deliver activities, though this has been impacted by COVID-19.

2.5 Regional eel focal points in other range states identified and engaged (Q1Y2-Q3Y4).

SEAFDEC continue to support collection of fisheries dependent glass eel data in the CRB. The CRB EMP (Eel Management Plan) was used as a reference during the development of policies on eel developed by SEAFDEC. Studies lead by SEAFDEC were also in progress this year but these have been paused due to COVID-19 (OI 2.4.) (Annex 14).

2.6 Data relating to eel species used to update EMP (Q2Y2-Q3Y4).

As per Activity 2.1, data has been shared with BFAR. Plans to update the EMP in 2020 are on hold due to COVID-19 (OI 2.3.). The CRB has been shared with other regions in the Philippines as a template for replication.

2.7 Project representatives attend relevant national and international workshops relating to anguillid eels (Q2Y1-Q3Y4).

The Project Lead travelled to Japan to attend a regional workshop organised by the Japanese Government relating to developing a scientific framework for assessing the status of the Japanese eel (OI 2.4). This was cancelled at short notice due to COVID-19. The Project Technical Lead of the in-country team was invited to speak about the project under the title of 'Community Based Conservation Initiatives in the Philippines' at the Third Association of Southeast Asian Nations (ASEAN) Conference on Biodiversity in Malaysia, March 2020 (Annex 15). Again, this meeting was postponed due to COVID-19.

3.1 Socioeconomic survey is developed, carried out and analysed, and report produced (Q2Y1-Q4Y3).

The socio-economic survey has been completed and a report generated (Annex 16). A total of 542 respondents were interviewed - 246 (45%) male and 296 (55%) female (OI 3.1.). The results have so far been used in the development of site-specific low-impact agriculture and in the exploration of potential livelihood opportunities. The survey has also been key in the introduction of CoMSCAs to communities (OI 3.2.).

3.2 Community feedback sessions held in 12 key barangays (Q3Y3-Q1Y4).

Community feedback sessions were conducted in all key sites before the end of Q3Y3 (Annex 17). Preliminary results of the socio-economic survey were shared and validated by the community.

3.3 Capacity and engagement needs of community and FSMB addressed through series of training courses, social-marketing and infra-structure development (Q2Y3-Q4Y3).

Bamboo culture training was carried out in Baggao LGU with Barangay LGUs, staff from the Department of Education, private individuals with an interest in using bamboo in riverbank restoration. A total of 77 participants attended - 41 (53%) male and 36 (47%) female. (Annex 18).

3.4 CoMSCA training is delivered at 12 key barangays (Q2Y1-Q2Y4).

A total of 355 people have been trained to be CoMSCA members across all 12 key sites. (OI 3.2.) (Annex 19).

3.5 Analysis of CoMSCA beneficiary financial access and use (Q1Y2-Q2Y4).

At present, the CoMSCAs have a total of nine active savers group to date (70% female and 30% male) members with a combined savings of PhP 1,047,870 (£ 16,121.08) (OI 3.3.). CoMSCA loans are primarily used for house improvements and support of basic needs (40%), education (26%), agribusiness (20%), medical health (10%) and small enterprises (4%) (Annex 20). In the recent COVID-19 lockdown, we are receiving reports that CoMSCA members are finding loans extremely helpful.

3.6 Village Agents training reinforcing the value of being local champions and their contribution to the management of the FS carried out (Q2Y3-Q3Y4).

A village agent training session was conducted for six FS with a total of 13 participants - three male (23%) and 10 female (77%) (OI 3.3.) (Annex 21).

3.7 Village Agent training carried out and new COMSCAs are established (Q2Y2-Q2Y4).

The formation of village agent assisted CoMSCAs were put on hold because of COVID-19. (OI 3.3.).

3.8 Environment funds are established, and proposed budget developed and agreed (Q2Y1, Q2Y2, Q2Y3).

Nine CoMSCAs in key sites integrated environment funds to support the management and protection of freshwater resources (OI 3.4). Weekly CoMSCA member contribution to the environment fund averaged PhP 105 (£1.67) and to date, a total of PhP 24,961 (£ 397.62) has been collected. Environmental funds are used for signage, river clean-ups, tree planting and river warden / CMG allowances (OI 3.6.) (Annex 22 and 23).

3.9 Community and GO co-funding agreement and mechanism of delivery is established for FS enforcement and management (Q3-Q4, Y1-Y3).

Five out of six LGUs have committed funding to the associated ten FS (OI 3.5). Budget allocation for FS is integrated in the annual investment plan of LGU. The final LGU is expected to ratify the FSMP in 2020, releasing funds for on-going support.

4.1 Riparian assessment of 12 FS (Q1Y2-Q1Y4).

Riparian assessments in all 12 sites were completed by Q2Y3 (OI 4.1.). Results revealed that three key sites have introduced invasive tree species within the declared protected area (Annex 24). Measures to eliminate such invasive tree species were initiated and the permit for the silvicultural practice of sanitation cutting is currently awaiting approval. The riparian assessments have informed Activity 4.4.

4.2 Community consultations relating to land use are carried out in in 12 key barangays linked to FS (Q1Y2-Q1Y4).

Consultations were carried out as part of Activity 4.4.

4.3 Behaviour change programme related to responsible farming practices and mitigation of threats established (Q1Y2-Q1Y4).

Sustainable Corn Production in Sloping Areas (SCOPSA) and Sloping Agriculture Land Technology (SALT) was implemented by two of the six key LGUs (Nagtipunan, Quirino and San Mariano, Isabela) under their Annual Development Plan. ZSL was also instrumental in the conversion of 0.96 hectares upland corn farm into a model agroforestry farm and developed 1.13 hectares of integrated fruit trees and edible Paku fern farm (OI 4.3.).

4.4 Participatory land-use mapping carried out in the areas around the 12 FS (Q1Y2-Q1Y4).

Participatory land-use mapping was conducted in all 12 sites (OI 4.1.). 431 local residents - Barangay LGUs, indigenous peoples, sectoral representatives such as women, youth and less abled groups - participated (235 male (55%) and 196 female (45%)). Areas for riverbank mitigation and low-impact farming were identified during this process.

4.5 Consolidation and analysis of data for each of the 12 sites is carried out to identify priority areas for mitigation (Q1Y2-Q1Y4).

A total of 34.24 hectares has been identified inside the sanctuary as needing immediate rehabilitation, while 52.24 hectares were identified outside the FS / Buffer zone as rehabilitation areas (OI 4.3.). The identification for mitigation areas followed the required easements under Philippine law that is: 40 meters on both sides from edge of waterline during dry season in areas declared as protected; 20 meters from edge of waterline during dry season in both public and private lands, and; 5 meters in creeks of both public and private lands.

4.6 Twelve FS agreements and FSMPs amended to include identified riparian areas and associated mitigation actions (Q1Y2-Q1Y4).

Five of the 12 key sites have included the riparian areas of their sanctuary in amended resolutions/ordinances (OI 4.2.). Mitigation actions such as native tree planting, low impact agriculture livelihood projects have been included to avoid agricultural runoff and/or riverbank erosion and siltation (OI 4.3.) (Annex 11).

4.7 Prioritisation of terrestrial mitigation to identify three implementation sites (Q1Y2-Q1Y4).

Twelve sanctuaries were rated and ranked using a set of criteria that include local adoption, LGU support, total area to be rehabilitated, extent of damage of the area, continued threats to degradation, environmental hazards and, the local peace and order situation (Annex 25). Using these criteria, three implementation sites were selected namely: Santor FS in Penablanca, Tanglagan Falls FS in Gattaran and, Duba FS in Baggaog. (OI 4.3.).

4.8 Training in reduced impact land-use activities delivered at three priority sites (Q2Y2-Q2Y4).

Project site selection, and associated training for mushroom production using agricultural waste, in tandem with the Cagayan Provincial Agriculture Office, was scheduled on March 19, 2020. This has been postponed due to COVID-19 (OI 4.4.).

4.9 Participatory implementation of reduced impact land-use livelihoods at three priority sites (Q2Y2-Q3Y4).

Areas used for agriculture near FS were identified during the Participatory Land Use Planning (PLUP). Low-impact livelihoods, such as paku fern and orchard/fruit production were developed in the three sites. In addition to this organic vegetable production (Garden to Table) (Annex 26) was initiated in Siitan FS, Nagtipunan, Quirino thanks to support from the LGU (OI 4.3.).

4.10 Monitoring of mitigation activities to assess effectiveness (Q2Y2-Q3Y4).

The monitoring of implemented mitigation activities will be conducted in tandem with relevant LGUs. Monitoring will commence in Y4 (OI 4.3).

4.11 Value Chain Analysis (VCA) for native species seedlings (Q1Y2-Q1Y4).

The VCA for native fruit tree species is completed (Annex 27). Nurseries provided bankside rehabilitation activities as a priority and the surplus sold to markets (OI 4.6).

4.12 Community training in silviculture and nursery establishment delivered in three sites (Q4Y1-Q1Y4).

Training for native tree species nursery establishment was conducted in 2018 in the Baggao LGU where three of our FS are established. During Y3, the MENRO, together with ZSL and DENR, conducted another set of training in bamboo nursery establishment and production - refer to Activity 3.3 - attended by barangays leader, staff from the Department of Education, and sectoral representatives in support of the Baggao Billion Tree Greening Program of the LGU (OI 4.4) (Annex 18). Two other training sessions in native species silviculture were conducted in Pongo, Nagtipunan involving People's Organisations, the Barangay LGU, the Women's Group, and representatives from both elementary and high schools. 132 people have been trained in total.

4.13 Native seedling planting and cultivation (Q3Y2-Q3Y4).

Four nurseries were established and are fully operational – see previous annual reports. A total of 4,391 native forest trees, 4,445 native fruit trees, and 266 bamboo seedlings were produced. Three nurseries are managed by the teachers, parents and CoMSCA members supported by the MENRO. One nursery is managed by a People's Organisation linked to an active CoMSCA, the Nagtipunan Bogador Association (OI 4.5.).

4.14 Seedlings sold into market – including local mitigation activities and NGP (Q1Y3-Q3Y4).

A total of 25 bamboo seedlings, 947 fruit trees, and 200 native trees have been sold for bankside rehabilitation to date (OI 4.6.). This translates to an income of PhP 12,320 (£189.54) which is then channelled into the CoMSCA groups who manage the nurseries.

4.15 Disaster risk reduction plans developed and included in FSMPs in line with terrestrial mitigation activities (Q2Y4-Q3Y4).

To date, disaster risk reduction mapping with field validation has been completed in Siitan FS in Nagtipunan and Governor's Rapids FS in Maddela, both in the Province of Quirino (OI 4.7.). Disaster risk maps (Annex 28) have been completed and results shared to Municipal Disaster Risk Reduction Management Offices.

5.1 Invasive species survey carried out in 12 FS (Q3Y1-Q3Y3).

Riparian assessments were carried out and non-native species were being identified. Invasive trees such as *Gmelina arborea* and *Swietenia macrophylla* were found inside the sanctuary in three out of the 12 sites. Of nine identified introduced fish species during surveys that are present in the 12 key sites, three are considered major invasive species in freshwater ecosystems – janitor fish, tilapia, and mosquito fish (OI 5.1.).

5.2 FSMPs adapted to incorporate mitigation activities (Q1Y3-Q4Y3).

One FSMP has been adapted to include mitigation for invasive species - scheduled for final presentation with the legislative body of LGU Baggao (OI 5.4.) (Annex 11).

5.3 Native freshwater fish species pilot culture programme initiated (Q2Y2-Q3Y4).

In July 2019, BFAR released Fisheries Office Order (FOO) 199: *Guidelines in the implementation of Balik Sigla sa Ilog at Lawa (BASIL) Program* (English translation: Bring Back the Life in Rivers and Lakes) which includes the banning of stocking of invasive species, such as tilapia, in open water bodies (Annex 29).

Pilot culture of native species started in Q2Y3, using juvenile mullet in BFAR facilities in Claveria, Cagayan (OI 5.2.). After a month, mortalities began occurring, and ultimately all the stock died. Based on the monitoring data, it is possible this is due to unstable water pH and temperature. The project team initiated a meeting in Q4Y3 with the BFAR Director and farm managers to determine how best to progress. It was agreed, to move the pilot hatchery in BFAR Farm in Aparri and due to expertise from SEAFDEC to use juvenile Philippine silver perch (*Leiopotherapon plumbeus*), as an alternative. BFAR will provide costs for the seed stock of this species.

5.5 Areas of non-native riparian species identified and cleared (Q2Y2-Q3Y4).

All 12 sites have been assessed and areas of invasive/introduced species were catalogued (Annex 24). Mitigation plans for riparian areas include sanitation cutting of invasive trees and replacing them with native species (OI 5.3.). Sanitation cutting permits have been requested for three sites. Two were approved and endorsed by the respective Protected Area Management Boards (PAMBs) but, despite engaging closely with the relevant office prior to submission, one application was rejected because of the opposition from the Provincial Environment Office of Cagayan. Said office wanted native trees to be planted before any invasive trees will be cut which would make the latter challenging. An appeal is lodged to the office of PAMB.

5.6 Native species seedlings transplanted from nurseries (Q1Y3-Q3Y4).

One hundred native trees were planted by elementary students of Hotspring Elementary School. 947 native fruit trees were planted in the model agroforestry farm in Bitag Grande, Baggao. 460 native fruit trees have been transported to Tanglagan Falls, Gattaran (OI 5.3.).

5.7 FS barangay ordinances adapted to incorporate invasive species mitigation (Q1Y4-Q3Y4).

Due to BFAR FOO199, Baggao LGU, in which there are three FS, has already specifically adapted their FSMP to prevent stocking of invasive species in their river and FS (OI 5.4.) (Annex 11). We aim to support similar measures in other LGUs/FS during Y4.

3.2 Progress towards project Outputs

Output 1: The FS continue to prove an effective vehicle for community buy-in to natural resource management and protection. The addition of riparian activities has expanded their value and some LGUs are beginning to adapt FSMPs with little intervention from ZSL. CMG monitoring is delivering more consistent data and the financial support of CoMSCA environmental funds and LGUs will ensure the FS have a legacy beyond the project.

Tagging orientation was conducted in Y2 and no individual follow-up has been requested (OI 1.1.). Thirty six eels were successfully tagged and released in Y3 - 67 have now been tagged in total (OI 1.2.). This will be the final number due to the cancellation of the visit by the project lead

and tagging consultant in March 2020 as a result of COVID-19. To date eight FSATs have been restructured (OI 1.3.). The remaining four were due to be restructured in Q4Y3 but these workshops were cancelled due to COVID-19 – at present they have been rescheduled for June 2020. The second freshwater MEAT evaluation was conducted early 2020 with four of six FSMBs – eight FS - attaining Level 2 status (OI 1.4.). These results were also validated through community surveys with both fisherfolks and non-fisherfolks.

Output 2: Overall, progress towards a national eel management plan – primarily due to bureaucracy within BFAR - has been slower than we had hoped. However, we are seeing replication of methods developed in the CRB nationally and internationally. Further, the new CITES Decisions will allow further examination of the global situation of eel use and trade, of which the Philippines is a key player.

Anguillid eel data submitted by CMG to LGUs is fed to BFAR who are leading the development of the National data framework (OI 2.1). Similarly, regional engagement with SEAFDEC has resulted in better strengthened monitoring, using standardized methods, which are applied regionally (OI 2.4). ZSL continue to engage with CITES (see Section 5). The National Eel Coordinator, Dr Evelyn Ame of BFAR Region 2 scheduled a co-ordination workshop to further develop the EMP in November 2019 (OI 2.3.), but due to unfavourable weather conditions it was postponed with a new date still to be confirmed due to COVID-19. The AESG finalised the assessments of 13 species of anguillids in 2019 – this included the three species that are most commonly found in the Philippines, [A. bicolor](#), [A. luzonensis](#) and [A. marmorata](#). Data collected during the project was valuable in informing these assessments (O.I. 2.2.).

Output 3: As per the activities described in Section 3.1, capacity within the 12 communities is being increased through training, infrastructure development and establishment of CoMSCAs. This progress towards Output 3 is similarly integral in the project's impact on poverty (Section 6). The socio-economic survey was completed in all 12 FS communities in Q2Y3, which in turn were followed up by feedback and validation sessions (OI 3.1). A total of 542 respondents were interviewed - 246 (45%) male and 296 (55%) female. A total of nine CoMSCAs were established active during Y3 with a total of 178 beneficiaries (70% female, 30% male) (OI 3.2.). The savings for the active CoMSCAs to date is PhP 1,047,870 (£ 16,121.08) equivalent to PhP 5,887/person. Environment funds have been established in all CoMSCAs and the cumulative savings PhP 24,961 (£ 397.62) equate to PhP 2,773 per barangay, 77% of the PhP 3600 target (OI 3.4.). Environment funds were for FS clean up, signage and posters, tree planting and River Warden/CMG allowances, this was in turn bolstered by LGU funds in ten of the sites (OI 3.5. / OI 3.6.). Five out of six LGUs have committed funding to the associated ten FS (OI 3.5). Budget allocation for FS is integrated in the annual investment plan of LGU and assessing actual monies may be challenging. Village agent training was conducted – a total of 13 individuals were trained (10 female, 3 male) – however due to COVID-19, establishment of new CoMSCAs under their guidance has been interrupted and we are unlikely to meet the target of 480 new beneficiaries (OI 3.3.). We will revise this indicator as we more fully understand the impact of COVID-19 on project delivery.

Output 4: From Y2 onwards, we have been carrying out training of low-impact livelihoods that will benefit communities, as well as rehabilitation efforts and on-going protection of FS. This has been in parallel with the assessment of riparian areas to understand threats, including the impact of invasive species, and identify mitigation opportunities. This dual process has resulted in good progress in delivering Output 4.

Participatory Land-Use Planning (PLUP) was conducted in all 12 sites and a total of 34.24 hectares were identified by the participants as needing immediate rehabilitation (OI 4.1.). Likewise, Disaster Risk Reduction mapping, with field validation, has been conducted in two of the 12 sites (OI 4.7.). All maps generated have been used to inform the iterative updates of FSMP – five FS to date (OI 4.2.), as well as being shared with respective LGUs for use in the development of their Comprehensive Land-Use Plan, and Forest Land-Use Plan. Reduced impact livelihood activities and associated trainings have already been initiated (OI 4.3. / OI 4.4.). To date a total of 2.09 hectares of cornfield have been converted to agroforestry/fruit farm and paku fern farming - 20% of the indicator metric (OI 4.3.). Additional training in mushroom production using agricultural wastes was due to be carried out in Q4Y3 but was cancelled due to COVID-19. Four nurseries produced a total of 9,102 seedlings, almost double the Q4Y3 target

(OI 4.5). The Baggao Billion Trees Greening Project has been the major beneficiary of the produced seedlings (O.I. 4.6).

Output 5: Through the on-going in-river monitoring by the FS CMGs and carrying out riparian assessments of invasive species, we have increased our understanding of the scale of the threat at the 12 sites and identified appropriate mitigation measures. As such we are making good progress towards Output 5.

Riparian assessments were completed in all 12 sites – 25% were found to have invasive species within them (O.I. 5.1.). This has informed the development of mitigation activities and also the proposed amendment of FSMPs (OI 5.2. / OI 5.4). Currently the request for special tree cutting and a chainsaw permit for sanitation cutting is with the Licensing, Patents and Deeds Division of the DENR Regional Office, pending final review and approval. Tree cutting will commence once the permit has been approved (OI 5.3.).

The culture of native fish species is on-going (OI 5.2.). While the efforts to culture a native mullet species were unsuccessful, guidance from SEAFDEC to BFAR has indicated we may have more success with a perch species. In addition to this, the development of BFAR FOO 199 will mean that stocking on invasive tilapia will be reduced – indeed, one LGU has already banned their input in FS through updated FSMPs.

3.3 Progress towards the project Outcome

We believe from the evidence presented in Section 3.1 and 3.2 that there is measurable improvement in the status of the FS established in the FS and also in the capacity of the associated communities to manage their natural resources. In addition to this, we believe we have established viable mechanisms to ensure both communities and FS have a sustainable legacy.

The acoustic tagging of 67 anguillids and the monitoring of FS through CMGs and river wardens has improved our understanding of the rivers and by association, our ability to protect them (Outcome Indicator (Ocl 0.1.). As stated above, 67 will be final number of fish tagged, due to the impact of COVID-19, however, the quantity of data collected from these - >800,000 readings - has still meant we can present evidence to BFAR, DENR and LGUs for the benefits of the FS. While the national data framework is still under development by BFAR, broadened from eel to a range of commercial fish species, we have established lines of communication such that data will be fed from CMG to the finalised system. This will ultimately be supported beyond the end of the project by the CoMSCA environment funds and LGU support for CMG and FS more broadly (Ocl 0.2.). This in turn will prove valuable at the regional level through on-going work with SEAFDEC. There are nine active CoMSCAs at present with a total of 178 beneficiaries; this equates to a mean of PhP 5,877 / person / year (Ocl 0.3.). While the savings are greater than the indicator (PhP 4,000 / person / year), the number of CoMSCA members is 25% of the proposed indicator – we are expecting to increase this number through the training of 13 village agents, and associated establishment of new CoMSCAs. However, this will likely be delayed due to the impact of COVID-19, and it is unlikely that we will achieve 720 beneficiaries by Q3Y4. Once we have determined when lockdown will be lifted in the Philippines and village agents are able to mobilise, we will adjust the indicator accordingly.

We have outlined how funding is now being directed to FS management through CoMSCA environment funds and LGU monies (Ocl 0.4). We are expecting the final FSMP to be ratified by Gattaran LGU which will release funds to support the two FS within this municipality – at this point all FS will be financially supported by local governments. As these funds are part of broader budgeting, it is not always possible to access figures to compare to project indicators. This will be reviewed in Y4 after Gattaran LGU has supported the FSMP, and if necessary, we will amend the indicator. We are continuing to build capacity in low impact farming methods and silviculture in order to reduce the impact of riparian activities in/near FS (Ocl 0.5). To date, 2.09 hectares of farmland has been converted to low-impact activities, and we expect this to increase significantly in Y4 now that the PLUP has been completed. These activities have informed proposed development of FSMPs.

Riparian assessments identified areas for rehabilitation and non-native species for removal (Ocl 0.6). Planting of seedlings from nurseries established during the project is on-going and sanitation cutting will be carried out once lockdown has been lifted. In the water-bodies

associated with FS, the impact of tiliapia stocking is expected to reduce as a result of BFAR FOO 199.

3.4 Monitoring of assumptions

Outcome assumptions

- *Novel threats to the freshwater environment do not impact the 12 focal sites – having carried out a comprehensive survey of areas identified as FS, we feel confident our interventions address key threats.*

We had previously identified the presence of the invasive janitor fish in Y1 of the project – this seems to be spreading (see above). No further novel threats have been identified.

- *Natural disaster does not affect project sites – Super Typhoon Haima recently made landfall in our project site and activities relating to 21-020 have continued with little interruption thanks to a committed team and excellent stakeholder relations.*

Flooding during Q3Y3 dislocated acoustic receivers, but as stated above, we have still managed to retrieve useful data.

- *Currency rates/rate of inflation does not fluctuate to levels that compromise delivery of the project – we have carried out a robust assessment of historical exchange rates and researched forecasts in light of Brexit and feel confident our budget is robust.*

The pound has, on average, been stronger in the past 12 months and the [exchange rate favourable](#).

- *The freshwater biome is recognised as valuable by stakeholders and they invest resources accordingly – the establishment of FS has indicated stakeholder buy-in.*

The support and buy-in for FS from LGUs and communities continues to be strong. Five key LGUs committed financial support to the implementation of FSMPs – the last LGU has agreed to support after lockdown.

- *Cross-sector stakeholder willingness to engage in project continues - our consultations with stakeholders with regards to the present project have ensured continued buy-in.*

See above – the support for the project remains at the local, municipal and regional level.

- *Communities are not fatigued by any previous efforts to develop interventions – due to the lack of focus on freshwater resources, we believe our interventions are the first of their kind in the region.*

We have maintained contact with communities over a period of over five years and we believe that this continuity and familiarity has meant the buy-in remains. Further, the project is delivering tangible benefits such as the establishment of CoMSCAs – the environment funds from the nine active savers groups are supporting FS management, indicating buy-in.

- *Identified livelihood options are feasible – we are using interventions that have been successful in other ZSL projects and as such will apply the lessons learned to the proposed work.*

The seedling nurseries have shown to be successful and are providing resources for riparian regeneration. River warden and CMG members are being supported by the environment funds from CoMSCAs. Further opportunities such as low impact agriculture and mushroom farming will be monitored, post-COVID-19 lockdown.

- *Mitigation efforts for tilapia are supported by LGUs - our anecdotal research indicates that tilapia are stocked with little assessment of the biological and socio-economic impact; through IEC and biological monitoring we aim to ensure an understanding and dissemination of these in order to intervene in a way that is supported by local communities.*

Despite BFAR providing tilapia to LGUs for stocking, in 2019 they produced FOO 199 which prohibits this. In future, tilapia will be stocked only in fishponds and cages. Implementation of this will be monitored in Y4.

- *Interventions relating to invasive species are successful.*

We continue to explore options for native species to be stocked, despite the lack of success relating to mullet farming. We are also finalising permission to remove invasive species from riparian areas in FS – this will commence once COVID-19 lockdown has been lifted.

Output assumptions

Output 1

- *LGU / Community commitment to FS continues – we believe we have buy-in through on-going community engagement.*

See above.

- *Tag readers work effectively*

Despite the impact of flooding remaining receivers were retrieved and data offloaded for analysis.

- *FSMB approve changes in relation to fish/eel movement and/or presence of native species – our programme of IEC / social marketing aims to increase the understanding of the importance of adaptive management for natural resource protection.*

FSMPs are being reviewed in light of multiple data inputs and amendments being proposed in consultation with FSMBs.

- *FSMB approve expansion of membership.*

Using the FSAT model of barangay level implementation, we have already ensured local land users are now represented.

- *MSN approve adaptation to use in freshwater – ZSL have worked with MSN on previous projects and we have a good relationship with them.*

MSN are not responding to our approaches regarding the development of MEAT, and as such we have progressed the development of the assessment framework which is proving an effective way to assess the FS. We continue to try and engage with them to discuss the framework.

Output 2

- *Establishment of framework improves consolidation of national anguillid data – ZSL and the Anguillid Eel Specialist Group (AESG) have experience of data collation nationally and internationally and aim to apply this to achieve this output.*

The framework is presently being discussed within BFAR – data is being collated by the national eel contact person, Dr Evelyn Ame, who is intrinsically involved in the project. The BFAR central office have begun development of the system in Q2Y3, however it has now been broadened to all exploited species.

- *National stakeholders and international range states of anguillid species found in the Philippines are willing to co-operate – through the AESG and BFAR's links to the South East*

Asia Fisheries Development Centre (SEAFDEC) we believe there is a strong co-operative network in place.

A series of regional workshops to formulate policies for anguillids has been conducted by SEAFDEC and attended by Dr Ame. The CRB EMP was used as a point of reference for this.

- *EMP produced as part of project 21-020 is adopted nationally – this is presently being reviewed by stakeholders and was developed through a consultative process which and as such we expect it to be approved nationally early next year.*

Development of both National and Island level EMPs continued during 2019. All regions that have eel commodities have allotted budget to conduct habitat assessments and socio-economic surveys for baseline data to include in EMPs. ZSL continue to engage and support BFAR regionally and nationally on anguillid eel matters as needed.

- *Funding is identified for regional workshops by range states.*

ZSL were invited to attend a workshop in Japan and a conference in Malaysia (see above) but these were both postponed due to COVID-19.

Output 3

- *Community buy-in to benefits of CoMSCAs – communities have been requesting the establishment of CoMSCAs since hearing of the success of those established in coastal communities in 21-020.*

As of this date, nine CoMSCAs are active.

- *Availability of funds and savings and support of the community.*

Savings are evidenced in Section 3.1.

- *Suitable Village Agents are identified.*

Thirteen CoMSCA members trained as village agents.

- *Village Agents set up new CoMSCAs – once identified, this is a proven method for establishing CoMSCAs.*

CoMSCA establishment has been impacted by COVID-19 – we will support village agents to develop new savings groups once lockdown has been lifted.

- *Communities are motivated to support freshwater management and conservation activities – communities were key in identifying FS sites and as such we believe there is buy in to their on-going management.*

The establishment of FSATs in Y2 has resulted in active implementation of community level actions under the LGU FSMP.

- *CoMSCAs strengthen FS.*

Monies from CoMSCA environment funds have been allocated for FS management, as evidenced in Section 3.1.

- *CoMSCA members understand benefit of inclusion of the environment fund and there is a willingness to adopt – we have developed a social marketing programme to address this issue.*

See above.

- *Support of LGU's / Barangay Councils, communities, Fisherfolk Association's etc. to long-term development of FS.*

On-going community consultations and TWG meetings, evidence buy-in to the FS from communities, LGUs, BFAR and DENR.

- *FS management bodies are transparent and accountable, and effective mechanism for utilising environment funds that gives CoMSCAs confidence and trust in handing over environment funds for FS management.*

Five of six LGUs have now agreed to fund FS as part of their annual budget, with the remaining one having agreed to support post-lockdown. Environment funds from established CoMSCAs have already provided support to FS management (see Section 3.1).

Output 4

- *Community able to self-select areas for improvement and change behaviours and practices relating to terrestrial livelihoods – this process was used to identify FS and we believe it worked well.*

Nurseries for native seedlings have already been established. Communities for low-impact agriculture, mushroom farming and bamboo farming have also now been identified.

- *FSMB willing to take on bankside areas to manage.*

Riparian areas have been written in to FSMPs, FSATs have riparian owner/user representation, the PLUP has been completed, and mitigation activities are on-going.

- *River bank users are willing to participate in improved practice trials – we aim to use IEC and social marketing to engage and increase awareness of stakeholders to the link between healthy riparian areas and healthy freshwater systems.*

See above.

- *Communities buy-in to nursery development and seedling production.*

Nurseries have been established.

- *Good availability of native seedlings.*

See above.

- *Native species grow successfully.*

We have evidenced the success in Section 3.1.

- *There is a market for native species seedlings – the NGP has been extended to 2028 by DENR and we are confident that as a project partner we will have access to this market.*

Seedlings have been used for riparian rehabilitation as a priority, after which they are sold into market – see Section 3.1.

Output 5

- *There is government support for invasive species mitigation.*

ZSL and BFAR agreed on terms for the pilot culture of native fishes. The stocking of tilapia is now minimised through FOO 199.

- *Appropriate native species are available.*

The native mullet species for culture trials in Y3 was unsuccessful, as such, as advised by SEAFDEC, we will trial the Philippine silver perch in Y3.

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

ZSL continue to be a leader the implementation of freshwater in the Philippines. We have evidenced several examples where our work has had influence elsewhere in the country and continue to provide technical expertise to both BFAR and DENR in relation to freshwater conservation and anguillid eel science. This impact also continues to have international recognition. As stated above, ZSL was invited to speak at the Third ASEAN Conference on Biodiversity in Malaysia, March 2020 (Annex 15). This was recognition of how the project has had impact at the national level and an excellent opportunity to highlight the work to integrate both biodiversity conservation and poverty alleviation at the community level on an international stage. When the meeting is rescheduled, we will be taking the opportunity to attend. In addition to this, two members of the team visited Nepal to share learnings as another Darwin funded ZSL project - *Ghodaghodi's Guardians: Communities restoring a Ramsar wetland at watershed scale* (26-012) – was established.

We continue to engage with CITES at the international level in relation to anguillid eel trade and use, working with the secretariat, multiple government agencies, attending CoP 18 and with a view to attending Animals Committee and Standing Committee in 2020.

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

The project's overall aim is to protect and sustainably manage areas of the Philippines' largest freshwater system at the community level while reducing anthropogenic impacts. The on-going efforts, fundamental to the project, to strengthen FS and build community capacity to reduce impacts on the freshwater resources, capture Sustainable Development Goal targets (SDGt) 1.5, 6.6, 12.2, 12.4, 12.8, 15.1, 15.5 and 15.9. Community management of natural resources (SDGt 6.B) is ongoing through the FSMBs, FSATs and CMGs and key LGUs (SDGt 16.7) and through completion of the socio-economic surveys, the understanding of reliance on freshwater systems, has been improved (SDG 4.7 and 12.8). The on-going establishment of CoMSCAs associated with FS have improved access to financial services that would otherwise be unavailable (SDGt 1.4, 8.10 and 9.3), increasing financial and social security (SDGt 3.8 and 5.4), alleviating poverty (SDGt 1.2) and allowing livelihood diversification; this is further supported through the establishment and on-going support of community-led seedling nurseries, mushroom production and 'garden to table' vegetable farming that aim to minimise harmful input and waste (SDGt 8.3, and 12.5). The inclusion of an environmental fund into CoMSCAs has a track record of increasing stewardship of natural resources and improving management (SDGt 12.1). Savings for both social and environmental initiatives are outlined in Section 3. CoMSCAs are an established tool in ensuring gender equality and the eleven established in the region in the past 12 months have 70% females (SDGt 5.5 and 5.7). Our work to expand the FS to include riparian habitat will ensure land management is improved, including reforestation, (SDGt 2.3, 6.3 and 15.2) and habitats are more resilient to changing climate and/or natural disasters (SDGt 2.4, 11.5 and 13.1). The on-going focus on reducing impacts of invasive species by using native alternatives (SDGt 15.8) will strengthen these ecosystems.

5. Project support to the Conventions, Treaties or Agreements

This project has relevance to CBD, CMS and CITES. The Biodiversity Monitoring Bureau (BMB), which sits within DENR, our project partner, are the national focal point for these three conventions. ZSL have regular engagement with DENR, and also BMB staff, on technical matters, with a bilateral flow of knowledge and expertise.

As with the SDGs, in establishing FS and building capacity in the communities that manage them, Aichi Targets (AT) relating to habitat loss and restoration, sustainable management and protection (AT 1, 4, 5, 6, 11, 14 and 18) are captured. Our tagging study to understand the movement of anguillid eels in the context of FS is novel research and builds the evidence base

for how to most effectively implement such interventions (AT19). The expansion of FS to include riparian habitat, including efforts to restore these where needed, will strengthen management of aquatic resources (AT 7) and where feasible, there will be an aim to improve both waste management and improve land-use practices to reduce pollution (AT8). The identification of a way to reduce the impact of invasive species (AT 9) and the on-going protection of threatened and/or endemic species in FS (AT 12) will ensure aquatic resources are more resilient and systems are intact. The establishment of CoMSCA environmental funds will increase stewardship of aquatic resources and improve management, as well as providing leverage for municipal and national funding (AT 2).

At the CITES CoP18, held in 2019 in Geneva, Switzerland, [Decisions](#) were adopted, relating to anguillid eels, key species in the CRB, and Philippines more broadly, and identified in the project as a focal area of work. This document related to all anguillid species when only one - the European eel - is listed in CITES Appendix II. ZSL is presently in discussion with the secretariat with regard to delivering outputs within these Decisions, and will be attending the CITES Animal Committee, presently due to occur in July 2020.

While none of the species found in the Philippines are listed in the CMS Appendices, the tenets of the convention apply to them, and the research that is being carried out as part of our project to better understand the migratory behaviour of anguillid eels, will have relevance. For example, at the recent CMS CoP13, held in India in February 2020, two resolutions – [‘The role of ecological networks in the conservation of migratory species’](#) and [‘Improving ways of addressing connectivity in the conservation of migratory species’](#) - were updated at CoP13, both of which have great relevance to the project, and vice versa.

6. Project support to poverty alleviation

We continue to expand the network of CoMSCAs within the key sites – at present we have nine active CoMSCAs – specific metrics relating to these are presented in Section 3.1 (Ocl 0.3. / OI 3.2.). The development of the COVID-19 pandemic has added a further threat to rural communities globally and we are receiving anecdotal evidence through our networks that access to CoMSCAs have provided members with a buffer to the impact of this. While our newly trained village agents (Ocl 0.3 / OI 3.3) have not been able to establish new CoMSCAs we are hopeful that once lockdown has been lifted that we can support them in broadening the savers network in the areas where they are active.

Through the training we have offered in low-impact farming and silviculture, we have diversified beneficiaries’ livelihoods, which in turn reduces reliance on a single income and increases resilience to financial shocks (Ocl 0.5. / OI 4.3. / OI 4.4.). This training has also included the establishment of basic infrastructure in order to grow certain crops or implement certain methodologies of farming. In some instances, these livelihoods will ultimately feed into disaster risk reduction e.g. through riparian strengthening / re-establishment from native species planting within FS, increasing resilience for all community members (Ocl 0.5. / OI 4.5. / OI 4.6. / OI 4.7.). In addition to the trainings described above, we have also continued to increase the capacity of river wardens – for example, para-legal training was delivered in order to better understand the laws under which they are working. The river wardens, CMGs and on-going support of the FS through CoMSCA environment funds and LGU monies will offer further human and environmental resilience (Ocl 0.4. / OI 3.4 / OI 3.5. / OI 3.6.).

7. Consideration of gender equality issues

We aim to ensure that at a minimum any work we carry out is gender aware/sensitive and that we deliver this through locally appropriate mechanisms. We have actively engaged with women to join community meetings and consultations, and relevant training. For example, the completed socio-economic surveys resulted in 55% of respondents being female (OI 3.1.).

CoMSCAs have long been identified as a successful mechanism to engage women in decision making and financial management at both the community and household level. CoMSCA membership within the 178 savers is 70% female. As a consequence, women will see direct benefit from this increased economic resilience and access to financial services (Ocl 0.3. / OI 3.2.). This is further reflected in the village agent training where 10 (77%) of 13 trainees were female (OI 3.3). By association, the establishment of environment funds linked to CoMSCAs

ensures that women play a key role in the disbursement of monies ring-fenced for environmental management (OI 3.4).

There is still a weight towards male participants in the management of FS - 23% of FSMB members are women, though this is higher in FSATs (28%). However, in both instances, this is approximately double the representation compared to Y2. Training carried out in Y3 in para-legal and MEAT were conducted and attended by four (11%) and 12 (17%) females respectively (Annex 3) – the latter which was a repeat training saw a 50% increase in female attendance from Y2 (see Y2 report). Training for nursery establishment and planting (OI 4.4) for native tree, and bamboo, saw nine (30%) and 36 (47%) women attending, highlighting opportunities to engage more in FS management through bankside rehabilitation (OI 4.5) and disaster risk reduction (OI 4.7) (Ocl 0.6.).

8. Monitoring and evaluation

We have not significantly changed our approach to M+E over the past twelve months, however, the in-country lead attended a training workshop aimed at building project management capacity, including strengthening M&E capacity (Annex 30).

We have regular reporting mechanisms in place to ensure effective project management. The Project Technical Lead creates a quarterly workplan based on the logframe with associated indicators and budget. This is shared with all team members, including the Project Leader, and ensures we are monitoring progress of Outputs and Activities towards the Outcome. Targets and activities are reviewed and the workplan amended accordingly. Where relevant, technical specialists review activities to ensure they deliver the agreed Outputs. We have two dedicated M&E staff named on the project (one in-country and one international) who have fed into our processes and advise where needed.

TWG meetings, led by ZSL, are attended quarterly by all in-country project partners, to ensure implementation is on track and all partners are able to input technically and administratively. ZSL have meetings with BFAR, DENR, LGUs, Barangay officials, CoMSCAs and FSMBs on a regular basis in relation to project activities which further ensure we are monitoring progress outside of the structured TWG meetings.

A change request was submitted in April 2019 – this was approved in June 2019 after minor modifications - to reflect the on-going adaptation of the logframe/workplan in light of this monitoring (Annex 31). In finalising the expenditure for Section 15, we recognise that a further request should have been submitted to amend the budget, although several issues arose in Q4 which impacted spend and had to be dealt with as a matter of urgency.

As with Y2, there has been significant data collection during Y3. Socio-economic surveys, which included standardised indicators regularly used by ZSL, are encoded into a database developed by ZSL's M&E specialists, for use across the Philippines, ensuring analyses are consistent. CoMSCA savings data is now encoded directly into tablets, again, for storage in standardised databases and all presented data have been accessed from these. Biological data from the aquatic and riparian surveys described above are encoded and analysed and/or mapped to inform follow-on activities. The second annual MEAT assessment of FS (see Annex 13) indicated progress towards achieving good governance and sustainable practice, captured in activities across all five Outputs. MEAT also allows comparison between all 12 sites and the opportunity to share learnings.

9. Lessons learnt

As stated elsewhere in the document, the relationship with some LGUs has proven challenging. However, we are hopeful that continued engagement with the relevant members has resulted in a better understanding of how the project will benefit communities, and the continued support of the LGUs (see Section 12). In future it might be worth considering devolving team members to individual LGUs in order to increase engagement with stakeholders.

We have continued to have issues with anchoring the tag receivers. We knew there would be challenges with maintaining their position, in a region that is so affected by tropical storms. Ultimately, we did lose some infra-structure in bad weather, however, results from the tagging studies have been invaluable. These are the first studies of their kind in the Philippines and will hugely increase our understanding of the species.

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

- *The report identified a new threat: the national level decision by BFAR for further promotion of tilapia stocking as a food security measure. Please discuss and indicate in the next report how the project will answer to this question.*

We are continuing to explore alternatives to stocking tilapia, through our trial native species culture. But since the last report, there development of BFAR FOO 199 will reduce input of tilapia and favour native species. Learnings from the native species culture will be discussed with BFAR and DENR/BMB with a view to minimising the impact of historic tilapia stocking.

- *The number of tagged fish species was reduced from 1,000 originally to 100 according to the change request. The argument is that the used tags are “more expensive but yield more robust data”. With already 41 eels tagged the total number of 100 should be reachable in Y3. Nevertheless it would be helpful to add an additional explanation what exactly means “more robust data” in the context of Output 1.*

The original tags proposed for the 1,000 fish are simple visual tags, as such it requires the fish to be re-caught in order to provide data. Re-capture rates are generally quoted as being <10% depending on factors such as the species, location, fishing effort and environmental conditions. However, even if tagged fish are caught again, this will only yield release site and capture site. This information is useful and can be used to inform management, but detection of acoustic transmitters provides time-stamped location data for tagged individual eels throughout the fixed receiver array. This enables detailed movement/behaviour metrics to be derived such as activity level and residency within a zone (e.g. fish sanctuary). Further, fish can be manually tracked when outside of the detection range of fixed receivers. At the time of writing, the 67 acoustic tags have yielded 837,220 data points. Further, 16 juvenile eels (too small to be acoustically tagged) were tagged only with an RFID transponder which will enable future recapture to be determined by scanning with a hand reader. Detection data, combined with individual fish morphometrics and environmental data, enable elucidation on the factors affecting residency and the overall value of fish sanctuaries for different eel life-stages.

- *The economic survey document added as Annex 15 to this report is difficult to read and not complete. The document should be added to the next report to assess its quality.*

This has been submitted as Annex 32.

11. Other comments on progress not covered elsewhere

As has been outlined in a number of activities in Section 3.1, COVID-19 has impacted implementation. At the time of writing, the in-country team and focal sites were under lockdown. Once restrictions are lifted, we will review the workplan and logframe in the context of available time and funds. At present we are considering a request for a three-month extension of the project until 31/3/2021.

12. Sustainability and legacy

As we enter the final year of the project, we are working to finalise activities and outputs, very much with a view of the legacy of our work. However, this has been an on-going process throughout the project. By building capacity in FSMBs/FSATs and LGUs we are ensuring that the skills are available to manage the freshwater and terrestrial resources and their respective FS. The integration of FSMPs into LGU development plans – which include associated budget - ensures sustainable implementation and management of FS. This integration also provides incentives for river wardens and CMGs who actively patrol and monitor the sanctuaries. Also, communities have been trained to carry out MEAT evaluations, such that the LGU will be able to evaluate their own sanctuaries together with the BFAR.

More broadly than the individual sites, the information gathered from monitoring and patrolling FS is being shared with partner agencies such as BFAR and DENR, which can help to inform strategies at both the Regional and National levels – we have previously evidenced the

development of both EMPs and FS outside of the CRB by these agencies. BFAR are reviewing existing eel data in other Regions and scheduling exploratory surveys of freshwater systems. Mitigation actions to reduce the impact of both terrestrial and freshwater invasive species in key sites is presently being integrated in to updated FSMPs – this has strengthened these plans in the face of identified threats. The mitigation has been carried out in collaboration with DENR and BFAR who are supporting these activities. For example, the pilot culture of native freshwater fish with BFAR is developing new strategies to increase native species populations and reduce the reliance on invasive tilapia to stock rivers.

As stated in previous reports, the inclusion of CoMSCAs ensure that there is life beyond the project – on average, globally, 95% are still active after five years – and by linking this to FS management through the environment fund, the resource protection can also be sustained co-operatively with LGU monies.

As stated in Section 3.5, the lead of our in-country team was invited to speak at an ASEAN meeting in March 2020, highlighting that the project is recognised internationally and that there is opportunity for it to act as a regional case study.

13. Darwin identity

In-country, the Darwin logo sits side-by-side with partner logos on all communications relating to the project. For example, during the past 12 months, the Darwin logo was used in leaflets distributed during IEC activities in schools, training workshops and meetings in communities, and during visits to LGU's Mayors and Provincial Governors (see Annex 33). The Darwin logo is also included on the uniforms of river wardens and project staff. Further, in all consultation meetings or publications, Darwin Initiative is acknowledged as the funder. ZSL has had a number of projects funded by Darwin Initiative and so the network of both GO and NGO partners are familiar with them. This project has followed on from previously Darwin-funded work (21-020) and we continue to work in the same region in the present project. As such our focal communities are also familiar with the Darwin Initiative. The project does not form a part of a larger initiative and is a stand-alone programme of work. We have a project [Facebook](#) page but do not have a project specific Twitter account. However, we do have a general [ZSL Marine and Freshwater Twitter account](#) which project updates are posted on (See Annex 34).

14. Safeguarding

ZSL is committed to safeguarding the well-being of all those who come into contact with our work and activities anywhere in the world. The ZSL safeguarding policy is a set of interlinked policies and procedures that effectively constitute a safeguarding policy framework and provide an open and transparent organisational culture to ensure prevention of all forms of abuse, exploitation, bullying and harassment. This has been shared with key project partners. A number of additional policy and procedure documents constitute this safeguarding policy framework which include policies such as the global code of conduct, global whistleblowing policy, disciplinary policy, data protection policy, violence and aggressive behaviour policy, amongst other important policies. There is also a designated safeguarding officer for the ZSL teams based outside the UK and another safeguarding officer for the conservation and policy department in which this project sits. ZSL is also planning to develop an environmental and social management system (ESMS) in line with the IUCN ESMS which will provide a formalised systematic procedure for people or communities to raise any concerns over potential adverse impacts from a project. When this system has been finalised, we will share the information with our project partners and make it available to those we are working with.

The local communities and project partners are core to this Darwin Initiative project so this safeguarding policy is of particular importance alongside the global code of conduct and whistleblowing policy to ensure the safety of both the project team as well as the people the project works with (see Annex 35 for full ZSL safeguarding statement).

15. Project expenditure

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

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)				
Others (see below)				
TOTAL				

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

Project summary	Measurable Indicators	Progress and Achievements April 2019 - March 2020	Actions required/planned for next period
<p>Impact Freshwater resources in the Philippines are effectively conserved and managed at the community and local government level to secure ecosystem services and contribute to National and International targets.</p>		<p>On-going national and international engagement – specifically in relation to ASEAN, SEAFDEC and CITES.</p> <p>CoMSCAs have proven to be a useful mechanism in the wake of COVID-19.</p> <p>Successful project visit to Nepal to share learnings from this project.</p>	
<p>Outcome The biological status, community capacity, resilience and stewardship, and sustainable management of key sites in the Cagayan River Basin are measurably improved to benefit the freshwater ecosystem.</p>	<p>0.1 The protection of native species in 12 FS is increased through strengthened monitoring of 100 tagged fish, updated FS management plans (FSMPs), and an expanded and representative membership of the FSMBs by Q3Y4.</p> <p>0.2 A national management framework is established by Q4Y2 to improve data collection and analysis relating to anguillid eels supporting the Philippines in meeting national and international policy and management requirements by Q3Y4.</p> <p>0.3 Through the establishment of COMSCAs and training of 12 Village Agents (VAs), 720 beneficiaries in 12 barangays have annual savings of at least PHP4,000 / person (~£65) by Q3Y4 (from a baseline of 0 in Y1).</p>	<p>In total, 67 tagged eels have yielded >800,000 data points across and nine acoustic receivers. Four FSMPs have been updated and FSMBs have been expanded to include landowners.</p> <p>National data system for all fish commodities is being progressed by BFAR Central Office – anguillid-specific input being provided by Dr Evelyn Ame. after which it will forward down to regional offices of BFAR for adaption and use. BFAR in collaboration with SEAFDEC have been gathering eel fisheries dependent data across the Philippine.</p> <p>178 savers (25%) are presently active with savings equating to PhP 5,887/person/year (147%). 13 CoMSCA members have been trained as village agents but establishment of new CoMSCAs has been postponed due to lockdown.</p>	<p>Final analysis of consolidated data.</p> <p>Update two remaining FSMP.</p> <p>On-going development of framework by BFAR.</p> <p>Exploratory surveys of sites with eel populations are also being proposed by BFAR.</p> <p>Establishment of CoMSCA in other sites and adjacent barangays together with village agents.</p>

	<p>0.4 Community managed FS are self-supporting in 12 barangays through co-funding of at least 7200PHP / FS / year (from a baseline of 0 in Y1) by COMSCAs environment fund monies and local and regional GOs by Q3Y4.</p> <p>0.5 10ha of bankside habitat is rehabilitated by Q3Y4 through silviculture livelihood diversification and adaptation of freshwater sanctuary management plans (FSMPs) in 12 barangays, reducing impacts on FS and increasing resilience to natural disasters.</p> <p>0.6 Invasive / exotic species numbers are reduced in both 12 FS and 10ha of associated bankside through improved management and initiatives focussing on native species by Q3Y4 (from the end of surveys carried out by Q1Y2).</p>	<p>Environment funds and/or LGU support are in place in 10 FS – the remaining two will be finalised in Y4. LGU monies are not always public knowledge due to being included in annual investment plans. The indicator metric will be reviewed in Y4 if it is not possible to access all LGUs investment.</p> <p>Riparian assessment and PLUP in Y3 has identified 32.24 ha for rehabilitation across 12 key sites. To date 2.09 ha has been rehabilitated. Training in silviculture and low-impact farming methods has been delivered. Sanitation cutting permit of invasive species has been submitted to DENR.</p> <p>Mitigation activities for both FS and associated riparian areas have been developed during Y3 as a result of surveys to assess the threat. Silviculture and native fish culture are on-going.</p>	<p>Analyse consolidated monies from environment funds and/or LGU.</p> <p>Sanitation cutting of invasive species, native tree planting, disaster risk mapping and FSMP update will be commenced once lockdown is lifted.</p> <p>Bankside planting and native species fish culture will continue after lockdown.</p>
<p>Output 1. Native species protection and sustainable management is measurably improved through increased stakeholder capacity and monitoring efforts and strengthening Freshwater Sanctuaries and management plans.</p>	<p>1.1 30 National staff are inducted to the use of tagging techniques in monitoring of aquatic species by Y2Q4. Individual staff members will be trained, as needed, to a self-sufficient level of competency in tagging, monitoring and analytical techniques (from a baseline of zero) through mentoring by UK experts by Q3Y4.</p> <p>1.2 100 anguillid eels are tagged (Q4Y1 = 20; Q4Y2= 40; Q4Y3 = 40) and the results of monitoring are used to inform the delineation of 12 existing FS and strengthen associated FSMPs by Q3Y4.</p>	<p>50 staff were trained in Y2 – see Y2 annual report for evidence.</p> <p>Sixty seven eels have now been tagged in total (see Section 3.1 / Annex 8). This will be the final number due to the cancellation of the visit by the project lead and tagging consultant in March 2019 as a result of COVID-19. Data has been downloaded and analysed.</p>	

	<p>1.3 12 barangay-level FS Action Teams (FSATs) are established under the six municipality-level FSMBs to ensure that both river and land-users are represented in management of FS by Q2Y3.</p> <p>1.4 Management Effectiveness Assessment Tool (MEAT) is adapted and applied to FS and Level 2 attained in all 12 by Q3Y4.</p>	<p>As indicated in the Y2 report, twelve FSATs have been established. Eight have been restructured to include representative membership. The remaining four will be restructured in 2020 after lockdown has been lifted.</p> <p>The second freshwater MEAT evaluation was conducted early 2020 with four of six FSMBs – eight FS - attaining Level 2 status (See Section 3.1 / Annex 13).</p>
Activity 1.1 Tagging orientation training provided		Completed in previous project year.
Activity 1.2 Tagging, monitoring and analytical techniques training, as needed		There was no need to provide further training to partners in these methods.
Activity 1.3 Native fish species – including anguillid eels - are tagged with acoustic tags.		The total number of eels tagged during project was 67 – the final visit was cancelled due to COVID-19.
Activity 1.4 Movement of native fish species within the Cagayan River Basin is monitored on a micro- and macro- scale.		Telemetry data has been downloaded on a regular basis and sent for analysis to consultant.
Activity 1.5 Fish movement data and existing FS monthly abundance monitoring data is consolidated and analysed.		CMG and tag data are reviewed on an on-going basis.
Activity 1.6 FSMPs are updated in light of consolidated data from FS and fish monitoring.		Four of six FSMPs have been updated.
Activity 1.7 FSATs are established to include beneficiaries of new livelihoods e.g. native tree nurseries.		Eight FSATs have been re-organised and expanded their committee memberships.
Activity 1.8 MEAT assessment adapted for use in FS in consultation with MSN.		Completed in previous year.
Activity 1.9 MEAT assessment carried out at all 12 sites.		69 participants attended the second freshwater MEAT workshops. Four FSMB – eight FS - attained MEAT Level 2 in FS management and governance the other attained Level 1.
		Remove receivers and download last of data.
		Analysis of completed data set.
		On-going engagement with LGUs with a focus on updating remaining two FSMPs.
		Complete the FSAT organisation in the remaining four key sites once lockdown has been lifted.
Output 2. Data relating to anguillids eels in the Philippines is fed into the national eel management plan and CITES call for international collaboration for improved management of these species.	<p>2.1 National and international co-ordination of data collection is strengthened to meet CITES data call through establishment of national data framework by Q4Y2.</p> <p>2.2 Understanding of biology and population status of anguillid eels resident in CRB increased by Q3Y4</p>	<p>There is good communication of data both regionally and nationally, despite the absence of a data framework (see Section 3.1). The data framework relating to anguillids is being lead by Dr Evelyn Ame of BFAR, a member of the project team, and is keeping us informed of developments.</p> <p>The AESG finalised the assessments of 13 species of anguillids in 2019 – this included the three species that are most commonly found in the Philippines, <i>A. bicolor</i>, <i>A. luzonensis</i> and <i>A. marmorata</i> (see Section 3.2 for links).</p>

	<p>through analysis of monitoring data from FSMBs by BFAR and AESG.</p> <p>2.3 National eel management plan (EMP) is updated through consolidated analysis of data sets by Q3Y4.</p> <p>2.4 Regional engagement relating to anguillid eels is improved through participation in CITES workshops by Q3Y4.</p>	<p>Dr Evelyn Ame scheduled a co-ordination workshop to further develop the EMP in November 2019 but due to unfavourable weather conditions it was postponed with a new date still to be confirmed due to COVID-19. Data analysis and consolidation is on-going (see Section 3.2).</p> <p>Regional engagement with SEAFDEC is on-going. ZSL attended CITES CoP18, held in 2019 in Geneva, Switzerland. Decisions were adopted, ZSL is presently in discussion with the secretariat with regard to delivering outputs within these Decisions, and will be attending the CITES Animal Committee, presently due to occur in July 2020 (See Section 3.2 and Section 5 for links).</p>
Activity 2. 1. National eel data framework established in collaboration with BFAR.	Monthly fisheries independent and anguillid data submitted to BFAR to inform development of national eel database – this will now be part of a larger fish commodity database being developed by BFAR.	<p>Continue data collection and submission to BFAR.</p> <p>BFAR to continue working on database development.</p>
Activity 2.2. Key metrics are identified and analysed in line with CITES call.	ZSL attended CITES CoP18. Decisions related to anguillid eels adopted.	ZSL to deliver study listed in the Decisions.
Activity 2.3 Data submitted to AESG for inclusion in Red List assessment workshop.	Completed in Y2.	
Activity 2.4 Data submitted to national CITES focal point.	Data submitted in Y1 and reports delivered to CITES in Y2.	
Activity 2.5 Regional eel focal points in other range states identified and engaged	SEAFDEC continue support of fisheries dependent glass eel data in CRB.	On-going gathering of eel fisheries dependent data by SEAFDEC and BFAR in eel fishing grounds at sites across the Philippines.
Activity 2.6 Data relating to eel species used to update EMP	Data shared with BFAR. Plans to update EMP are now on hold due to COVID-19.	CRB EMP scheduled for update in 2020 by BFAR once lockdown has been lifted.
Activity 2.7 Project representatives attend national and international CITES workshops relating to anguillid eels.	Project Lead travelled to Japan to attend regional workshop on status of Japanese eel. Project Technical Lead invited to speak at ASEAN conference. Both postponed due to COVID-19	These opportunities will be followed up once they are rescheduled.
Output 3. Human and financial capacity and engagement in managing freshwater resources in 12 focal barangays is increased through social marketing and environment funds delivered by COMSCAs	3.1 Needs, cultural and socio-economic assessments carried out in 12 key barangays (including a minimum of 360 respondents) and number of beneficiaries identified and disaggregated by household and	SE survey completed with a total of 542 respondents in which 45% are males and 55% are females (see Section 3.2 / Annex 16). Results were used as reference for the conduct PLUP workshop.

	<p>gender to identify community understanding of the freshwater ecosystems, the value and use of the freshwater resources and key capacity issues by Q4Y1.</p> <p>3.2 COMSCAs are established in 12 key barangays – encompassing 240 beneficiaries (>50% female) – by Q2Y2 ensuring improved financial security through increased annual savings and access to loans of at least 4000PHP (£65) / person by Q3Y4.</p> <p>3.3 Twelve Village Agents are trained to increase capacity and engagement to establish at least two new COMSCAs per barangay including 480 new beneficiaries (>50% female) across key sites by Q3Y4.</p> <p>3.4 COMSCA environment funds are established in 12 key barangays and an increased willingness of communities to input results in cumulative annual input to environment fund in each barangay rising from PHP0 to at least PHP3600 (£60) per cycle by Q3Y4.</p> <p>3.5 Environment funds are used to leverage monies from LGUs and national agencies for FS to at least match the value of environment funds (PHP3600 (£60) per COMSCA per cycle) by Q4Y3.</p> <p>3.6 Environment funds are being used to support effective enforcement and management activities of FS by end of Q4Y2.</p>	<p>Nine active CoMSCA with 178 beneficiaries (74%). Savings equate to PhP 5,887/person/year (147%) (See Section 3.2).</p> <p>Thirteen CoMSCA members trained as village agents – establishment of new saver’s groups has been postponed until after lockdown. (See Section 3.2 / Annex 21).</p> <p>All nine active savers groups have established environment funds to support FSAT/FSMB and initiate environment related activities – at present funds equate to PhP 2,773 / CoMSCA (77%) (see Section 3.2).</p> <p>Five out of six LGUs have committed funding to the associated ten FS. The final LGU is expected to ratify the FSMP in 2020 (see Section 3.2). In all cases, budget allocation for FS is integrated in the annual investment plan of LGU and assessing actual monies may be challenging. Once the final LGU has provided support we will consolidate available information in the context of the indicator metric.</p> <p>Combined monies are being used for signage, river clean-ups, tree planting and river warden / CMG allowances (see Section 3.2).</p>
<p>Activity 3.1 Socioeconomic survey is developed, carried out and analysed, and report produced.</p>		<p>Survey completed - 542 respondents – and report produced.</p>

Activity 3.2 Community feedback sessions held in 12 key barangays.	All feedback sessions carried out by end of Q3Y3.	
Activity 3.3 Capacity and engagement needs of community and FSMB addressed through series of training courses, social-marketing and infra-structure development.	77 participants joined Bamboo culture training.	Leadership training for FSMBs is planned in Y4 after lockdown has been lifted.
Activity 3.4 COMSCA training is delivered at 12 key barangays.	355 people now trained to be CoMSCA members across all 12 key barangays.	Further CoMSCA establishment with support of Village Agents.
Activity 3.5 Analysis of COMSCA beneficiary financial access and use.	Nine active saver groups, with 178 beneficiaries to date. Loans are primarily being used for education, small enterprises, agribusiness, medical health and to support basic needs and housing improvements.	Continue monitoring of savers groups.
Activity 3.6 Village Agents training reinforcing the value of being local champions and their contribution to the management of the FS carried out.	Village agent training conducted with 13 participants for six FS.	Accompany village agents in forming savers group in their barangay and adjacent barangays in their respective municipalities once lockdown has been lifted.
Activity 3.7 Village Agent training carried out and new COMSCAs are established.	On hold due to COVID-19.	Conduct new CoMSCA orientations with village agents after the lockdown.
Activity 3.8 Environment funds are established, and proposed budget developed and agreed.	All live CoMSCAs have integrated environment funds. Funds are being used for signage, clean-ups, tree planting and CMG allowances.	All new CoMSCAs to include environment funds.
Activity 3.9 Community and GO co-funding agreement and mechanism of delivery is established for FS enforcement and management.	Budget allocation for FS has been integrated in the annual investment plan of five LGUs. The remaining one has agreed to support post-lockdown.	Continue LGU engagement to ensure appropriate budget is available for FS management and enforcement.
<p>Output 4. Land use surrounding 12 FS is assessed and mitigation plans developed and implemented at three priority sites to reduce the impact of terrestrial anthropogenic threats and ensure long-term sustainability of a viable freshwater environment and associated livelihoods within communities.</p>	<p>4.1 Terrestrial areas for mitigation/improvement are identified in 12 FS through consultation and collaborative land-use mapping by end of Q1Y2.</p> <p>4.2 All FS agreements and FSMPs strengthened through the inclusion of terrestrial areas and associated mitigation activities identified in 4.1 by Q2Y2.</p> <p>4.3 10ha of bankside have reduced impact activities implemented (e.g.</p>	<p>Riparian assessments and PLUP workshops produced land-use maps in/around the 12 FS. Mitigation sites identified (see Section 3.2 / Annex 24).</p> <p>To date, five of 12 key sites have included riparian areas in their amended ordinance (see Section 3.2).</p> <p>To date a total of 2.09 hectares of cornfield have been converted to agroforestry / fruit farm and Paku fern farming - 20% of the target (see Section 3.2 / Annex 26).</p>

	<p>conservation agriculture, agro-forestry, erosion control) by Q3Y4 from 0ha in Y1.</p> <p>4.4 At least 30 individuals are engaged in establishing three pilot community nurseries for native tree species.</p> <p>4.5 Three community nurseries have cumulatively produced 2000 seedlings by Q4Y2, 5000 by Q4Y3 and 10000 by Q3Y4.</p> <p>4.6 Communities provide seedlings for bankside restoration in FS by Q4Y3.</p> <p>4.7 FSMPs include disaster risk reduction plans with relevant activities e.g. deforestation reversion to prevent siltation/flash floods by Q3Y4.</p>	<p>55 people have been trained in silviculture (see Annex 3).</p> <p>Four nurseries were established and are fully operational (see Section 3.2). A total of 4,391 native forest trees, 4,445 native fruit trees, and 266 bamboo seedlings have been produced – 9,102 in total (91%).</p> <p>A total of 25 bamboo seedlings, 947 fruit trees, and 200 native trees have been sold for bankside rehabilitation to date (see Section 3.2).</p> <p>Disaster risk mapping is on-going (see Section 3.2 / Annex 28). FSMPs will be updated in Y4.</p>	
Activity 4.1 Riparian assessment of 12 FS		All assessments completed by Q2Y3.	
Activity 4.2 Community consultations relating to land use are carried out in 12 key barangays linked to FS.		Consultations carried out as part of Activity 4.4.	
Activity 4.3 Behaviour change programme related to responsible farming practices and mitigation of threats established.		SCOPSA and SALT implemented by two of six key LGUs in co-ordination with MAO.	Continue partnership with LGU MAO to expand implementation of low impact practices.
Activity 4.4 Participatory land-use mapping carried out in the areas around the 12 FS.		PLUP conducted in all 12 sites with 431 participants.	Finalisation of PLUP report and maps and submit to LGUs for inclusion in CLUP.
Activity 4.5 Consolidation and analysis of data for each of the 12 sites is carried out to identify priority areas for mitigation.		34.24 Ha identified for rehabilitation in sanctuary.	Mitigation activities rolled out in identified areas post-lockdown.
Activity 4.6 Twelve FS agreements and FSMPs amended to include identified riparian areas and associated mitigation actions		Five of 12 key sites have included riparian areas in their amended ordinance.	Support amendment of remaining seven FS ordinances.
Activity 4.7 Prioritisation of terrestrial mitigation to identify three implementation sites.		12 sanctuaries rated and ranked. Three implementation sites named: Santor FS, Tanglagan Falls FS and Duba FS.	Implement mitigation actions post-lockdown.
Activity 4.8 Training in reduced impact land-use activities delivered at three priority sites.		Training was scheduled for March 2020 – this has been postponed due to COVID-19.	Reschedule when lockdown is lifted.

Activity 4.9 Participatory implementation of reduced impact land-use livelihoods at three priority sites.	Areas for agriculture near the three FS were identified during PLUP. Low-impact livelihoods such as paku fern and orchard/fruit production developed. In addition, organic vegetable production has initiated in Sitan FS thanks to support from the LGU.	Continue the implementation of low impact livelihoods post-lockdown.
Activity 4.10 Monitoring of mitigation activities to assess effectiveness.	Monitoring will commence in Y4 once activities have been implemented.	
Activity 4.11 Value Chain Analysis for native species seedlings.	VCA for native fruit tree species completed.	
Activity 4.12 Community training in silviculture and nursery establishment delivered in three sites.	Training in bamboo nursery establishment and production completed in Baggao LGU.	Facilitate bamboo training in Gattaran LGU at their request.
Activity 4.13 Native seedling planting and cultivation.	Four nurseries are fully operational and producing 9,102 seedlings of bamboo, native forest trees and native fruit trees.	Support nurseries as requested.
Activity 4.14 Seedlings sold into market – including local mitigation activities and NGP.	25 bamboo seedlings, 947 fruit trees and 200 native trees have been sold for bankside rehabilitation to date.	Selling of seedlings will continue after lockdown.
Activity 4.15 Disaster risk reduction plans developed and included in FSMPs.	Disaster risk reduction mapping completed in Siitan FS and Governor's Rapids FS.	Remaining FS are assessed after lockdown.
Output 5. The impact of introduced / invasive species on Freshwater Sanctuaries is understood and mitigation is implemented.	<p>5.1 Terrestrial and aquatic exotic / invasive species in all FS are catalogued and/or mapped and impact assessment carried out by Q4Y3.</p> <p>5.2 In collaboration with BFAR and LGUs, invasive freshwater species mitigation feasibility study (including native species culture) is initiated by Q2Y3.</p> <p>5.3 10ha of bankside is cleared of exotic/invasive species (from 0ha in Y1) and rehabilitated using native species seedlings from community nurseries (4.4) by Q3Y4.</p>	<p>Invasive species surveys have been carried out in all FS and associated riparian areas (see Section 3.2 / Annex 24).</p> <p>The culture of native fish species is on-going. The development of BFAR FOO 199 means stocking on invasive tilapia will be reduced (see Section 3.2 / Annex 29).</p> <p>The request for special tree cutting is being reviewed by DENR. Tree cutting will commence once lockdown is lifted. Bankside planting has already commenced in areas where invasive species are not present (See Section 3.2).</p> <p>One FSMP and associated Barangay ordinances have been amended (See Section 3.2). We will use this as a template for replication in other LGUs.</p>

	5.4 Management of invasive species is included in FS ordinances by Q3Y4.	
Activity 5.1. Invasive species survey carried out in 12 FS.	Invasive fish species survey data are included in CMG FS monitoring in the 12 key sites. Riparian assessments were carried out in Y3 and non-native species were being identified within 25% of the FS.	CMG monitoring will be on-going. Riparian mitigation will be carried out once lockdown has been lifted.
Activity 5.2 FSMPs adapted to incorporate mitigation activities.	One FSMP has been adapted to include mitigation for invasive species.	Update remaining FSMPs.
Activity 5.3 Native freshwater fish species pilot culture programme initiated.	Pilot culture of native species started using juvenile mullet which ultimately died. Juvenile Philippine silver perch will be trialled as an alternative.	Pilot study will be continued once lockdown has been lifted.
Activity 5.4 Feasibility study produced.	To begin in Y4.	Feasibility study is produced.
Activity 5.5 Areas of non-native riparian species identified and cleared.	12 sites assessed. Sanitation cutting permits being processed by DENR	Mitigation actions will be carried out once lockdown has been lifted.
Activity 5.6 Native species seedlings transplanted from nurseries.	100 native trees and 1,407 native fruit trees have been planted across three sites.	Continue planting of native trees in FS banksides identified for rehabilitation
Activity 5.7 FS barangay ordinances adapted to incorporate invasive species mitigation.	Three FS in Baggao are now working to finalize their resolutions to update the existing ordinances and this include the mitigation measures for Janitor fish.	Continue to work with other key sites to develop mitigation measures of invasive species.

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: Freshwater resources in the Philippines are effectively conserved and managed at the community and local government level to secure ecosystem services and contribute to National and International targets. (Max 30 words)</p>			
<p>Outcome: (Max 30 words) The biological status, community capacity, resilience and stewardship, and sustainable management of key sites in the Cagayan River Basin are measurably improved to benefit the freshwater ecosystem.</p>	<p>0.7 The protection of native species in 12 FS is increased through strengthened monitoring of 100 tagged fish, updated FS management plans (FSMPs), and an expanded and representative membership of the FSMBs by Q3Y4.</p> <p>0.8 A national management framework is established by Q4Y2 to improve data collection and analysis relating to anguillid eels supporting the Philippines in meeting national and international policy and management requirements by Q3Y4.</p> <p>0.9 Through the establishment of COMSCAs and training of 12 Village Agents (VAs), 720 beneficiaries in 12 barangays have annual savings of at least PHP4,000 / person (~£65) by Q3Y4 (from a baseline of 0 in Y1).</p> <p>0.10 Community managed FS are self-supporting in 12 barangays through co-funding of at least 7200PHP / FS / year (from a baseline of 0 in Y1) by COMSCAs environment fund monies and local and regional GOs by Q3Y4.</p> <p>0.11 10ha of bankside habitat is rehabilitated by Q3Y4 through silviculture livelihood diversification and adaptation of freshwater sanctuary management plans (FSMPs) in 12</p>	<p>Aquatic survey/monitoring reports and maps; Training reports and materials; Updated management plans; Management Effectiveness Assessment Tool (MEAT) reports</p> <p>Virtual framework; Data collection and analysis reports; National and regional CITES meeting reports; Updated EMP</p> <p>Socio-economic survey report; CoMSCA and VA training reports; CoMSCA agreements; CoMSCA reports</p> <p>CoMSCA agreements; Training reports and materials; Environment fund monies and associated budgets; Freshwater Sanctuary Management Boards (FSMB) report; MoUs between barangays, LGUs and Regional governments</p> <p>Socio-economic survey report; Terrestrial survey reports and maps; Updated Community Land Use Plan (CLUP) and map;</p>	<p>Novel threats to the freshwater environment do not impact the 12 focal sites – having carried out a comprehensive survey of areas identified as FS, we feel confident our interventions address key threats.</p> <p>Natural disaster does not affect project sites – Super Typhoon Haima recently made landfall in our project site and activities relating to 21-020 have continued with little interruption thanks to a committed team and excellent stakeholder relations.</p> <p>Currency rates/rate of inflation does not fluctuate to levels that compromise delivery of the project – we have carried out a robust assessment of historical exchange rates and researched forecasts in light of Brexit and feel confident our budget is robust.</p> <p>The freshwater biome is recognised as valuable by stakeholders and they invest resources accordingly – the establishment of FS has indicated stakeholder buy-in.</p> <p>Cross-sector stakeholder willingness to engage in project continues - our consultations with stakeholders with regards to the present project have ensured continued buy-in.</p>

	<p>barangays, reducing impacts on FS and increasing resilience to natural disasters.</p> <p>0.12 Invasive / exotic species numbers are reduced in both 12 FS and 10ha of associated bankside through improved management and initiatives focussing on native species by Q3Y4 (from the end of surveys carried out by Q1Y2).</p>	<p>Training reports; Farming / nursery records; Amended barangay ordinances; Updated FSMPs</p> <p>Terrestrial and aquatic survey / monitoring reports and maps; Training reports and materials; Amended barangay ordinances</p>	<p>Communities are not fatigued by any previous efforts to develop interventions – due to the lack of focus on freshwater resources, we believe our interventions are the first of their kind in the region.</p> <p>Identified livelihood options are feasible – we are using interventions that have been successful in other ZSL projects and as such will apply the lessons learned to the proposed work.</p> <p>Mitigation efforts for tilapia are supported by LGUs - our anecdotal research indicates that tilapia are stocked with little assessment of the biological and socio-economic impact; through IEC and biological monitoring we aim to ensure an understanding and dissemination of these in order to intervene in a way that is supported by local communities.</p> <p>Interventions relating to invasive species are successful.</p>
<p>Outputs: 1. Native species protection and sustainable management is measurably improved through increased stakeholder capacity and monitoring efforts, and strengthening Freshwater Sanctuaries and management plans.</p>	<p>1.1 30 National staff are inducted to the use of tagging techniques in monitoring of aquatic species by Y2Q4. Individual staff members will be trained, as needed, to a self-sufficient level of competency in tagging, monitoring and analytical techniques (from a baseline of zero) through mentoring by UK experts by Q3Y4.</p> <p>1.2 100 anguillid eels are tagged (Q4Y1 = 20; Q4Y2= 40; Q4Y3 = 40) and the results of monitoring are used to inform the delineation of 12 existing FS and strengthen associated FSMPs by Q3Y4.</p> <p>1.3 12 barangay-level FS Action Teams (FSATs) are established under the six municipality-level</p>	<p>Tagging report and peer-reviewed paper.</p> <p>Training records and materials</p> <p>Documentation of migration / residence patterns and map of fish</p> <p>Survey report and associated recommendations for FSMB produced.</p> <p>FSAT membership / meeting minutes.</p>	<p>LGU / Community commitment to FS continues – we believe we have buy-in through on-going community engagement.</p> <p>Tag readers work effectively</p> <p>FSMB approve changes in relation to fish/eel movement and/or presence of native species – our programme of IEC / social marketing aims to increase the understanding of the importance of adaptive management for natural resource protection.</p> <p>FSAT approve expansion of membership.</p>

	<p>FSMBs to ensure that both river and land-users are represented in management of FS by Q2Y3.</p> <p>1.4 Management Effectiveness Assessment Tool (MEAT) is adapted and applied to FS and Level 2 attained in all 12 by Q3Y4.</p>	<p>Adapted MEAT protocol approved by MPA Support Network (MSN)</p> <p>MEAT report</p>	<p>MSN approve adaptation to use in freshwater – ZSL have worked with MSN on previous projects and we have a good relationship with them.</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>1.1 Tagging orientation training provided</p> <p>1.2 Tagging, monitoring and analytical techniques training, as needed</p> <p>1.3 Native fish species – including anguillid eels - are tagged with acoustic tags.</p> <p>1.4 Movement of native fish species within the Cagayan River Basin is monitored on a micro- and macro- scale.</p> <p>1.5 Fish movement data and existing FS monthly abundance monitoring data is consolidated and analysed.</p> <p>1.6 FSMPs are updated in light of consolidated data from FS and fish monitoring.</p> <p>1.7 FSATs are established to include beneficiaries of new livelihoods e.g. native tree nurseries.</p> <p>1.8 MEAT assessment adapted for use in FS in consultation with MSN.</p> <p>1.9 MEAT assessment carried out at all 12 sites.</p>			
<p>2. Data relating to anguillids eels in the Philippines is fed into the national eel management plan and CITES call for international collaboration for improved management of these species.</p>	<p>2.1 National and international co-ordination of data collection is strengthened to meet CITES data call through establishment of national data framework by Q3Y4.</p> <p>2.2 Understanding of biology and population status of anguillid eels resident in CRB increased by Q3Y4 through analysis of monitoring data from FSMBs by BFAR and AESG.</p> <p>2.3 National eel management plan (EMP) is updated through consolidated analysis of data sets by Q3Y4.</p> <p>2.4 Regional engagement relating to anguillid eels is improved through participation in relevant workshops by Q3Y4.</p>	<p>National data framework established</p> <p>CITES meeting minutes</p> <p>Peer reviewed paper</p> <p>Updated EMP</p> <p>Workshop minutes</p>	<p>Establishment of framework improves consolidation of national anguillid data – ZSL and the AESG have experience of data collation nationally and internationally and aim to apply this to achieve this output.</p> <p>National stakeholders and international range states of anguillid species found in the Philippines are willing to co-operate – through the AESG and BFAR’s links to the South East Asia Fisheries Development Centre (SEAFDEC) we believe there is a strong co-operative network in place.</p> <p>EMP produced as part of project 21-020 is adopted nationally – this is presently being reviewed by stakeholders and was developed through a consultative process which and as such we expect it to be approved nationally early next year.</p>

			Funding is identified for regional workshops by range states.
<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>2.1 National eel data framework established in collaboration with BFAR. 2.2 Key metrics are identified and analysed in line with CITES call. 2.3 Data submitted to AESG for inclusion in Red List assessment workshop. 2.4 Data submitted to national CITES focal point. 2.5 Regional eel focal points in other range states identified and engaged. 2.6 Data relating to eel species used to update EMP 2.7 Project representatives attend relevant national and international workshops relating to anguillid eels.</p>			
<p>3. Human and financial capacity and engagement in managing freshwater resources in 12 focal barangays is increased through social marketing and environment funds delivered by CoMSCAs.</p>	<p>3.1 Needs, cultural and socio-economic assessments carried out in 12 key barangays (including a minimum of 360 respondents) and number of beneficiaries identified and disaggregated by household and gender to identify community understanding of the freshwater ecosystems, the value and use of the freshwater resources and key capacity issues by Q3Y3.</p> <p>3.2 CoMSCAs are established in 12 key barangays – encompassing 240 beneficiaries (>50% female) – by Q2Y3 ensuring improved financial security through increased annual savings and access to loans of at least 4000PHP (£65) / person by Q3Y4.</p> <p>3.3 Twelve Village Agents are trained to increase capacity and engagement to establish at least two new CoMSCAs per barangay including 480 new beneficiaries (>50% female) across key sites by Q3Y4.</p> <p>3.4 CoMSCA environment funds are established in 12 key barangays and an increased willingness of communities to input results in cumulative annual input to environment fund in each barangay rising from PHP0 to at least PHP3600 (£60) per cycle by Q3Y4.</p>	<p>Survey report including recommendations is produced</p> <p>Training and social marketing materials.</p> <p>Twelve CoMSCAs established</p> <p>CoMSCA summaries, loan use and membership data.</p> <p>Twelve CoMSCA Agent trained</p> <p>Village Agent training reports</p> <p>Agents and community organizers exchanges visits/cross visits</p> <p>CoMSCA agreements from communities</p> <p>Environment fund records</p>	<p>Communities participate in surveys.</p> <p>Community buy-in to benefits of CoMSCAs – communities have been requesting the establishment of CoMSCAs since hearing of the success of those established in coastal communities in 21-020.</p> <p>Availability of funds and savings and support of the community.</p> <p>Suitable Village Agents are identified.</p> <p>Village Agents set up new CoMSCAs – once identified, this is a proven method for establishing CoMSCAs.</p> <p>Communities are motivated to support freshwater management and conservation activities – communities were key in identifying FS sites and as such we believe there is buy in to their on-going management.</p> <p>CoMSCAs strengthen FS.</p> <p>CoMSCA members understand benefit of inclusion of the environment fund and there is a willingness to adopt – we</p>

	<p>3.5 Environment funds are used to leverage monies from LGUs and national agencies for FS to at least match the value of environment funds (PHP3600 (£60) per COMSCA per cycle) by Q4Y3.</p> <p>3.6 Environment funds are being used to support effective enforcement and management activities of FS by end of Q4Y3.</p>	<p>Monies from environment funds and proposed budget for spending in place</p> <p>Memorandum of Agreement support to the Environment Funds and activities program</p> <p>FSMP produced and institutionalised into LGU Annual Investment Plan (AIP).</p> <p>Breakdown of sources of management and enforcement budget</p> <p>CoMSCA summaries</p> <p>Monitoring reports</p> <p>FSMB reports</p>	<p>have developed a social marketing programme to address this issue.</p> <p>Support of LGU's / Barangay Councils, communities, Fisherfolk Association's etc. to long-term development of FS.</p> <p>FS management bodies are transparent and accountable, and effective mechanism for utilising environment funds that gives COMSCAs confidence and trust in handing over environment funds for FS management.</p>
<p>Activities</p> <p>3.1 Socioeconomic survey is developed, carried out and analysed, and report produced.</p> <p>3.2 Community feedback sessions held in 12 key barangays.</p> <p>3.3 Capacity and engagement needs of community and FSMB addressed through series of training courses, social-marketing and infra-structure development.</p> <p>3.4 COMSCA training is delivered at 12 key barangays.</p> <p>3.5 Analysis of COMSCA beneficiary financial access and use.</p> <p>3.6 Village Agents training reinforcing the value of being local champions and their contribution to the management of the FS carried out.</p> <p>3.7 Village Agent training carried out and new COMSCAs are established.</p> <p>3.8 Environment funds are established and proposed budget developed and agreed.</p> <p>3.9 Community and GO co-funding agreement and mechanism of delivery is established for FS enforcement and management.</p>			
<p>4. Land use surrounding 12 FS is assessed and mitigation plans developed and implemented at three priority sites to reduce the impact of terrestrial anthropogenic threats and ensure long-term sustainability of a viable freshwater environment and associated livelihoods within communities.</p>	<p>4.1 Terrestrial areas are assessed and sites for mitigation/improvement are identified in 12 FS through consultation and collaborative land-use mapping by end of Q3Y4.</p>	<p>Minutes of community consultations held to identify suitable areas for reforestation / afforestation and alternative locations for agriculture.</p> <p>ZSL, LGU and community land use mapping surveys carried out.</p> <p>Updated CLUP and map</p> <p>FS ordinances updated and mitigation plan developed</p>	<p>Community able to self-select areas for improvement and change behaviours and practices relating to terrestrial livelihoods – this process was used to identify FS and we believe it worked well</p> <p>FSMB willing to take on bankside areas to manage.</p> <p>River bank users are willing to participate in improved practice trials –</p>

	<p>4.2 All FS agreements and FSMPs strengthened through the inclusion of terrestrial areas and associated mitigation activities identified in 4.1 by Q3Y4.</p> <p>4.3 10ha of land-use surrounding FS have reduced impact activities implemented (e.g. conservation agriculture, agro-forestry, erosion control) by Q3Y4 from 0ha in Y1.</p> <p>4.4 At least 30 individuals are engaged in establishing three pilot community nurseries for native tree species.</p> <p>4.5 Three community nurseries have cumulatively produced 2000 seedlings by Q4Y2, 5000 by Q4Y3 and 10000 by Q3Y4.</p> <p>4.6 Communities provide seedlings for bankside restoration in FS by Q4Y3.</p> <p>4.7 FSMPs include disaster risk reduction plans with relevant activities e.g. deforestation reversion to prevent siltation/flash floods by Q3Y4.</p>	<p>Map of updated FS</p> <p>Hectares of reduced impact activities and monitoring report</p> <p>Training methods</p> <p>Nursery record sheets</p> <p>Value Chain Analysis report</p> <p>Sale of seedlings</p> <p>FSMPs include disaster risk reduction plans</p>	<p>we aim to use IEC and social marketing to engage and increase awareness of stakeholders to the link between healthy riparian areas and healthy freshwater systems.</p> <p>Communities buy-in to nursery development and seedling production.</p> <p>Good availability of native seedlings.</p> <p>Native species grow successfully.</p> <p>There is a market for native species seedlings – the NGP has been extended to 2028 by DENR and we are confident that as a project partner we will have access to this market.</p>
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Activities

- 4.1 Riparian assessment of 12 FS
- 4.2 Community consultations relating to land use are carried out in 12 key barangays linked to FS.
- 4.3 Behaviour change programme related to responsible farming practices and mitigation of threats established.
- 4.4 Participatory land-use mapping carried out in the areas around the 12 FS.
- 4.5 Consolidation and analysis of data for each of the 12 sites is carried out to identify priority areas for mitigation.
- 4.6 Twelve FS agreements and FSMPs amended to include identified riparian areas and associated mitigation actions
- 4.7 Prioritisation of terrestrial mitigation to identify three implementation sites.
- 4.8 Training in reduced impact land-use activities delivered at three priority sites.
- 4.9 Participatory implementation of reduced impact land-use livelihoods at three priority sites.
- 4.10 Monitoring of mitigation activities to assess effectiveness.
- 4.11 Value Chain Analysis for native species seedlings.
- 4.12 Community training in silviculture and nursery establishment delivered in three sites.
- 4.13 Native seed planting and cultivation.
- 4.14 Seedlings sold into market – including local mitigation activities and NGP.
- 4.15 Disaster risk reduction plans developed and included in FSMPs.

<p>5. The impact of introduced / invasive species on Freshwater Sanctuaries is understood and mitigation is implemented.</p>	<p>5.1 Terrestrial and aquatic exotic / invasive species in all FS are catalogued and/or mapped and impact assessment carried out by Q4Y3.</p> <p>5.2 In collaboration with BFAR and LGUs, invasive freshwater species mitigation feasibility study (including native species culture) is initiated by Q2Y3.</p> <p>5.3 10ha of bankside is cleared of exotic/invasive species (from 0ha in Y1) and rehabilitated using native species seedlings from community nurseries (4.4) by Q3Y4.</p> <p>5.4 Management of invasive species is included in FS ordinances by Q3Y4.</p>	<p>Survey report and maps</p> <p>Monitoring reports Training records / farm log sheets</p> <p>Planting records</p> <p>Map of rehabilitated areas</p> <p>Amended FS ordinance</p>	<p>There is government support for invasive species mitigation.</p> <p>Appropriate native species are available.</p>
<p>Activities</p> <p>5.1 Invasive species survey carried out in 12 FS.</p> <p>5.2 FSMPs adapted to incorporate mitigation activities.</p> <p>5.3 Native freshwater fish species pilot culture programme initiated.</p> <p>5.4 Feasibility study produced.</p> <p>5.5 Areas of non-native riparian species identified and cleared.</p> <p>5.6 Native species seedlings transplanted from nurseries.</p> <p>5.7 FS barangay ordinances adapted to incorporate invasive species mitigation.</p>			

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
6A	Village Agent training	Y3 (F-10,M-3)	Filipino			13	13	12
6A	Native Tree Nursery Establishment Training	Y2 (F-16, M-9) Y3 (F-9, M-21)	Filipino		25	30	55	30
6A	CoMSCA training	Y2 (F-123, M-100) Y3 (F-83, M-49)	Filipino		223	132	355 (178 members)	240 members
6A	Para-legal Training for River warden	Y2 (F-6, M-59) Y3 (F-4, M-34)	Filipino		65	38	103	60
6A	Tagging orientation training	Y2 (F-27, M-23)	Filipino		50		50	50
6A	MEAT	Y2 (F-7, M-48) Y3 (F-12, M-57)	Filipino		55	69	124	42
6A	Skills Training of freshwater fish culture	Y3 (F-8,M10)	Filipino			18	18	18
6A	Bamboo nursery establishment and production training	Y3 (F-36,M-41)	Filipino			77	77	77

Checklist for submission

	Check
Is the report less than 10MB? If so, please email to Darwin-Projects@ltsi.co.uk putting the project number in the Subject line.	x
Is your report more than 10MB? If so, please discuss with Darwin-Projects@ltsi.co.uk about the best way to deliver the report, putting the project number in the Subject line.	
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.	x
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.	
Have you involved your partners in preparation of the report and named the main contributors	x
Have you completed the Project Expenditure table fully?	x
Do not include claim forms or other communications with this report.	